VOLUME 2

# DRAFT
# ENVIRONMENTAL IMPACT STATEMENT

# GREGORY CANYON LANDFILL

SAN DIEGO COUNTY, CALIFORNIA

## 4.08 HUMAN HEALTH AND SAFETY THROUGH 11 DEFINITIONS AND ACRONYMS

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SAN DIEGO COUNTY, CALIFORNIA

## 4.08 HUMAN HEALTH AND SAFETY THROUGH 11 DEFINITIONS AND ACRONYMS

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# 4.8 HUMAN HEALTH AND SAFETY

## INTRODUCTION

This section provides an evaluation of the potential effects of each of the alternatives on human health and safety. The analysis addresses a number of health issues, including potential adverse health effects on population due to inadvertent disposal of household hazardous waste (HHW) in the Class III landfill, and potential health effects associated with Class III landfill contaminants that can affect workers and visitors and/or be carried off-site to local populations. These health effects are evaluated according to the potential contaminant conveyance mediums: air, water, vectors (i.e., bacteria and disease-carrying rodents, birds, and insects), and litter. Also, the effects of exposure to site population to hazardous materials associated with existing conditions are evaluated. The analysis also addresses potential safety effects associated with the alternatives including the following: landfill gas concentration, flood hazard, fire hazard, rockfall, security of the site, and waste disposal operations hazards. Finally, the analysis addresses the relationship of the alternatives to emergency plans. A number of the analyses in this section are based on more detailed analyses in other sections of the EIS, which are summarized here. Other sections of the EIS so referenced include: Section 4.3, Air Quality and Greenhouse Gas Emissions; Section 4.7, Geology and Soils; Section 4.9, Hydrogeology; Section 4.14, Surface Hydrology; Section 4.12.1, Law Enforcement; Section 4.12.2 Fire and Emergency Medical Services; and Section 4.15, Transportation.

## 4.8.1 REGULATORY FRAMEWORK

There are numerous federal, state, regional, and local regulations enacted to protect the public health and safety from impacts associated with waste disposal facilities, and effects of hazardous materials. Key regulations are listed below. There are other regulatory measures that address impacts associated with other topics addressed in the EIS, which are summarized below to indicate how the respective alterations to the physical environment could potentially effect human health and safety. The regulatory measures for those topics are identified in the sections of the EIS where those impacts on the environment are analyzed, as noted above and further cited below. Those regulatory measures provide further limitations on potential effects of the alternatives and have been incorporated into the design features and analyses associated with those topics.

### 4.8.1.1 Federal

#### Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) (42 USC, Section 6901, et.seq.) gives EPA the authority to control hazardous waste from the "cradle-to-grave." Subtitle D of the RCRA, Code of Federal Regulations (CFR), Part 258, regulates the management of nonhazardous solid waste disposal. Subtitle D establishes minimum federal technical standards and guidelines for state solid waste plans to promote environmentally sound management of solid waste. These regulations include location restrictions, operating criteria, and design criteria for the protection of the public health and safety. The regulations address, among other topics, effects related to floodplains, vector control, explosive gasses control, air criteria, run-on/run-off control systems, surface water requirements, groundwater monitoring and corrective actions, and

closure/post-closure criteria. These federal regulations are implemented through regulatory provisions at the state level.

### National Emission Standards for Hazardous Air Pollutants

The USEPA has established National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR 61 Part M) that govern the use, removal, and disposal of asbestos containing materials (ACM) as a hazardous air pollutant. The NESHAP regulations mandate the removal of friable ACM before a building is demolished and includes notification requirements prior to demolition. The NESHAP regulations are promulgated and enforced by the USEPA. Responsibility for implementing these requirements has been delegated to the State of California, which in turn has delegated the responsibility to the San Diego Air Pollution Control District.

### Occupational Safety & Health Act of 1970

The Act assures safe and healthful working conditions for workers by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the states in their efforts to assure safe and healthful working conditions; and by providing for research, information, education, and training in the field of occupational safety and health. Congress created the Occupational Safety and Health Administration (OSHA) to set and enforce standards and provide training, outreach, education and assistance.

## 4.8.1.2 State

### California Code of Regulations (CCR), Title 27 – Division 2, Solid Waste (CCR Title 27)

At the state level, regulations regarding health and safety impacts associated with landfill activities are provided through provisions of CalRecycle (formerly the California Integrated Waste Management Board (CIWMB))[1] and the State Water Resources Control Board (SWRCB) (through the Regional Water Quality Control Boards (RWQCB)), which exercise rulemaking and regulatory activities for solid waste disposal. The landfill regulations from CalRecycle and the SWRCB are found in the California Code of Regulations, Title 27 – Division 2, Solid Waste (CCR Title 27). These regulations address all phases of landfill operations with requirements to assure public health and safety and maintain the integrity of gas monitoring and control systems and leachate collection and control systems. They also require that owners/operators of municipal solid waste landfill units to implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes. The permitting process requires a demonstration that a landfill has been designed for and contains mechanisms to be consistent with the state regulations.

### California Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) is responsible for protecting California against threats to public health and safety and the environment through hazardous waste regulation, contamination cleanup, and pollution prevention. The DTSC identifies potential new pollutants and works with businesses to reduce their hazardous waste and toxic materials use through process changes, product changes, or handling changes. DTSC regulates the generation, transportation, treatment, storage, and

[1] *The duties and responsibilities of CIWMB were transferred to CalRecycle as of January 1, 2010.*

disposal of hazardous waste in California primarily under the authority of the RCRA and the California Health and Safety Code.

#### California Health and Safety Code

The Code regulates health and safety including hazardous waste and materials, HHW, vectors, emergency preparedness, fire hazards, landfill gas, radiation, and water protection. Notably included within the Code (Division 20, Chapter 6.95) is a requirement for hazardous materials business plans (HMBPs) for businesses that handle, store, or dispose of hazardous substances that provided hazardous materials information to local emergency services organizations.

#### Public Utilities Commission – Electromagnetic Fields Design Guidelines

In 1993, the California Public Utilities Commission (CPUC) issued Decision 9311013, establishing EMF policy for California's regulated electric utilities. The CPUC addressed public concern over EMFs by establishing a no-cost and low-cost EMF reduction policy that utilities would follow for proposed electrical facilities. SDG&E adopted its design guidelines, based on the CPUC directive, in 2006.

#### Cal-OSHA

The State of California implements OSHA programs for the protection of worker safety. These regulations include compliance measures that address a variety of threats to workers. Included are procedures that apply to the demolition of buildings that may contain lead in dust or paints, as well as ACMs.

### 4.8.1.3 Regional

#### County Department of Environmental Health

An operator of a waste management facility is required to obtain a Solid Waste Facilities Permit (SWFP), which requires a demonstration that landfill location, design and operations are consistent with federal and state legislation. The SWFP is issued by local enforcement agencies (LEAs) and then concurred on by CalRecycle. The LEA for landfills in San Diego County is the Department of Environmental Health (DEH). The LEA, upon certification by CalRecycle, is empowered to implement delegated CalRecycle programs and locally designated activities. LEAs have the primary responsibility for ensuring the correct operation and closure of solid waste facilities in the state. They also have responsibilities for guaranteeing the proper storage and transportation of solid wastes.

#### County of San Diego General Plan

The specific General Plan goals and policies pertaining to human health and safety are addressed in Chapter 7, the Safety Element of the plan. The purpose of the Safety Element is to include safety considerations in the planning and decision-making process by establishing policies related to future development that would minimize the risk of personal injury, loss of life, property damage, and environmental damage associated with natural and man-made hazards. The Safety Element addresses the County of San Diego's natural hazards and human activities that may pose a threat to public safety from

wildfires, geological and seismic hazards, flooding, hazardous materials, law enforcement, and airport hazards. An analysis of relevant goals and policies of the County's General Plan is provided in Section 4.10, Land Use and Planning, of this EIS.

### County of San Diego Household Hazardous Waste Element

The County Household Hazardous Waste Element (HHWE) (updated 2003) was prepared to comply with California AB 939 requirements and provides a framework for providing County residents with a safe and convenient means of disposing of HHW, thereby preserving the environment, and eliminating potential public health risks. The County's HHWE specifies how each city or unincorporated area in the County would safely collect, recycle, treat, and dispose of HHW generated by households in the County within short-term and medium-term planning periods. The County DEH and the cities (inclusive of several cities participating in the Regional Solid Waste Association, a Joint Powers Authority) provide programs for disposal of HHW with a system of permanent HHW collection facilities), one-day events such as temporary HHW collection facilities, and door-to-door collection activities for certain populations, and in some cases curbside collection services. These programs and facilities handle and dispose of hazardous waste materials in a manner that is safe to the public.

### County of San Diego Department of Environmental Health, Hazardous Materials Division

The County Department of environmental Health, Hazardous Materials Division (HMD) is one of the four divisions of the DEH. HMD is the Certified Unified Program Agency (CUPA) for San Diego County responsible for regulating HMBP and chemical inventory, hazardous waste and tiered permitting, underground storage tanks, and above-ground petroleum storage and risk management plans. HMD is also responsible for regulating medical waste. HMD's goal is to protect human health and the environment by ensuring that hazardous materials, hazardous waste, medical waste and underground storage tanks are properly managed. To accomplish this goal, the HMD has established several programs for protecting the public from health hazards associated with hazardous materials.

### County of San Diego Multi-Jurisdictional Hazard Mitigation Plan

On October 19, 2004, the Board of Supervisors adopted the County's Hazard Mitigation Plan in compliance with federal and state regulations intended to reinforce the importance of mitigation planning and emphasized planning for disasters before they occur. The plan enhances public awareness and understanding, creates a decision tool for management, promotes compliance with federal and state program requirements, enhances local policies for hazard mitigation capability, and provides inter-jurisdictional coordination of mitigation-related programming.

### County of San Diego Office of Emergency Services

The County of San Diego Office of Emergency Services (OES) coordinates the overall County response to disasters. The OES is responsible for alerting and notifying appropriate agencies when disaster strikes; coordinating all agencies that respond; ensuring resources are available and mobilized in times of disaster; developing plans and procedures for response to and recovery from disasters; and developing and providing preparedness materials for the public. The OES serves as staff to the Unified Disaster Council (UDC) and acts

as a liaison between the incorporated cities, the State of Emergency Services and the Federal Emergency Management Agency (FEMA), as well as non-governmental agencies such as the American Red Cross. The OES has prepared the Unified San Diego County Emergency Services Organization Operation Area Emergency Plan to serve the County and all of the cities within the County in responding to major emergencies and disasters. The Plan describes the roles and responsibilities of all County departments and many city departments. Cities are encouraged to adopt the Operational Area Emergency Plan as their own, with modifications as appropriate for their city. Several communities have adopted their own Community Protection & Evacuation Plans (CPEP).

#### 4.8.1.1 Local

As described above, Local Areas are encouraged to develop their own CPEPs. The OES provides assistance to local communities in the preparation of the emergency plans. Nine local communities have prepared such plans. Of the nine, one is located in the vicinity of an alternative site. The Fallbrook/Bonsall/De Luz/Rainbow CPEP serves the area in which the Aspen Road Alternative is located, and also lies adjacent to the area in which the Applicant's Proposed Alternative is located.

### 4.8.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts regarding human health and safety.

#### 4.8.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. An alternative would have a significant adverse effect on human health and safety if the alternative would:

- Create a significant hazard to the public or the environment through the release, transport, use, production, disposal or exposure to hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable accident conditions as a result of activities associated with landfill operations; or
- Interfere with emergency response plans or emergency evacuation plans.

#### 4.8.2.2 Methodology

As described above, this section of the EIS addresses a number of health and safety related topics evaluated under separate topical headings. A number of the topics evaluated are unique to the issue of health and safety, and are presented within this section of the EIS as their primary source of analysis. These topics include the following: hazardous materials and inadvertent disposal of HHW; vector carried contaminants; litter carried contaminants, hazards related to disposal operations; health effects related to existing site contaminants (e.g. electromagnetic fields [EMFs] if existing transmission lines are present or ACM and lead-based paint (LBP) if older structures are present) and conformity with emergency evacuation plans. The other topics evaluated in this section are based on technical analyses from other sections of the EIS, which are summarized to reflect conclusions regarding how the environmental effects identified convert to effects

on human health and safety. These topics and the sections of the EIS where the primary analysis occurs include the following: health effects associated with airborne contaminants and landfill gas hazards (Section 4.3, Air Quality and Greenhouse Gases), health effects associated with waterborne contaminants (Section 4.9, Hydrogeology and 4.14, Surface Hydrology), fire hazards (Section 4.12.2, Fire Protection and Emergency Medical Services), rockfall (Section 4.7, Geology and Soils), site security (Section 4.12.1, Law Enforcement), and roadway safety (Section 4.15, Transportation).

With the exception of the analyses included in the Air Quality and Geology/Soils sections, all of the topics are evaluated through a qualitative discussion with the following steps:

- Identify and characterize the potential threats to human health and safety that are associated with the topic, and their likelihood of occurring in association with construction and operation of the alternatives;
- Identify applicable regulations and/or design features of the alternatives that would avoid or reduce potentially significant human health and safety effects;
- Identify residual effects that could occur after implementation of the regulatory and/or design feature provisions; and
- Compare the level of the potential residual effects to the criteria for assessing adverse effects to determine whether adverse effects would rise to a significant level.

The analyses of the air quality related topics follow a similar sequence of discussion as noted above, however those analyses also include quantitative modeling based on air emissions from the construction and operations of the alternatives. The quantitative models address 1) the amount of criteria pollutants that would be generated, 2) the dispersion of emission concentrations to sensitive human population, 3) health risks associated with those concentrations, and 4) concentration of odorous compounds. The rockfall analysis in the Geology and Soils section focuses on the ability of design features to avoid a safety threat; however, it also includes quantitative modeling of the travel time and distance associated with potential falling rocks.

## 4.8.3 APPLICANT'S PROPOSED ALTERNATIVE

### 4.8.3.1 Affected Environment

The site is located in an area that includes agricultural, residential, extractive, commercial, industrial, and infrastructure uses; including the remnants of the former H. G. Fenton Materials, Inc. sand and gravel mining operation, with water-filled gravel ponds visible from SR 76; a power plant directly north of the site;, and Rosemary's Mountain quarry, a mining operation with asphalt and concrete processing plants and a rock crushing facility, located approximately 1.75 miles west of the site. Uses in the vicinity of the site that could be subject to health and safety effects resulting from landfill construction and operations include the Pala Community (Casino, Retreat Center, Raceway, and residential area) to the east, residential development to the south and southwest, agricultural uses in the vicinity, and travelers along SR 76.

The Gregory Canyon site is mostly vacant, devoid of conditions (i.e. contaminated materials) that might pose a threat to human health and safety. The site includes a temporary storage yard that is located south of SR 76 on the eastern portion of the site, which provides limited site security. In addition, the site also contains

the remains of two former dairies, 25 former residential buildings with associated swimming pool(s), and a vacant residence south of the river. The residences and structures associated with the dairies have been vacated and the residences have been boarded up. Because of the age of the structures, there may be lead paint and/or asbestos containing materials within the structures. The Escondido and Talega electrical transmission lines, are located on structures within a 300-foot wide easement, which crosses the site in a north-south direction along the lower slopes of Gregory Mountain. Electrical lines generate electromagnetic fields (EMFs). Also, an underground gas line is located on the south side of SR 76 parallel to the roadway within a SDG&E maintained easement.

### 4.8.3.2 Design Features from the Gregory Canyon EIR

The Applicant's Proposed Alternative would be designed to meet or exceed all applicable federal, state, and local regulations for the design, construction, and operation of a municipal solid waste facility. The following design features regarding human health and safety would be included:

- A Hazardous Waste Exclusion Program (HWEP) would be implemented to protect the public from potential exposure to hazardous materials as described in Section 3.1.5.4 of this EIS. The program includes mechanisms for prohibiting hazardous materials from entering the landfill, identifying attempts to dispose of hazardous materials in the landfill, and safe handling of such materials if found at the landfill site. If discovered waste materials pose an immediate risk to health, safety and/or the environment, landfill personnel would notify the emergency response unit of the Hazardous Incident Response Team (HIRT), a joint powers authority (JPA) entity administered by the City of San Diego and the County DEH. The generator of the hazardous waste would be responsible for cleanup and if the generator cannot be identified, then the landfill operator would be responsible. The wastes would be transported by a licensed hazardous waste hauler for disposal at a permitted hazardous waste treatment and disposal facility. If wastes are in adequate containers and can be safely handled, waste would be stored on-site in the designated area to await proper disposal by a licensed hazardous waste hauler/recycler or, if the hauler who brought the waste can be identified, the hauler would be asked to remove the waste.

  A load checking program would be established to comply with the requirements of CCR Title 27, Section 20870 and the Waste Discharge Requirements (WDRs). Specific components of the program would include: Customer notification by signs, notices and verbal inquiries; surveillance through visual inspection of waste loads and questioning of customers by trained scalehouse personnel; waste inspection conducted on randomly-selected loads at the working face; and installation of a gamma-scintillation counter at the scale facility to detect radioactive materials.

- A HMBP would be implemented pursuant to CHSC (Division 20, Chapter 6.95). The HMBP would provide procedures for handling of hazardous materials and provide hazardous materials information/coordination to local emergency services organization that may need to respond to situations at the landfill site.
- A Vector Control and Management Plan would be implemented that would include the following features:
  - Daily compaction and application of daily cover;
  - Storage of materials that attract vectors in closed containers and/or enclosed structures;

  - Repairs of building openings, ground holes and deficiencies in perimeter fencing to deter intrusion of ground vectors;
  - Proper grading/drainage to eliminate puddles and wet areas;
  - Desilting basins would be self draining within 72 hours and regularly cleaned out;
  - Tire shredding a minimum of every six months;
  - Other deterrents for vectors would include the playback of distress vocalizations, falcon kites, owl decoys, dispersal by humans and/or dogs; and
  - Use of conventional slap-traps, anticoagulant rodenticide and professional pest control services.
- A number of litter control measures would be implemented, inclusive of the following:
  - Compaction and application of daily cover;
  - Temporary fencing around active disposal area;
  - Use of tarps on commercial vehicles; and
  - Inspection and clean up of all liter and illegal dumping on or adjacent to the access road and SR 76 between I-15 and the site at least five days each week by a cleanup team consisting of one truck with a minimum two-person crew. Litter inspection would be performed every day the landfill is open to accept refuse and litter would be cleaned up on the sixth day as determined necessary by the inspectors.

In addition to these design features, there are other design features cited in other sections of this EIS to reduce environmental effects that, if adverse, could lead to effects on human health and safety. In particular:

- Section 4.3, Air Quality and Greenhouse Gases, includes design features that would control air pollutant emissions. The key features that limit air contamination include measures to control dust and diesel emissions. A Dust Control Plan would limit dust emissions through such control mechanisms as maintenance and treatment of roads, watering of roads and soils, use of soil sealants, planting of vegetation for soil cover, limited traffic speeds and covering of loads. Further, diesel particulate emissions control measures would include utilization of on-site diesel equipment that meets California certified (post-1996) off-road engine requirements; and utilization of Best Available Control Technology to reduce diesel particulate emissions from on-site diesel equipment. Other key measures include the application of daily cover soil to the working face of the landfill, and the implementation of a landfill gas recovery and flaring system (LFG system) to collect and burn landfill gases. The LFG system is described in detail in subsection 3.2.3 of this EIS.
- Section 4.7, Geology and Soils, includes design features to maintain the integrity of the landfill and protect the public from seismic hazards and rockfall. Design features include pre-blast surveys and general monitoring for potential rockfall conditions, diversion structures for falling debris, design of structures to withstand the maximum probable earthquake and post closure monitoring and maintenance of the environmental control systems.
- Section 4.9, Hydrogeology, describes the environmental control systems that would be incorporated into the landfill design that meet or exceed federal and state regulatory requirements to avoid and/or clean-up hazardous contamination reaching water resources. The key features identified include the following:

- A double composite liner system with an additional drainage layer, an additional HDPE geomembrane, and a leachate collection and removal system (LCRS). The liner system would provide a barrier between landfill wastes and underlying groundwater.
- A Reverse Osmosis (RO) system would provide a groundwater treatment facility for use in the event that groundwater contamination is identified during groundwater testing. Impacted groundwater, if it were to be encountered, would be collected and supplied to an RO system influent tank, where RO treatment would separate total dissolved solids (TDS) from the water, creating a stream of reduced TDS water that passes through a membrane (clean water) and a stream with an elevated TDS solution (brine) that would be collected in a tank and hauled off site for disposal.
- A water quality monitoring program that would include monitoring wells at both upgradient (background) and downgradient (point of compliance) locations. If contamination were to be encountered, an Evaluation Monitoring Program (EMP) and a Corrective Action Plan (CAP) would be implemented. The EMP would assess the nature and extent of the release, and the CAP would provide engineering measures aimed at achieving the applicable water quality standards.

- Section 4.12.2, Fire Protection and Emergency Medical Services, identifies design features that would reduce potential threats to public safety due to outbreak of fires. These include provision of a firebreak between the refuse and surrounding areas; no burning of refuse and load checking for smoldering or burning wastes; procedures for safe tire handling; application of daily soil cover; controls on internal combustion engines to reduce fire risk; and the use of a screening material placed above blasting areas. In addition, site personnel would be trained and equipped to watch for wildfires, to provide a first response should a fire occur within the landfill operations, and to assist in suppression efforts if warranted.
- Section 4.12.1, Law Enforcement, identifies design features to enhance the public safety. These features include restricted site access, controlled site entry, posting of "No Trespassing" signs, fencing and security lighting.
- Section 4.14, Surface Hydrology, includes design features that would avoid adverse effects related to flooding, erosion or water quality. Key measures include: Excavation in the river channel that maintains; bridge-piles designed to avoid scouring; use of rip-rap at structural elements along stream banks where/if needed; erosion control through the use of BMPs; drainage control measures directing water into downdrains and perimeter channels, with perimeter channels flowing into one of two desilting basins, with testing prior to discharge to the San Luis Rey River; and inspection and maintenance of drainage facilities.
- Section 4.15, Transportation, includes design features that would enhance roadway safety in the vicinity of the site. They include design of the landfill access road/intersection to provide safe operating conditions, improvements to approximately 1,700 linear feet of SR 76 in the vicinity of the access road, and the payment of up to $1,000,000 to Caltrans for safety improvements to SR 76 in the vicinity of the site.

In addition to the above design features, the following summarizes mitigation measures that would be required by the County under CEQA with implementation of the Gregory Canyon Landfill project pursuant to a Mitigation Monitoring and Reporting Program (MMRP) adopted by the San Diego DEH on May 13, 2011. As these measures would be required as part of the Applicant's Proposed Alternative, they are referred to and

considered as design features in this EIS. The MMRP with the full text of the measures is included in Appendix A of this EIS.

- **DF 4.16.C5C. Litter Control.** Requires inspection for, and clean up, all litter and illegal dumping which occurs on, or adjacent to, the landfill access road and that portion of Highway 76 between the intersection with Interstate 15 and the site.
- **DF 4.16.C5D. Hazardous Waste Inspection.** Requires engagement of full-time personnel for the inspection of incoming refuse loads for hazardous waste; and handling/disposal of hazardous wastes encountered in accordance with state regulations.
- **DF 4.16.C5F. Landfill Gas Control.** Requires inclusion of a landfill gas recovery facility, with combustion of collected gas in an enclosed flare.

### 4.8.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through the release, transport, use, production, disposal or exposure to hazardous materials.*

**Impact Statement Gregory HHS-1: The Applicant's Proposed Alternative would provide a Class III landfill, which would accept only non-hazardous solid wastes and inert wastes. Landfill operations would include a HWEP intended to preclude hazardous materials from entering the landfill site, and disposing of hazardous materials inadvertently brought to the site in a safe manner per state regulations. Therefore, landfill operations would not create significant adverse effects to the public or the environment through the transport, use, production, or disposal or release of hazardous materials.**

The Applicant's Proposed Alternative would include the construction, operation, and closure of a Class III solid waste facility, in accordance with CCR Title 27. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. Non-hazardous wastes are routinely disposed through the County's HHWE that creates a framework for providing County residents with a safe and convenient means of disposing of HHW, thereby preserving the environment, and eliminating potential public health risks. The County's HHWE specifies how each city or unincorporated area in the County would safely collect, recycle, treat, and dispose of HHW generated by households in the County within short-term and medium-term planning periods. The County DEH and the cities (inclusive of several cities participating in the Regional Solid Waste Association, a Joint Powers Authority) provide programs for disposal of HHW, with a system of permanent HHW collection facilities), one-day events such as temporary HHW collection facilities, and door-to-door collection activities for certain populations, and in some cases curbside collection services. These programs and facilities handle and dispose of hazardous waste materials in a manner that is safe to the public.

Notwithstanding, some household hazardous materials may be inadvertently brought to the landfill. Hazardous products purchased by the general public for household use include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a hazard to human health or the environment. These wastes include such items as cleaners, pesticides, paint products, automotive products, hobby products, and other toxic substances commonly found in households. In

addition, HHW may include infectious wastes, such as syringes or other material contaminated with etiologic (i.e., disease-causing) agents.

As described in the design features above, and fully detailed in the JTD, the Applicant's Proposed Alternative would include a HWEP that includes mechanisms to preclude hazardous material being brought to the landfill, procedures for identifying hazardous materials that might be brought to the landfill against regulations, and methods of handling of such hazardous materials should they be brought to the landfill facility.

Methods for avoiding disposal of hazardous wastes include advance notifications to non-residential users regarding materials accepted and disposal conditions/responsibilities established in the HWEP; signage at the landfill advising of prohibited materials; observation/load checking of waste loads brought to the landfill and screening of past offenders, with potential bans on use of the landfill.

If unacceptable waste is found in a load prior to the vehicle entering the facility, entrance to the site would be refused and the driver would be informed to dispose of the waste at a permitted hazardous waste facility. Any vehicle suspected of carrying unacceptable materials would be directed to an inspection area where a detailed visual inspection of the vehicle contents would be performed by the operations staff.

Monitoring for hazardous materials would include on-going checking that would be performed at the active landfill face as waste is disposed into the landfill, and through a weekly random load checking program. The driver of the randomly selected load would be asked to tip or dump the load in a flat area near the working face and away from the commercial unloading area. Designated landfill personnel would inspect, search, and sort through the load looking for prohibited wastes. If no prohibited waste were observed a dozer would push the load to the working face. Monitoring would be by trained personnel, findings would be recorded, and hazardous materials would be returned to the driver if safe to do so. It the driver refuses to take back the waste, the California Highway Patrol (CHP) would be notified. In the event that the waste cannot be returned to the driver, it would be handled according to proscribed procedures per state regulations.

If hazardous or other unacceptable wastes are detected on site, site personnel would immediately cordon off the designated area from the general public and personnel not involved in the incident. The supervisor would attempt to identify the character, exact source, amount and extent of the waste by observation. The inspector may notify a certified laboratory to obtain and analyze samples to determine if the waste is hazardous. Waste which must be disposed off-site would be moved to the secured hazardous waste storage area in the ancillary facilities area, with materials stored in proper storage containers which are fireproof, provide double containment, and have a California hazardous waste label. Storage facilities would be divided so as to provide separate storage for incompatible chemicals. Hazardous materials would remain in the containers in which they entered the site. Materials would be overpacked and manifested with a licensed hazardous waste disposer for removal, transport and disposal at a permitted hazardous waste facility in compliance with all federal, state and local regulations. On site hazardous waste storage would be limited to 90 days or as required by applicable state laws and regulations prior to being transported to a permitted treatment, storage and disposal facility.

If a spill is larger than landfill personnel can contain, facility management would notify the HIRT, a JPA entity administered by the City of San Diego and the County DEH. The wastes would be transported by a licensed hazardous waste hauler for disposal at a permitted hazardous waste treatment and disposal facility.

In addition to the load checking discussed above, a gamma-scintillation counter capable of detecting the presence of very low levels of radioactive waste would be installed at the scale facility to screen all vehicles entering the landfill for radioactive materials as they pass through the scalehouse area. If a load appears to contain radioactive material, it would be taken to an isolated area of the site and the operator would make a direct call to 911. The load would be searched until the radioactive material is located or it is determined that the load is free of such material. The incident commander who responded to the 911 call would set the protocols for the removal and disposal of the material, if any were found.

The party responsible for transporting hazardous wastes to the landfill would be notified that the wastes were illegally deposited at the site and charged for the disposal costs incurred, or would be given the option of contracting with an acceptable hazardous waste hauler to conduct the clean-up. All such incidents would be reported to the RWQCB and the DEH Hazardous Materials Management Division. If the dumping is deemed intentional or if the responsible party refuses to pay for the response actions, the County, DEH, Hazardous Materials Division would be contacted. If necessary, the incident may be reported to the District Attorney for possible prosecution. If no responsible party can be identified, the landfill operator would retain full responsibility for the management and disposal of the waste.

Handling of hazardous materials would also be subject to procedures established in a HMBP. Such plans are required by businesses that handle, store, or dispose of hazardous substances. HMBPs are intended to provide hazardous materials information to local emergency services organization that may need to respond to situations at the landfill site. The HMBP must be carried out immediately whenever a fire, explosion, or unplanned release of a hazardous material occurs. The plan would include an inventory of hazardous materials including a site map providing details of their location; an emergency response plan; and an employee-training program.

In summary, there are a number of regulatory and design feature procedures that place layers of protection from public contact with hazardous materials. These include procedures to 1) keep hazardous materials from reaching the landfill, 2) identify hazardous materials being presented at the landfill, and 3) contain and dispose of hazardous materials in a manner that is safe. These measures would limit potential contact with hazardous materials and no significant adverse effects on human population would occur.

### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Applicant's Proposed Alternative would not create significant adverse health risk to the public due to receipt and handling of hazardous materials. Therefore, no mitigation measures are proposed.

**Impact Statement Gregory HHS-2: Potential contamination and hazards associated with the handling of Class III non-hazardous wastes would be contained by the landfill's environmental containment systems that would limit emissions of hazardous materials in keeping with standard safety criteria. This would substantially limit effects on human population and no significant adverse effect would occur.**

Waste materials, when disposed in Class III landfills, undergo a number of processes that can create potential contaminants. Such contaminants may enter the air or migrate toward water resources, whereby they could potentially be transported to contact with human population. Further, landfills can support vectors that can carry contamination or disease to nearby population, and cause litter that can fester contamination. Potential effects associated with each of these conveyance sources is discussed below.

### Airborne Contaminates

There are a number of processes associated with landfill construction and operations that can release toxic air contaminants (TACs) via airborne pathways. Landfill operations require a considerable amount of earthwork that generates dust, which carries mineral and metal particulates. In addition, diesel particulate matter (DPM) is recognized as a carcinogen by the State of California and emitted from on-site heavy duty off-road equipment (such as scrappers, dozers, etc.) and on-road haul truck vehicles. Further, the decomposition of landfill wastes creates landfill gases (e.g. methane and sulfur compounds), the majority of which are collected and burned in a flare, resulting in the release of TACs, but some of which escape from the landfill prism. The release of contaminants can be carried by air to human population.

As summarized above, and discussed more fully in Chapter 3, Description of Alternatives, and Section 4.3, Air Quality and Greenhouse Gases, design features that would control these air pollutant emissions would be implemented to limit the emissions and reduce the potential for significant adverse effects on human population. The most notable design features include a Dust Control Plan and diesel particulate emissions control measures. The Dust Control Plan addresses maintenance and treatment of roads, watering of roads and soils, use of soil sealants, planting of vegetation for soil cover, limited traffic speeds and covering of loads. Other key measures include the application of daily cover soil to the working face of the landfill, and the implementation of a landfill gas recovery and flaring system to collect and burn landfill gases.

Section 4.3, Air Quality and Greenhouse Gases, includes analyses of the landfill's air pollutant emissions. Included within the range of analyses are several that address health effects on local sensitive population. These analyses include a range of evaluations that address health impacts on local sensitive populations, as summarized below.

- A Health Risk Assessment (HRA) was performed that measures potential cancer risks and acute and chronic non-cancer health risks associated with the landfill's TACs. The cancer risk assessment is based on the number of potential cancer cases compared to a criterion of $10 \times 10^{-6}$ cases. The acute and chronic non-cancer health risks are based on a Health Index (HI) that determines health risk of a project on a scale that can be compared to a rate of 1.0 to determine significance. The HRA for the

Applicant's Proposed Alternative indicates that the cancer risks and acute and chronic HI values are below the levels that would result in significant adverse effects.[2]

- An analysis of localized CO concentrations was performed to determine whether this pollutant, which is harmful to human populations in large concentrations, would exceed concentration standards at the most congested intersections affected by landfill traffic. The analysis indicates that the contribution of the Applicant's Proposed Alternative to the 1-hour and 8-hour concentrations would not exceed state and federal significance criteria.
- A dispersion modeling analysis was performed to evaluate the concentration of air contaminants in the vicinity of sensitive human population. The analysis indicated the concentrations of potentially harmful CO, $NO_x$, $PM_{10}$ and $PM_{2.5}$ would not exceed 1-hour and 8-hour state and federal standards.
- An evaluation of the emission of odorous compounds was also performed. Odors can be a source of undesirable health effects or symptoms such as headaches and nausea. The analysis indicates that the resulting concentration of sulfur compounds released to the atmosphere would be 2 ppb. The noticeable odor threshold for sulfur compounds are 200 ppb for hydrogen sulfide and 27 ppb for mercaptans. Thus, the maximum concentration of a sulfur compound having an odor would remain at least one order of magnitude (ten-fold) lower than the detectable limit by the human nose.

In summary, the air quality analysis indicates that pollutant concentrations in the vicinity of effected sensitive populations would not exceed significance thresholds nor health risk criteria. Therefore, no significant adverse effects to health associated with landfill generated air contamination would occur.

### Waterborne Contaminates

Class III landfills generate hazardous materials that if not controlled could be conveyed through water sources to sensitive populations during construction and operation activities.

Initial construction activities require the use of hazardous materials such as oils, grease, lubricants, coolant, paints, and solvents, which if not handled properly can potentially reach groundwater sources and/or migrate surficially to public water sources. As described above, the landfill construction activities would be subject to regulations for the protection of water resources. In particular, the alternative would be implemented under a SWPPP prepared in accordance with California NPDES Construction General Permit requirements and using BMPs identified in the California Stormwater BMP Handbook–Construction. Although the SWPPP is largely focused on preventing pollutants and sediment from being conveyed off-site by storm water and non-storm water flows, the SWPPP would also protect groundwater quality by requiring implementation of source control BMPs that reduce the availability of pollutants from potential hazardous materials used during construction to infiltrate to groundwater through surface water runoff. Construction BMPs control the potential of contaminants through a spill prevention and control plan to prevent and contain any on-site spills. In addition to the SWPPP, a SWMP would be implemented to further define BMPs and minimize the potential for storm water quality degradation. In the event that groundwater is

[2] *The analysis methodologies for these evaluations are extremely conservative, and overstate potential impacts for the following reasons: 1) The cancer risk analysis is based on an adult being exposed to the TACs for 24 hours per day, each and every day, over a 70-year period, whereas the landfill is expected to have a 30-year life; 2) the maximum TACs evaluated are based on an overlapping of operations and periodic construction, whereas periodic construction would only occur approximately every two to three years over the course of the first 20 years of the life of the landfill; and 3) population in the area would not be exposed to landfill air emissions 24 hours per day for 70 years.*

encountered during initial construction, dewatering procedures would be implemented to facilitate completion of the excavation and subdrain installation. The site would be inspected on a weekly basis and prior to an applicable forecasted storm. Further, stormwater flows would be sampled and documented in accordance with non-visible pollutant monitoring requirements. With the implementation of BMPs targeted to control and eliminate pollutants associated with construction activities and monitoring requirements, the Applicant's Proposed Alternative would not result in a significant adverse effect on groundwater quality during initial construction.

During operation, the solid waste deposited in the landfill would decompose by a combination of chemical, physical, and biological processes resulting in the production of leachate. Surface water infiltration into the waste also produces leachate. In addition, landfill gas produced by the waste is another source of contaminants in leachate. Contaminated leachate is drawn downward through the landfill prism by gravity. If the leachate were to enter the groundwater it could migrate to off-site public water sources, posing a potential threat to groundwater and human health if allowed to migrate beyond the landfill.

As described in Chapter 3, Description of Alternatives, and Section 4.9, Hydrogeology, the landfill design includes a number of environmental control systems to avoid contamination of water resources. These include a double composite liner system with an additional drainage layer, and an additional HDPE geomembrane and an LCRS system. Further, the design includes a water quality monitoring program with an EMP that would assess the nature and extent of pollutant releases should they occur, and a CAP that would provide engineering measures to control pollutants and meet applicable water quality standards.

The operational characteristics and effectiveness of the environmental control systems and water monitoring programs are analyzed in Section 4.9, Hydrogeology. As described therein, the double composite liner, LCRS, and landfill gas collection system create a redundant environmental control system, providing multiple layers of protection of water resources. Liner systems such as those proposed under the Applicant's Proposed Alternative have proven efficiencies of at least 99 percent in the capture and removal of leachate (and landfill gas condensate) before it can leak from the landfill. Leachate is collected in tanks that are periodically serviced by pump trucks that transport the leachate to off-site to wastewater treatment plants equipped to provide treatment and disposal of leachate material. In the unlikely event that a leak were to occur through the liner system, the subdrain would collect the liquid as well as any groundwater which comes into contact with the subdrain layer. Liquid collected by the subdrain would be tested for the presence of naturally occurring or landfill contaminants and treated by the RO system, if determined necessary. Effluent water from the RO system would be either released into the San Luis Rey River in accordance with RWQCB requirements or treated at a licensed off-site facility. The groundwater monitoring system would document that the containment systems are operating properly and that pollutants are not entering the underlying groundwater. The monitoring system would provide early detection for the landfill operator and appropriate regulatory agencies. In the unlikely event that a leak was to occur, the operator would be required to remedy the situation though the implementation of an EMP and/or CAP.

A secondary source of potential effects on water quality would be from drainage passing over the landfill surface and carrying pollutants to downstream water bodies. The potential effects of drainage are addressed in Section 4.14, Surface Hydrology. As indicated therein, design features would be incorporated into the landfill facilities to avoid adverse water quality effects. These design features include erosion control through the use of BMPs; drainage control measures directing water into downdrains and perimeter

channels, with perimeter channels flowing into one of two desilting basins, with testing prior to discharge to the San Luis Rey River; and inspection and maintenance of drainage facilities.

With the redundant systems proposed, the Applicant's Proposed Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements. As there would not be significant adverse effects to the water resources there would be no significant adverse effects to human population due to landfill wastes being transmitted by water.

### Vector Carried Contaminants

Landfill sites can attract vectors seeking food and refuge amongst the waste prism. A vector is any insect, arthropod, rodent, or other animal of public health importance that can cause human discomfort, or injury, or that is capable of harboring or transmitting the causative agents of human disease. Vectors generally associated with waste disposal include rodents, flies, mosquitoes, and birds.

As described above, the EIR for the Applicant's Proposed Alternative includes design features to reduce the potential adverse impacts from vector-transmitted sources. Further, as described in Section 3.2.5 of this EIS, a Vector Control and Management Plan would be provided to the Vector Surveillance and Control Division of the DEH for review and approval 30 days prior to operation. Implementation of this plan would include bi-weekly inspection by site personnel for signs of rodent activity and implementation of necessary measures to minimize vector nuisances.

The most effective prevention against the propagation of vectors and birds, including ravens and seagulls, on the landfill site would be refuse compaction and application of a daily cover, which would deny access to the waste materials. Access would be further denied through such features as storage/enclosure of items that would be attractive to vectors, and closures of building openings, ground holes and deficiencies in the perimeter fence. Ponding/wet areas that might be conducive to mosquito breeding and/or a source of water for other vectors would be avoided through proper grading of interim fill surfaces and final fill slopes, construction of stormwater basins in compliance with the State of California BMP guidelines, use of sub-drains in areas of poor soil percolation; basin design that includes access for cleaning and maintenance; and building gutters and drains designed to eliminate the ponding of water. Birds on-site would be dispersed through such techniques as playback of distress vocalizations, falcon kites, owl decoys, or dispersal by humans and/or dogs. Since tire storage can attract vectors, tires would be shredded a minimum of every six months to deter both mosquitoes and rodents. Methods of control for insects and rodents in the ancillary facilities area would include professional pest control services, including conventional slap-traps and anticoagulant rodenticide.

These measures would limit the access of vectors to the landfill and would control vectors that might congregate at the landfill site so as to avoid vector transmission of disease. With implementation of these measures no significant adverse effects associated with vectors would occur.

### Litter Dispersal

Accumulation of litter is primarily a community nuisance. However, litter can carry residue of landfill materials and if litter accumulates in large volumes it can fester contamination and/or provide a refuge for

vectors that carry threats to human health. The primary cause for fugitive litter would be winds passing across the landfill and carrying picked-up waste material. Litter could also be caused by open trucks if they were to convey waste to the landfill. As described in the design features above, a litter control program would be implemented. The main control for windblown litter would occur at the unloading area through the rapid spreading and compacting of refuse and placement of daily cover over exposed refuse at the end of each working day. All commercial loads would be required to be covered with a tarp and commercial unloading activities would be conducted at the toe of the working face, when practical, to afford some wind protection. Portable, temporary fencing would be used to control windblown papers at the working face. Disposal operations could be suspended during periods of high winds (when sustained winds of 40 miles per hour or greater, or gusts of 55 miles per hour or greater are expected to persist for one hour or longer.)

Further, off-site litter and dumping would be addressed on or adjacent to the landfill access road and along SR 76 between I-15 and the site. A team, consisting of one truck with a two-person crew would, inspect for and clean up all litter and illegal dumping. Litter inspection would be performed every day the landfill is open to accept refuse and litter would be cleaned up on the sixth day as determined necessary by the inspectors. With implementation of the litter control program, the Applicant's Proposed Alternative would not create a significant litter problem in the area.

Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Applicant's Proposed Alternative would not create significant adverse health risk to the public due to the dispersion of contaminated waste materials that are associated with Class III landfills. No mitigation measures are proposed.

**Impact Statement Gregory HHS-3: Existing hazardous materials on the alternative site would not have significant adverse effects on the health of on-site population.**

### Existing Buildings

The alternative site contains several structures (vacant residences, dairy remnants, etc.), which because of their age, may contain LBP and/or ACM containing materials. These hazardous materials can pose health risks to human population. The existing structures would be demolished as part of landfill construction and therefore, would not pose risk to future site population through occupation. However, demolition activities could potentially expose construction workers to these contaminants should they be present. If the on-site structures are found to contain ACM or LBP, compliance with OSHA regulations and the demolition practices of NESHAP would be required to avoid adverse effects due to exposure. Thus, significant adverse effects to human health and safety would not occur.

### SDG&E Transmission Lines

SDG&E service in the vicinity of the Gregory Canyon site is provided, in part, by two transmission lines which are located on common structures within a 300-foot wide easement, which crosses the site in a north-south direction along the lower slopes of Gregory Mountain. The development of the landfill would include the

relocation of two electrical transmission towers up-slope on the mountain. These structures would be designed pursuant to SDG&E EMF design guidelines.

Electrical transmission lines emit EMFs. It is recognized that some public concern and scientific uncertainty exist regarding a possible health risk from exposure to EMFs. Based on public concern the CPUC established EMF policy for California's regulated electric utilities, which has led to the preparation of standardized design guidelines that all regulated California electric utilities follow for new and upgraded transmission lines and transmission substation projects. The CPUC policy acknowledges that scientific research has not demonstrated that exposures to EMF cause health hazards and that it was inappropriate to set numeric standards that would limit exposure. In recognizing the scientific uncertainty, the CPUC addressed public concern over EMFs by establishing a no-cost and low-cost EMF reduction policy that utilities would follow for proposed electrical facilities. SDG&E adopted design guidelines in 2006.

There are no immediately adjacent off-site receptors in the vicinity of the landfill that would be exposed to elevated EMFs resulting from the relocation of the power lines farther up slope on Gregory Mountain. The area adjacent to the eastern border of the landfill footprint is undeveloped. Relocation of the existing transmission lines would not expose sensitive receptors to added or increased electromagnetic impacts than currently generated from existing lines. In addition, no increased potential interference with radio and television reception over existing conditions would occur.

Site workers would not work under the transmission lines where EMF radiation is highest, and would for the most part work on parts of the site more distant from the towers. Worker exposure to the lines would be brief and intermittent. As the landfill would not cause new EMF exposure to sensitive populations, site worker exposure would be limited, and new lines would be constructed consistent with CPUC Guidelines, no significant adverse effects associated with EMFs would occur.

### SDG&E Gas Pipeline

SDG&E maintains a gas line that runs along the SR 76 frontage on the south side of SR 76. If the line were to be ruptured, escaping gas could potentially be hazardous. However, the line is located underground and its location is known and clearly delineated. The pipeline would not be affected by landfill facilities and activities. The access road would be designed and constructed so as to avoid damage to the pipeline. Standard construction practices are to identify and mark easements. In addition, as noted above excavation activities would not cause erosion of the ground cover. Therefore, dispersion of leaking gas to site population would not be expected.

#### Mitigation Measures

Compliance with existing regulations and construction standards would avoid threats to public safety from LBP or ACM materials and the gas line. Relocation of the transmission lines would be in accordance with CPUC guidelines, and there would be no significant adverse effects due to the release of EMFs. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through reasonably foreseeable accident conditions as a result of activities associated with landfill operations.*

**Impact Statement Gregory HHS-4: Landfill construction and operation would be implemented in accordance with regulatory requirements that would protect the public from hazardous conditions and risk of accidents. No significant adverse accident/risk effects would occur from landfill activity.**

### Landfill Gas Concentration

Landfills that receive organic wastes produce landfill gas, which generally consists of equal amounts of methane and carbon dioxide along with traces of other constituents. The methane component of landfill gas is explosive when it reaches a five to 15 percent range of concentration in the air. If it is not contained, and if suitable subsurface geologic conditions exist, methane has a potential to migrate off-site and represent a safety hazard to surrounding land uses.

Subsection 3.2.3, Landfill Gas Monitoring and Control Systems, of this EIS describes the landfill's control system for collecting and burning methane gas to avoid hazardous concentration from collecting within an on-site or off-site location. Figure 3-26, *Applicant's Proposed Alternative - Landfill Gas Control System*, shows a conceptual layout for the system. The system would consist of a series of vertical gas extraction wells joined through a system of above ground lateral pipes, which would be connected to a main header pipe leading to a flare station where the gases would be burned. Conveyance and burning of the gases would avoid gas concentrations reaching ignitable/explosive levels. With implementation of the landfill gas control system, methane concentrations would not reach ignitable levels.

### Flood Hazard

Construction and operation of the landfill would not place habitable structures within a 100-year floodplain. A section of the access road and the bridge abutments would be located within the 100-year floodplain and would alter drainage patterns on the site. The landfill footprint and other components of the alternative would be located outside the 100-year floodplain. The potential effects of the alternative on flooding in the site vicinity are evaluated in Section 4.14, Surface Hydrology, of this EIS. The analysis identifies design measures incorporated into the alternative to avoid flooding, which include: control of the 100-year flood elevations at or below existing elevations; bridge-piles designed to avoid scouring; and use of rip-rap at structural elements as along stream banks where/if needed. The analysis in Section 4.14 indicates that the alternative would not increase or exacerbate flooding; would not increase existing channel velocities and or increase existing flood elevations upstream and downstream of the bridge and habitat restoration area; and would not impede or redirect flow in a floodway that would cause flooding downstream or cause substantial additional sources of runoff.

### Fire Hazards

Fire can be caused at the landfill when landfill gas, tires, combustible refuse, vegetation, or litter along the access road become ignited by any of the following sources: the tipping of a hot or smoldering load (containing hot embers such as charcoal briquettes or fire ashes); sparks from vehicles or machinery, hot exhausts, mufflers, or brakes; lighted cigarettes or matches thrown from vehicles; or lightening (due to direct

lightning strike or perhaps as ball lightening).[3] On-site storage of petroleum products (i.e., diesel fuel) in the maintenance area represents another potential fire hazard. In addition, most sanitary landfills have the potential for subsurface combustion of buried refuse. Such fires can be triggered by mixture of "hot loads" with other refuse material, or uncontrolled or improper operation of the landfill gas control system.

Section 4.12.2, Fire Protection and Emergency Medical Services, evaluates the ability of public and private firefighting services to protect the public. The section includes a more detailed discussion of the design features for avoidance and control of fire outbreaks specifically associated with landfill activities. (Fire Protection and Control Measures are also further discussed in subsection 3.2.4 of this EIS.) As indicated, design features have been incorporated into the landfill to specifically limit and control fires on the site. Of particular note regarding potential fire outbreak associated with landfill activities are the following: Forbidden burning of refuse and load checking for smoldering or burning wastes; procedures for safe tire handling; application of daily soil cover; controls on internal combustion engines to reduce fire risk; the use of a screening material placed above blasting areas; training/equipping of site personnel to avoid fire outbreaks and to provide a first response should a fire occur within the landfill; and the availability of water for fire suppression. Also, as further described in Section 4.12.2 there would be additional protection from landfill fire adversely effecting surrounding communities due to fire breaks around the landfill site and the availability of public firefighting services. The design features address the potential causes of fire and allow for quick response and control of landfill fires should they occur. With implementation of these measures significant adverse effects would not occur.

### Rockfall

Potential threats to public safety could occur from rockfall associated with boulders located on the east flank of Gregory Mountain. If these boulders were to become dislodged they could create a safety risk to workers and equipment, cause damage to the liner system and leachate collection system, the landfill gas control system, or the final cover of the landfill, and/or pose a potential threat to the relocated transmission towers if they were to fall.

Section 4.7, Geology and Soils, of this EIS, evaluates the potential risk of rockfall and techniques for protecting the public and landfill control systems from rockfall. The analysis identifies design measures that would protect workers and landfill facilities from harm. It also includes quantitative modeling of potential rockfall effects. (Design features are also further described in subsection 3.1.4.2, of this EIS; and Figure 3-17, *Applicant's Proposed Alternative – Typical Rockfall Protection*, provides an illustration of the typical rockfall protection design.) Design features for protection from rockfall include inspection of large boulders prior to development of an area of the landfill; identification of rockfall potential prior to blasting; observation of potential rockfalls during operations through the use of a spotter, and inspection of the rock masses surrounding the landfill every 5 years and/or after a major earthquake event. In the event a loose boulder were identified, controlled displacement of the boulder(s) where possible would occur and/or placement of catching walls, as illustrated in Figure 3-17, would be provided to stop a potential rockfall. The analysis in Section 4.7 indicates that the design features would avoid safety risk to workers and equipment, and to the landfill control systems and no significant adverse effects relative to rockfall would occur.

[3] *Ball lightning refers to an unexplained atmospheric electrical phenomenon. The phenomenon has been reported in observations by large numbers of people as orbs of luminous spherical objects, usually in connection with thunderstorms. There is no agreed scientific basis for their occurrence.*

### Site Security

Safety impacts may arise at the site if unauthorized users are provided access to the landfill site. Unauthorized users may potentially injure themselves if allowed on-site in restricted or otherwise employee-designated areas.

Section 4.12.1, Law Enforcement, of this EIS evaluates general security of the site and the ability to keep the public safe at the site. The section includes a more detailed discussion of the design features for site security, which include such features as restricted site access with "No Trespassing" signs posted around the site perimeter; visitors would be required to check-in at the administrative office; lockable gates and perimeter fencing would be installed; office trailers, equipment storage units, and material storage areas would be locked and enclosed and equipped with security lighting. Also, as further described in Section 4.12.1, while not expected, Sheriff's Department services would be available to serve the site if needed. The design features would secure the site and protect the public from unauthorized site access.

### Disposal Operations Hazards

Construction and operations of the landfill site could pose potential threats to site employees and/or visitors due to such factors as equipment operation, loading activities, on-site traffic movement and attempts to scavenge waste materials.

Therefore, site operations would be carried out under regulations for the protection of public safety as supported by intended design features. Employees would be trained in health and safety procedures and preventative controls. Training and safety procedures are regulated by OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. Training would include: site safety, first aid, accident prevention, hazardous waste recognition, and emergency measures related to hazardous waste exposure. Appropriate safety equipment, such as dust masks, ear plugs, goggles, gloves, and orange safety vests, would be provided to landfill employees. First aid supplies would be provided in an accessible location. Self-contained emergency eye wash stations and showers having attached water reservoirs would be installed. Communication equipment would be provided between operations areas, the office, the scale houses, and any necessary emergency responders (police, fire, etc.).

All haul trucks would have contact with their company either via a 2-way radio or a cell phone, which is standard practice in order for truck operators to report truck accidents, problems with trash collection, road blockage, or truck accidents caused by driving under the influence, driver violations, driver error, and/or excessive speeds. Further, scavenging would be prohibited, and traffic directors would control traffic movements and enforce traffic rules on the site. Small vehicles and "hand unloads" would be directed to a separate disposal area, away from the large, automatic dumping refuse trucks, ensuring orderly and safe disposal operations. With implementation and enforcement of employee and user safety controls as part of the landfill operations, significant adverse safety effects would not occur.

### Roadway Safety

Landfill construction and operation would add traffic on SR 76, with traffic movements entering the landfill site at a new signalized intersection. The effects of traffic on driving conditions along SR 76 are addressed in

Section 4.15, Transportation, of this EIS. The analysis indicates that the site access intersection would operate at an acceptable level of service and no significant adverse traffic effects would occur. Design features include improvements to approximately 1,700 linear feet of SR 76 in the vicinity of the access road to enhance roadway safety and the payment of up to $1,000,000 to Caltrans for safety improvements to SR 76 in the vicinity of the site.

In addition, as indicated in Section 4.15, the Traffic Impact Analysis for the Applicant's Proposed Alternative reports accident data for SR 76, that indicates: 1) the rate of accidents along SR76 is consistent with accident rates associated with similar roadways; and 2) driver violations and excessive speeds are the primary causes of collision on SR 76; trucks are not notable contributors to roadway accidents. For these reasons no significant adverse effects to population arising from traffic conditions would occur.

Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Applicant's Proposed Alternative would not pose a threat to public safety from the safety risks associated with construction and operation of the landfill. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would interfere with emergency response plans or emergency evacuation plans.*

**Impact Statement Gregory HHS-5: The Applicant's Proposed Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no significant adverse effect would occur.**

Emergency response plans that serve the vicinity of the Gregory Canyon site include the County's Emergency Services Organization Operation Area Emergency Plan, and Fallbrook/Bonsall/De Luz/Rainbow CPEP. Both of these plans provide guidance for emergency response, and both include SR 76 and I-15 as primary routes for evacuations. During such occurrences, the landfill would cease normal operations and thus, would avoid effects to emergency travel. As noted above, design features include improvements to SR 76 that would enhance the road for such traffic. During normal times, adequate emergency vehicular access would be maintained. Further, the Applicant's Proposed Alternative would not physically interfere with the implementation of an emergency response as the heights of the footprint, borrow/stockpile areas, buildings, and the relocated towers, are not anticipated to interfere with the ability of emergency air support services to carry out missions associated with an emergency response. The Applicant's Proposed Alternative would not impair implementation of or physically interfere with the response and evacuation features of the County of San Diego OES Operational Area Emergency Plan; nor the Fallbrook/Bonsall/De Luz/Rainbow CPEP.

As part of the Applicant's Proposed Alternative and prior to its implementation, an Emergency Response Preparedness Plan would be developed that would identify an emergency coordinator(s) and an emergency notification list, identify the responsibilities of the emergency coordinator, and define specific action plans and equipment available in the event of an emergency. Employees would be trained in health and safety procedures and preventative controls in accordance with OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. These features would allow landfill staff to provide

coordination with other emergency response plans and evacuation plans. No significant adverse effects regarding emergency response would occur.

**Mitigation Measure**

With implementation of design features, the Applicant's Proposed Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No mitigation measures are proposed.

## 4.8.4 NO FEDERAL ACTION ALTERNATIVE

### 4.8.4.1 Affected Environment

The No Federal Action Alternative generally represents existing conditions at the Gregory Canyon site. Minor earthmoving could occur for the enhancement of the area along with vegetation activities for the creation of a conservation bank. Therefore, the affected environment for the No Federal Action Alternative is the same as that for the Applicant's Proposed Alternative. Refer to Subsection 4.8.3.1 for a detailed description of the affected environment for health and safety at the Gregory Canyon site.

### 4.8.4.2 Design Features

The proposed biological conservation bank would include removal of invasive species and vegetation planting on the Gregory Canyon site and limited site grading. These activities would be carried out pursuant to applicable regulatory requirements for the general protection of the public safety. No further design features would be included.

### 4.8.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through the release, transport, use, production, or disposal or exposure to hazardous materials.*

**Impact Statement No Federal Action HHS-1: The No Federal Action Alternative would not require the transport, use, production or disposal of hazardous materials. The use of common landscaping chemicals for implementation of this alternative would be subject to regulatory measures for the protection of the public safety. No adverse effects on health from hazardous materials would occur.**

Under the No Federal Action Alternative, a landfill would not be constructed, and no waste disposal would occur at the Gregory Canyon site. The No Federal Action Alternative's minor grading and planting activities would require the use of standard landscaping chemicals and materials that are considered safe for such use and/or are used subject to regulatory protections for the public safety. Further, the use of such materials would be limited. Therefore, no adverse effects on health due the use of hazardous materials would occur.

Mitigation Measures

Adverse health effects from the use of hazardous materials would not occur. No mitigation measures are proposed.

**Impact Statement No Federal Action HHS-2: The No Federal Action Alternative would not cause the disposal of materials whose decomposition could adversely affect public health and safety.**

Under the No Federal Action Alternative, a landfill would not be constructed, no waste disposal would occur, and no foreign materials subject to decomposition of waste mater would occur. Further, there would be no alteration of site conditions that would provide a new source of attraction for vectors and no generation of litter. Therefore, generation of contamination from site activities would not occur and no adverse effects on public health would occur.

Mitigation Measures

No adverse effects on health from decomposition of on-site materials would occur. No mitigation measures are proposed.

**Impact Statement No Federal Action HHS-3: Existing hazardous materials on the alternative site would not have adverse effects on health of on-site population.**

The site population under the No Federal Action Alternative would be limited to a small crew to provide the conservation bank grading and planting and thereafter occasional site visits by maintenance workers and biologists for required maintenance or monitoring. Such site workers would be few, intermittent, and involved at the site for only a short duration. Further, they would not be involved in activities adjacent to existing structures (with potential ACM and LBP materials), nor the SDG&E transmission line and gas line facilities. Therefore, site workers would not be adversely affected by existing conditions on the site. The No Federal Action alternative would not alter existing conditions of the on-site materials. Therefore, there would be no adverse effects on health due to contact with existing on-site hazardous materials.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through reasonably foreseeable accident conditions as a result of activities associated with landfill operations.*

**Impact Statement No Federal Action HHS-4: Construction and operation of a conservation bank would require minor grading and landscaping activity that is typical of daily construction activity carried out under regulatory provisions for the public safety. No adverse accident/risk effects would occur.**

Construction of the No Federal Action Alternative would require a small amount of grading and landscaping/planting activity that is typical of daily construction activity occurring on minor projects throughout the region. Operation of the alternative would require only minor maintenance. These activities would be carried out under regulatory requirements for the protection of site workers, most notably OSHA.

The site conditions would be essentially unchanged from today as regards potential safety impacts to the public. It would be an open space site, albeit one with slightly enhanced landscaping. The minor grading and landscaping activity required during construction would not adversely affect potential flooding conditions, and may provide minor improvements in drainage flow. The activities would not increase risk of fires nor subject new site population, nor surrounding communities to other safety risks. Therefore, no adverse safety effects would occur.

Mitigation Measures

Adverse effects on public safety would not occur. No mitigation measures are proposed.

**Impact Statement No Federal Action HHS-5: The No Federal Action Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no significant adverse effect would occur.**

As indicated above, construction of the No Federal Action Alternative would require a small amount of grading and landscaping/planting activity that is typical of daily construction activity occurring on minor projects throughout the region. Operation of the alternative would require only minor maintenance. The site conditions would be essentially unchanged from today as regards potential safety impacts to the public. With negligible traffic and no changes to accessibility in the site vicinity, there would be no adverse effects on the implementation of emergency response plans.

Mitigation Measures

The No Federal Action Alternative would have no adverse effects on emergency access plans. No mitigation measures are proposed.

## 4.8.5 ASPEN ROAD ALTERNATIVE

### 4.8.5.1 Affected Environment

The Aspen Road Alternative site, while primarily undeveloped, has limited agricultural use/groves occurring on-site, along with a few residential units along its western boundary. Uses in the vicinity of the site that could be subject to health and safety effects as a result of landfill construction and operations include rural residential uses located east, west and south of the site, nearby agricultural uses, and the Roadrunner Ridge Winery located north of the site.

### 4.8.5.2 Design Features

The Aspen Road Alternative would be designed, constructed and operated in accord with regulatory requirements that protect the public health and safety, including preparation of a HWEP and HMBP, with a load checking program. These regulations prohibit the disposal of hazardous wastes and provide mechanisms for handling of waste disposal in Class III landfills, with procedures for prohibiting hazardous materials from entering the landfill, identifying attempts to dispose of hazardous materials in the landfill, and safe handling of such materials if found at the landfill site. It would also include programs for vector control and litter control, such as application of daily cover; barrier enclosures and fencing, avoidance of wet

breeding areas, regular tire shredding; use of sounds and/or human/dogs presence as deterrents; and pest control measures. The litter control measures would include such features as application of daily cover; temporary fencing; use of tarps on commercial vehicles; inspection and cleanup of litter on adjacent roads.

In addition to these design features, there are other design features cited in other sections of this EIS to reduce environmental effects that, if adverse, could lead to effects on human health and safety. In particular: design features that would control air pollutant emissions include a Dust Control Plan to limit dust emissions; diesel particulate emissions control measures; the application of daily cover: and the implementation of a system to collect and burn landfill gases (see Section 4.3, Air Quality and Greenhouse Gases). Design features would also include protection from rockfall hazards through inspections and use of diversion structures (see Section 4.7, Geology and Soils); fire protection measures such as firebreaks; no burning of refuse, load checking; safe tire handling, application of daily soil cover; controls on internal combustion engines; the use of a screening material placed above blasting areas, and fire-fighting training of site personnel (see Section 4.12.2, Fire Protection and Emergency Medical Services); and site security features including controlled site entry, sign postings, and security lighting (see Section 4.12.1, Law Enforcement). In addition, design features to protect groundwater quality would include environmental control systems (a single composite liner system, a leachate collection and removal system, and a subdrain) and a water control monitoring program with provision for corrective actions should they be required (see Section 4.9, Hydrology); and features to protect surface water quality and flow conditions would include the development of a SWPPP, and a SWMP that would be required to prevent direct surface runoff to Rainbow Creek, and environmental monitoring and control systems (See Section 4.14, Surface Hydrology). The alternative's new access road would be designed to meet County standards (See Section 4.15, Transportation).

### 4.8.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through the release, transport, use, production, disposal or exposure to hazardous materials.*

**Impact Statement Aspen HHS-1: The Aspen Road Alternative would provide a Class III landfill, which would accept only non-hazardous solid wastes and inert wastes. Landfill operations would include a HWEP intended to preclude hazardous materials from entering the landfill site, and disposing of hazardous materials inadvertently brought to the site in a safe manner per state regulations. Therefore, landfill operations would not create significant adverse effects to the public or the environment through the transport, use, production, or disposal or release of hazardous materials.**

The Aspen Road Alternative would include the construction, operation, and closure of a Class III solid waste facility, in accordance with CCR Title 27. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. Non-hazardous wastes would be disposed through the County's HHWE through a number of programs that channel hazardous waste materials to facilities designed to accommodate them.

Notwithstanding, some household hazardous materials may be inadvertently brought to the landfill. Hazardous products purchased by the general public for household use include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a hazard to human health or the environment. These wastes include such items as cleaners, pesticides, paint products,

automotive products, hobby products, and other toxic substances commonly found in households. In addition, HHW may include infectious wastes, such as syringes or other material contaminated with etiologic (i.e., disease-causing) agents.

As described in the design features above, the Aspen Road Alternative would include a HWEP that includes mechanisms to preclude hazardous material from being brought to the landfill, procedures for identifying hazardous materials that might be brought to the landfill against regulations, and methods of handling of such hazardous materials should they be brought to the landfill facility. More detailed discussion of the protective mechanisms and procedures regarding their implementation on landfill sites is provided in the discussion of the Applicant's Proposed Alternative, above.

As discussed above, protection of the public begins with precluding attempts to dispose of hazardous waste materials through such devices as advance notifications to non-residential users, signage at the landfill advising of prohibited materials, and potential bans on use of the landfill by past offenders. Once haul vehicles enter the site they are subject to extensive monitoring by trained personnel with on-going checking in order to detect HHW that might be brought to the landfill. Loads are also checked for low levels of radioactive waste with a gamma-scintillation counter. As a deterrent, random loads are selected for a full search for prohibited wastes. Identification of hazardous materials results in one or more responses based on the hazardous material presented. The responses may include such items as: refused entry, quarantine of the material in approved storage containers, laboratory testing of material, and transport and disposal at a permitted hazardous waste facility in compliance with all federal, state and local regulations. Responses may include notification to the County DEHs HIRT, the California Highway Patrol or 911. The handling of hazardous materials would also be subject to procedures established in a hazardous materials business plan that provides coordination with local emergency service organizations.

In summary, there are a number of regulatory and design feature procedures that place layers of protection from public contact with hazardous materials. These include procedures to 1) keep hazardous materials from reaching the landfill, 2) identify hazardous materials being presented at the landfill, and 3) contain and dispose hazardous materials in a manner that is safe. These measures would limit potential contact with hazardous materials and no significant adverse effects on human population would occur.

Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Aspen Road Alternative would not create significant adverse health risk to the public due to receipt and handling of hazardous materials. No mitigation measures are proposed.

**Impact Statement Aspen HHS-2: Potential contamination and hazards associated with the handling of Class III non-hazardous wastes would be contained by the landfill's environmental containment systems that would limit emissions of hazardous materials in keeping with standard safety criteria. This would substantially limit effects on human population and no significant adverse effect would occur.**

Waste materials, when disposed in Class III landfills, undergo a number of processes that can create potential contaminants. Such contaminants may enter the air or migrate toward water resources, whereby they could

potentially be transported to contact with human population. Further, landfills can support vectors that can carry contamination or disease to nearby population. Potential effects associated with each of these conveyance sources is discussed below.

### Airborne Contaminates

As discussed more fully for the Applicant's Proposed Alternative, health effects to offsite populations can be caused by exposure to airborne emissions resulting from landfill construction and operation activities such as earthwork (most notably dust with metal particulates), vehicle operation (particularly the operation of diesel engines), and decomposition of landfill wastes that create landfill gas emissions. Further, a number of design features reduce these potential impacts, summarized above and enumerated more fully in Chapter 3, Description of Alternatives, and Section 4.3, Air Quality and Greenhouse Gases. They include such features as a Dust Control Plan and diesel particulate emissions control measures.

Section 4.3, Air Quality and Greenhouse Gases, includes analyses of the landfill's air pollutant emissions. These analyses include a range of evaluations that address 1) the amount of criteria pollutants that would be generated as compared to criteria established for identifying the necessity for mitigation measures; 2) the dispersion of the emissions to sensitive human population; 3) the expected health effects on those populations; and 4) an evaluation of odor effects. The conclusions of the evaluations in Section 4.3 indicate the following:

- An evaluation of health risks indicates that potential cancer risks and acute and chronic non-cancer health risks associated with the landfill's TACs would be below the levels that would result in significant adverse effects.
- An evaluation of localized CO concentrations congested intersections indicates that the contribution of the alternative to the 1-hour and 8-hour CO concentrations would not exceed state and federal significance criteria.
- An evaluation of the concentration of air contaminants in the vicinity of sensitive human population indicates the concentrations of potentially harmful CO, $NO_x$, $PM_{10}$ and $PM_{2.5}$ would not exceed 1-hour and 8-hour state and federal standards.
- An evaluation of the emission of odorous compounds indicates that the maximum concentration of a sulfur compound having an odor would remain at least one order of magnitude (ten-fold) lower than the detectable limit by the human nose.

In summary, the air quality analysis indicates that pollutant concentrations in the vicinity of effected sensitive populations would not exceed significance thresholds nor health risk criteria. Therefore, no significant adverse health impacts associated with landfill generated air contamination would occur.

### Waterborne Contaminates

Class III landfills generate hazardous materials that if not controlled could be conveyed through water sources to sensitive populations during construction and operation activities. As described in more detail for the Applicant's Proposed Alternative, and in Chapter 3, Description of Alternatives, Section 4.9, Hydrogeology, and Section 4.14, Surface Hydrology, potential adverse effects regarding water quality and

water flow/drainage would be subject to regulations for the protection of water resources and the public safety, that would be implemented as design features. Initial construction and operations would be implemented under a SWPPP prepared in accordance with California NPDES Construction General Permit requirements and using BMPs identified in the California Stormwater BMP Handbook–Construction. In addition, a SWMP would be implemented to further define BMPs and minimize the potential for stormwater quality degradation. The BMPs would be site-specific and would be designed to prevent pollutants from entering groundwater flows. With the implementation of BMPs and construction monitoring, initial construction would not result in the exceedance of any water quality standards or waste discharge requirements, and would not result in an adverse effect on groundwater quality.

During operations potential constituents (including leachate and landfill gas condensate) would be prevented from entering the groundwater through standard federal, state, and local regulatory mechanisms. These would include a single landfill liner and LCRS, a subdrain system, and a landfill gas and condensate collection system. A groundwater monitoring network would also be implemented. This alternative would not include an RO system to treat contaminated water on-site, as was the case with the Applicant's Proposed Alternative. However water collected by the subdrain system would be treated or discharged in accordance with RWQCB requirements. Further, the single liner systems, as contrasted with the double liner system that would be included in the Applicant's Proposed Alternative, would provide sufficient protection to meet regulatory standards. Lastly, as with the Applicant's Proposed Alternative, if a landfill leak is detected, the operator would be required to implement an EMP and a CAP, under the regulatory guidance of the RWQCB.

With the implementation of the regulatory design features, the Aspen Road Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements; and there would be no significant adverse effects to human population due to landfill wastes being transmitted by water.

### Vector Carried Contaminants

The alternative could potentially attract vectors (including rodents, flies, mosquitoes, and birds) seeking food and refuge amongst the waste prism. Standard landfill design measures, consistent with regulatory requirements, would be implemented to control such vectors. The design features would be implemented under a vector control and management plan that would be tailored to the alternative site relative to the surrounding land uses and sensitive receptors. Design features would include measures similar those described in more detail for the Applicant's Proposed Alternative, above. They would include such features as regular inspection, refuse compaction and application of a daily cover, storage/enclosure of items that might lure vectors, closures of building openings and fences, avoidance of ponding/wet areas, regular tire shredding, bird deterrence measures (such as playback of distress vocalizations, falcon kites, owl decoys, or dispersal by humans and/or dogs), and professional pest control services.

These measures would limit the access of vectors to the landfill and would control vectors that might congregate at the landfill site so as to avoid vector transmission of disease. With implementation of these measures no significant adverse effects associated with vectors would occur.

### Litter Dispersal

The alternative could potentially generate litter that, if allowed to accumulate off-site, would fester contamination and/or provide a refuge for vectors that carry threats to human health. Design features would be implemented, consistent with regulatory measures, to control vectors under the auspices of a litter control program that would be tailored to the alternative site relative to the surrounding land uses and sensitive receptors. Key design features would include such measures as compacting of refuse and placement of daily cover, required use of tarps for commercial loads, use of portable fencing if appropriate, and controlled operations during high wind events. With implementation of the litter control program, the Aspen Road Alternative would not create a significant litter problem in the area.

#### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the alternative would not create a significant adverse health risk to the public due to the dispersion of contaminated waste materials that are associated with Class III landfills. No mitigation measures are proposed.

**Impact Statement Aspen HHS-3: Existing hazardous materials on the alternative site would not have adverse effects on health of on-site population.**

The alternative site contains some residential development that would require demolition. Such demolition would require inspection for LBP and/or ACM containing materials. If the on-site structures are found to contain ACM or LBP, compliance with OSHA regulations and the demolition practices of NESHAP would be required to avoid adverse effects due to exposure. Thus, significant adverse effects to human health and safety in this regard would not occur.

#### Mitigation Measures

Compliance with existing regulations and construction standards would avoid threats to public safety from LBP or ACM materials. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through reasonably foreseeable accident conditions as a result of activities associated with landfill operations.*

**Impact Statement Aspen HHS-4: Landfill construction and operation would be implemented in accordance with regulatory requirements that would protect the public from hazardous conditions and risk of accidents. No significant adverse accident/risk effects would occur from landfill activity.**

### Landfill Gas Concentration

The Aspen Road Alternative would include a landfill gas control system, that would collect and burn/flair accumulating landfill gasses. The system would limit potential concentrations of landfill gas from reaching ignitable/explosive levels.

### Flood Hazard

The alternative site is not located within a 100-year floodplain. Further, the site is not located in proximity to a floodway that would be directly altered by the development of the landfill, access road, and ancillary facilities. A culvert would be installed at the road crossing of Rainbow Creek. The culvert would be designed to accommodate a 100-year storm in accordance with San Diego County Department of Public Works design standards. Further, the alternative would incorporate construction and operational BMP's to collect and distribute additional runoff from impervious services so that no net increase in surface water runoff from the site would occur. Therefore, the alternative would not pose a threat of adverse flooding effects.

### Fire Hazards

Potential fires that can occur at landfills would be avoided and/or quickly controlled through the implantation of design features that are consistent fire prevention regulatory measures. Key design measures include the following: forbidden burning of refuse and load checking for smoldering or burning wastes; procedures for safe tire handling; application of daily soil cover; controls on internal combustion engines; training/equipping of site personnel to avoid fire outbreaks and to provide a first response should a fire occur within the landfill; the availability of water for fire suppression; the and the use of fire breaks around the landfill site. The design features address the potential causes of fire and allow for quick response and control of landfill fires should they occur. Further, public firefighting services would be available to serve the site in case of an emergency. With implementation of these measures, significant adverse effects would not occur.

### Rockfall

Development of a landfill at the alternative site would follow standard design features, consistent with regulatory measures to protect workers from harm from rockfall. Design features would include measures such as inspection for large boulders prior to development of an area of the landfill; identification of rockfall potential prior to blasting; observation of potential rockfalls during operations through the use of a spotter, and inspection of the rock masses surrounding the landfill every 5 years and/or after a major earthquake event. In the event a loose boulder were identified, controlled displacement of the boulder(s) where possible would occur and/or placement of catching walls would be provided to stop a potential rockfall. With implementation of these measures, significant adverse effects relative to rockfall would not occur.

### Site Security

The implementation of design features would ensure the Aspen Road Alternative would not result in significant adverse effects related to unauthorized access to the site. These design features include such measures as restricted site access through the use of "No Trespassing" signs, visitor check-in requirements, lockable gates and perimeter fencing, locking/enclosing of office trailers, equipment storage units, and material storage areas, and use of security lighting. Further, while not expected, Sheriff's Department services would be available to serve the site if needed. The design features would secure the site and protect the public from unauthorized site access.

### Disposal Operations Hazards

The safety of site workers and visitors would be provided through regulatory procedures that are applicable to landfill construction and operations. Employees would be trained in health and safety procedures and preventative controls. Training and safety procedures are regulated by OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. Training would include: site safety, first aid, accident prevention, hazardous waste recognition, and emergency measures related to hazardous waste exposure. Appropriate safety equipment, such as dust masks, ear plugs, goggles, gloves, and orange safety vests, would be provided to landfill employees. First aid supplies would be provided in an accessible location. Self-contained emergency eye wash stations and showers having attached water reservoirs would be installed. Communication equipment would be provided between operations areas, the office, the scale houses, and any necessary emergency responders (police, fire, etc.).

All haul trucks would have contact with their company either via a 2-way radio or a cell phone, which is standard practice in order for truck operators to report truck accidents, problems with trash collection, road blockage, or truck accidents caused by driving under the influence, driver violations, driver error, and/or excessive speeds. Further, scavenging would be prohibited, and traffic directors would control traffic movements and enforce traffic rules on the site. Small vehicles and "hand unloads" would be directed to a separate disposal area, away from the large, automatic dumping refuse trucks, ensuring orderly and safe disposal operations. With implementation and enforcement of employee and user safety controls as part of the landfill operations, significant adverse safety effects would not occur.

### Roadway Safety

Landfill construction and operation would add traffic at nearby roadways and along a new access road that would connect to Rainbow Glen Road at Oak Crest Road. The access road would be sized and configured to meet County roadway standards. Further, haul truck drivers are professional trained drivers, operating in a work environment with worker responsibility. As such, haul truck drivers are not expected to generate unusual impacts on traffic safety. This is supported by the findings on accident data that was reported for SR 76 in the analysis of the Applicant's Proposed Alternative. That data indicated that trucks are not notable contributors to roadway accidents. For these reasons no significant adverse effects to population arising from landfill traffic is expected.

#### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Aspen Road Alternative would not pose a threat to public safety from the safety risks associated with construction and operation of the landfill. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would interfere with emergency response plans or emergency evacuation plans.*

**Impact Statement Aspen HHS-5: The Aspen Road Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no significant adverse effect would occur.**

Emergency response plans that serve the vicinity of the Aspen Road site include the County's Emergency Services Organization Operation Area Emergency Plan, and Fallbrook/Bonsall/De Luz/Rainbow CPEP. Both of these plans provide guidance for emergency response, and both include I-15 and SR 76 as primary routes for evacuations. The latter plan also shows Rainbow Valley Road as a main evacuation road, however, this is east of the I-15 on a roadway without notable landfill traffic. During such occurrences, the landfill would cease normal operations and thus, would avoid effects to emergency travel. During normal times, adequate emergency vehicular access would be maintained. The alternative would not adversely affect local roadways during an emergency situation and would not impair implementation of or physically interfere with the response and evacuation features of the County of San Diego OES Operational Area Emergency Plan or the Fallbrook/Bonsall/De Luz/Rainbow CPEP.

As part of the Aspen Road Alternative and prior to its implementation, an Emergency Response Preparedness Plan would be developed that would identify an emergency coordinator(s) and an emergency notification list, identify the responsibilities of the emergency coordinator, and define specific action plans and equipment available in the event of an emergency. Employees would be trained in health and safety procedures and preventative controls in accordance with OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. These features would allow landfill staff to provide coordination with other emergency response plans and evacuation plans. No significant adverse effects regarding emergency response would occur.

Mitigation Measures

With implementation of design features, the Aspen Road Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No mitigation measures are proposed.

## 4.8.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.8.6.1 Affected Environment

The Gopher Canyon Road Alternative site includes the Panoramic Estates, an approved gated residential subdivision with 35 lots (four acres plus in size) is located within the site. Infrastructure for the subdivision has been provided inclusive of roads (Panoramic Drive, Panoramic Way, and Panoramic Place), sidewalks, and curbs. In addition, a few existing residences are located within the western most portion of the site.

The nearest uses that might be subject to health and safety impacts include residential development immediately to the west of the site, a health spa located to the northwest, and a private golf course and residential development located along the eastern side of the site. There are some more distant uses that would not be subject to landfill impacts, but that would be subject to the effects of landfill traffic along Gopher Canyon Road, the main access route to alternative site.

### 4.8.6.2 Design Features

The Gopher Canyon Road Alternative would be designed, constructed and operated in accord with regulatory requirements that protect the public health and safety, including preparation of a HWEP and HMBP, with a load checking program. These regulations prohibit the disposal of hazardous wastes and

provide mechanisms for handling of waste disposal in Class III landfills, with procedures for prohibiting hazardous materials from entering the landfill, identifying attempts to dispose of hazardous materials in the landfill, and safe handling of such materials if found at the landfill site. It would also include programs for vector control and litter control, such as application of daily cover; barrier enclosures and fencing, avoidance of wet breeding areas, regular tire shredding; use of sounds and/or human/dogs presence as deterrents; and pest control measures. The litter control measures would include such features as application of daily cover; temporary fencing; use of tarps on commercial vehicles; inspection and cleanup of litter on adjacent roads.

In addition to these design features, there are other design features cited in other sections of this EIS to reduce environmental effects that, if adverse, could lead to effects on human health and safety. In particular: design features that would control air pollutant emissions include a Dust Control Plan to limit dust emissions; diesel particulate emissions control measures; the application of daily cover: and the implementation of a system to collect and burn landfill gases (see Section 4.3, Air Quality and Greenhouse Gases). Design features would also include protection from rockfall hazards through inspections and use of diversion structures (see Section 4.7, Geology and Soils); fire protection measures such as firebreaks; no burning of refuse, load checking; safe tire handling, application of daily soil cover; controls on internal combustion engines; the use of a screening material placed above blasting areas, and fire-fighting training of site personnel (see Section 4.12.2, Fire Protection and Emergency Medical Services); and site security features including controlled site entry, sign postings, and security lighting (see Section 4.12.1, Law Enforcement). In addition, design features to protect groundwater quality would include environmental control systems (a single composite liner system, a leachate collection and removal system, and a subdrain) and a water control monitoring program with provision for corrective actions should they be required (see Section 4.9, Hydrology); and features to protect surface water quality and flow conditions would include the development of a SWPPP, a SWMP, and environmental monitoring and control systems (See Section 4.14, Surface Hydrology). The alternative's new access road would be designed to meet County standards (See Section 4.15, Transportation).

### 4.8.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through the release, transport, use, production, disposal or exposure to hazardous materials.*

**Impact Statement Gopher HHS-1: The Gopher Canyon Road Alternative would provide a Class III landfill, which would accept only non-hazardous solid wastes and inert wastes. Landfill operations would include a HWEP intended to preclude hazardous materials from entering the landfill site, and disposing of hazardous materials inadvertently brought to the site in a safe manner per state regulations. Therefore, landfill operations would not create significant adverse effects to the public or the environment through the transport, use, production, or disposal or release of hazardous materials.**

The Gopher Canyon Road Alternative would include the construction, operation, and closure of a Class III solid waste facility, in accordance with CCR Title 27. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. Non-hazardous wastes would be disposed through the County's HHWE through a number of programs that channel hazardous waste materials to facilities designed to accommodate them.

Notwithstanding, some household hazardous materials may be inadvertently brought to the landfill. Hazardous products purchased by the general public for household use include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a hazard to human health or the environment. These wastes include such items as cleaners, pesticides, paint products, automotive products, hobby products, and other toxic substances commonly found in households. In addition, HHW may include infectious wastes, such as syringes or other material contaminated with etiologic (i.e., disease-causing) agents.

As described in the design features above, the Gopher Canyon Road Alternative would include a HWEP that includes mechanisms to preclude hazardous material from being brought to the landfill, procedures for identifying hazardous materials that might be brought to the landfill against regulations, and methods of handling of such hazardous materials should they be brought to the landfill facility. More detailed discussion of the protective mechanisms and procedures regarding their implementation on landfill sites is provided in the discussion of the Applicant's Proposed Alternative, above.

As discussed above, protection of the public begins with precluding attempts to dispose of hazardous waste materials through such devices as advance notifications to non-residential users, signage at the landfill advising of prohibited materials, and potential bans on use of the landfill by past offenders. Once haul vehicles enter the site they are subject to extensive monitoring by trained personnel with on-going checking in order to detect HHW that might be brought to the landfill. Loads are also checked for low levels of radioactive waste with a gamma-scintillation counter. As a deterrent, random loads are selected for a full search for prohibited wastes. Identification of hazardous materials results in one or more responses based on the hazardous material presented. The responses may include such items as: refused entry, quarantine of the material in approved storage containers, laboratory testing of material, and transport and disposal at a permitted hazardous waste facility in compliance with all federal, state and local regulations. Responses may include notification to the County DEHs HIRT, the California Highway Patrol or 911. The handling of hazardous materials would also be subject to procedures established in a hazardous materials business plan that provides coordination with local emergency service organizations.

In summary, there are a number of regulatory and design feature procedures that place layers of protection from public contact with hazardous materials. These include procedures to 1) keep hazardous materials from reaching the landfill, 2) identify hazardous materials being presented at the landfill, and 3) contain and dispose hazardous materials in a manner that is safe. These measures would limit potential contact with hazardous materials and no significant adverse effects on human population would occur.

Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Gopher Canyon Road Alternative would not create significant adverse health risk to the public due to receipt and handling of hazardous materials. No mitigation measures are proposed.

**Impact Statement Gopher HHS-2: Potential contamination and hazards associated with the handling of Class III non-hazardous wastes would be contained by the landfill's environmental containment systems that would limit emissions of hazardous materials in keeping with standard safety criteria.**

**This would substantially limit effects on human population and no significant adverse effect would occur.**

Waste materials, when disposed in Class III landfills, undergo a number of processes that can create potential contaminants. Such contaminants may enter the air or migrate toward water resources, whereby they could potentially be transported to contact with human population. Further, landfills can support vectors that can carry contamination or disease to nearby population. Potential effects associated with each of these conveyance sources is discussed below.

### Airborne Contaminates

As was discussed more fully for the Applicant's Proposed Alternative, health effects to offsite populations can be caused by exposure to airborne emissions resulting from landfill construction and operation activities such as earthwork (most notably dust with metal particulates), vehicle operation (particularly the operation of diesel engines), and decomposition of landfill wastes that create landfill gas emissions. Further, a number of design features reduce these potential impacts, summarized above and enumerated more fully in Chapter 3, Description of Alternatives, and Section 4.3, Air Quality and Greenhouse Gases. They include such features as a Dust Control Plan and diesel particulate emissions control measures.

Section 4.3, Air Quality and Greenhouse Gases, includes analyses of the landfill's air pollutant emissions. These analyses include a range of evaluations that address 1) the amount of criteria pollutants that would be generated as compared to criteria established for identifying the necessity for mitigation measures; 2) the dispersion of the emissions to sensitive human population; 3) the expected health effects on those populations; and 4) an evaluation of odor effects. The conclusions of the evaluations in Section 4.3 indicate the following:

- An evaluation of health risks indicates that potential cancer risks and acute and chronic non-cancer health risks associated with the landfill's TACs would be below the levels would result in significant adverse effects.
- An evaluation of localized CO concentrations congested intersections indicates that the contribution of the alternative to the 1-hour and 8-hour CO concentrations would not exceed state and federal significance criteria.
- An evaluation of the concentration of air contaminants in the vicinity of sensitive human population indicates the concentrations of potentially harmful CO, $NO_x$, $PM_{10}$ and $PM_{2.5}$ would not exceed 1-hour and 8-hour state and federal standards.
- An evaluation of the emission of odorous compounds indicates that the maximum concentration of a sulfur compound having an odor would remain at least one order of magnitude (ten-fold) lower than the detectable limit by the human nose.

In summary, the air quality analysis indicates that pollutant concentrations in the vicinity of effected sensitive populations would not exceed significance thresholds nor health risk criteria. Therefore, no significant adverse health impacts associated with landfill generated air contamination would occur.

### Waterborne Contaminates

Class III landfills generate hazardous materials that if not controlled could be conveyed through water sources to sensitive populations during construction and operation activities. As described in more detail for the Applicant's Proposed Alternative, and in Chapter 3, Description of Alternatives, Section 4.9, Hydrogeology, and Section 4.14, Surface Hydrology, potential adverse effects regarding water quality and water flow/drainage would be subject to regulations for the protection of water resources and the public safety, that would be implemented as design features. Initial construction and operations would be implemented under a SWPPP prepared in accordance with California NPDES Construction General Permit requirements and using BMPs identified in the California Stormwater BMP Handbook–Construction. In addition, a SWMP would be implemented to further define BMPs and minimize the potential for storm water quality degradation. The BMPs would be site-specific and would be designed to prevent pollutants from entering groundwater flows. With the implementation of BMPs and construction monitoring, initial construction would not result in the exceedance of any water quality standards or waste discharge requirements, and would not result in an adverse effect on groundwater quality.

During operations potential constituents (including leachate and landfill gas condensate) would be prevented from entering the groundwater through standard federal, state, and local regulatory mechanisms. These would include a single landfill liner and LCRS, a subdrain system, and a landfill gas and condensate collection system. A groundwater monitoring network would also be implemented. This alternative would not include an RO system to treat contaminated water on-site, as was the case with the Applicant's Proposed Alternative. However water collected by the subdrain system would be treated or discharged in accordance with RWQCB requirements. Further, the single liner systems, as contrasted with the double liner system that would be included in the Applicant's Proposed Alternative, would provide sufficient protection to meet regulatory standards. Lastly, as with the Applicant's Proposed Alternative, if a landfill leak is detected, the operator would be required to implement an EMP and a CAP, under the regulatory guidance of the RWQCB.

With the implementation of the regulatory design features, the Gopher Canyon Road Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements. As there would not be significant adverse effects to the water resources there would be no significant adverse effects to human population due to landfill wastes being transmitted by water.

### Vector Carried Contaminants

The alternative could potentially attract vectors (including rodents, flies, mosquitoes, and birds) seeking food and refuge amongst the waste prism. Standard landfill design measures, consistent with regulatory requirements, would be implemented to control such vectors. The design features would be implemented under a vector control and management plan that would be tailored to the alternative site relative to the surrounding land uses and sensitive receptors. Design features would include measures similar those described in more detail for the Applicant's Proposed Alternative, above. They would include such features as regular inspection, refuse compaction and application of a daily cover, storage/enclosure of items that might lure vectors, closures of building openings and fences, avoidance of ponding/wet areas, regular tire shredding, bird deterrence measures (such as playback of distress vocalizations, falcon kites, owl decoys, or dispersal by humans and/or dogs), and professional pest control services.

These measures would limit the access of vectors to the landfill and would control vectors that might congregate at the landfill site so as to avoid vector transmission of disease. With implementation of these measures no significant adverse effects associated with vectors would occur.

### Litter Dispersal

The alternative could potentially generate litter that, if allowed to accumulate off-site, would fester contamination and/or provide a refuge for vectors that carry threats to human health. Design features would be implemented, consistent with regulatory measures, to control vectors under the auspices of a litter control program that would be tailored to the alternative site relative to the surrounding land uses and sensitive receptors. Key design features would include such measures as compacting of refuse and placement of daily cover, required use of tarps for commercial loads, use of portable fencing if appropriate, and controlled operations during high wind events. With implementation of the litter control program, the Gopher Canyon Road Alternative would not create a significant litter problem in the area.

#### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the alternative would not create significant adverse health risk to the public due to the dispersion of contaminated waste materials that are associated with Class III landfills. No mitigation measures are proposed.

**Impact Statement Gopher HHS-3: Existing hazardous materials on the alternative site would not have adverse health effects on-site population.**

The alternative site contains some residential development that would require demolition. Such demolition would require inspection for LBP and/or ACM containing materials. If the on-site structures are found to contain ACM or LBP, compliance with OSHA regulations and the demolition practices of NESHAP would be required to avoid adverse effects due to exposure. Thus, significant adverse effects to human health and safety in this regard would not occur.

#### Mitigation Measures

Compliance with existing regulations and construction standards would avoid threats to public safety from LBP or ACM materials. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through reasonably foreseeable accident conditions as a result of activities associated with landfill operations.*

**Impact Statement Gopher HHS-4: Landfill construction and operation would be implemented in accordance with regulatory requirements that would protect the public from hazardous conditions and risk of accidents. No significant adverse accident/risk effects would occur from landfill activity.**

### Landfill Gas Concentration

The Gopher Canyon Road Alternative would include a landfill gas control system, that would collect and burn/flair accumulating landfill gasses. The system would limit potential concentrations of landfill gas from reaching ignitable/explosive levels.

### Flood Hazard

The alternative site is not located within a 100-year floodplain. Further, the site is not located in proximity to a floodway that would be directly altered by the landfill facilities. The alternative would incorporate construction and operational BMP's to collect and distribute additional runoff from impervious services so that no net increase in surface water runoff from the site would occur. Therefore, the alternative would not pose a threat of adverse flooding effects.

### Fire Hazards

Potential fires that can occur at landfills would be avoided and/or quickly controlled through the implantation of design features that are consistent fire prevention regulatory measures. Key design measures include the following: forbidden burning of refuse and load checking for smoldering or burning wastes; procedures for safe tire handling; application of daily soil cover; controls on internal combustion engines; training/equipping of site personnel to avoid fire outbreaks and to provide a first response should a fire occur within the landfill; the availability of water for fire suppression; the and the use of fire breaks around the landfill site. The design features address the potential causes of fire and allow for quick response and control of landfill fires should they occur. Further, public firefighting services would be available to serve the site in case of an emergency. With implementation of these measures significant adverse effects would not occur.

### Rockfall

Development of a landfill at the alternative site would follow standard design features, consistent with regulatory measures to protect workers from harm from rockfall. Design features would include measures such as inspection for large boulders prior to development of an area of the landfill; identification of rockfall potential prior to blasting; observation of potential rockfalls during operations through the use of a spotter, and inspection of the rock masses surrounding the landfill every 5 years and/or after a major earthquake event. In the event a loose boulder were identified, controlled displacement of the boulder(s) where possible would occur and/or placement of catching walls would be provided to stop a potential rockfall. With implementation of these measures, significant adverse effects relative to rockfall would not occur.

### Site Security

Adverse safety effects associated with unauthorized access to the site would be avoided through the implementation of design features. These design features include such measures as restricted site access through the use of "No Trespassing" signs, visitor check-in requirements, lockable gates and perimeter fencing, locking/enclosing of office trailers, equipment storage units, and material storage areas, and use of security lighting. Further, while not expected, Sheriff's Department services would be available to serve the

site if needed. The design features would secure the site and protect the public from unauthorized site access.

### Disposal Operations Hazards

The safety of site workers and visitors would be provided through regulatory procedures that are applicable to landfill construction and operations. Employees would be trained in health and safety procedures and preventative controls. Training and safety procedures are regulated by OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. Training would include: site safety, first aid, accident prevention, hazardous waste recognition, and emergency measures related to hazardous waste exposure. Appropriate safety equipment, such as dust masks, ear plugs, goggles, gloves, and orange safety vests, would be provided to landfill employees. First aid supplies would be provided in an accessible location. Self-contained emergency eye wash stations and showers having attached water reservoirs would be installed. Communication equipment would be provided between operations areas, the office, the scale houses, and any necessary emergency responders (police, fire, etc.).

All haul trucks would have contact with their company either via a 2-way radio or a cell phone, which is standard practice in order for truck operators to report truck accidents, problems with trash collection, road blockage, or truck accidents caused by driving under the influence, driver violations, driver error, and/or excessive speeds. Further, scavenging would be prohibited, and traffic directors would control traffic movements and enforce traffic rules on the site. Small vehicles and "hand unloads" would be directed to a separate disposal area, away from the large, automatic dumping refuse trucks, ensuring orderly and safe disposal operations. With implementation and enforcement of employee and user safety controls as part of the landfill operations, significant adverse safety effects would not occur.

### Roadway Safety

Landfill construction and operation would add traffic at nearby roadways and along a new access road that would connect to Gopher Canyon Road. The access road would be sized and configured to meet County roadway standards. Further, haul truck drivers are professional trained drivers, operating in a work environment with worker responsibility. As such, haul truck drivers are not expected to generate unusual impacts on traffic safety. This is supported by the findings on accident data that was reported for SR 76 in the analysis of the Applicant's Proposed Alternative. That data indicated that trucks are not notable contributors to roadway accidents. For these reasons no significant adverse effects to population arising from landfill traffic is expected.

#### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Gopher Canyon Road Alternative would not pose a threat to public safety from the safety risks associated with construction and operation of the landfill. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would interfere with emergency response plans or emergency evacuation plans.*

**Impact Statement Gopher HHS-5: The Gopher Canyon Road Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no significant adverse effect would occur.**

Emergency response planning in the vicinity of the Gopher Canyon Road site is included within the County's Emergency Services Organization Operation Area Emergency Plan. This plan provides guidance for emergency response, and includes I-5 and I-15 as primary routes for evacuations. During an emergency situation, the landfill would cease normal operations and thus, would avoid effects to emergency travel. During normal times, adequate emergency vehicular access would be maintained. The alternative would not adversely affect local roadways during an emergency situation; and would not impair implementation of or physically interfere with the response and evacuation features of the County of San Diego OES Operational Area Emergency Plan.

As part of the Gopher Canyon Road Alternative and prior to its implementation, an Emergency Response Preparedness Plan would be developed that would identify an emergency coordinator(s) and an emergency notification list, identify the responsibilities of the emergency coordinator, and define specific action plans and equipment available in the event of an emergency. Employees would be trained in health and safety procedures and preventative controls in accordance with OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. These features would allow landfill staff to provide coordination with other emergency response plans and evacuation plans. No significant adverse effects regarding emergency response would occur.

#### Mitigation Measure

With implementation of design features, the Gopher Canyon Road Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No mitigation measures are proposed.

## 4.8.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.8.7.1 Affected Environment

The Merriam Mountain site is undeveloped, with the exception of several paved and dirt access roads that traverse the site. The site is located in a rural area, and a significant amount of land surrounding the site is vacant. The nearest land uses in the vicinity that might be subject to health and safety effects include a dwelling unit about 500 feet north of the alternative's boundary, orchard/vineyard uses about 1,500 feet west of the site, and former extractive uses to the west of the site. The Lawrence Welk Village is located approximately 700 feet to the east of the site across I-15.

### 4.8.7.2 Design Features

The Merriam Mountain Alternative would be designed, constructed and operated in accord with regulatory requirements that protect the public health and safety, including preparation of a HWEP and HMBP, with a load checking program. These regulations provide mechanisms for handling of waste disposal in Class III

landfills, with procedures for prohibiting hazardous materials from entering the landfill, identifying attempts to dispose of hazardous materials in the landfill, and safe handling of such materials if found at the landfill site. It would also include programs for vector control and litter control, such as application of daily cover; barrier enclosures and fencing, avoidance of wet breeding areas, regular tire shredding; use of sounds and/or human/dogs presence as deterrents; and pest control measures. The litter control measures would include such features as application of daily cover; temporary fencing; use of tarps on commercial vehicles; inspection and cleanup of litter on adjacent roads.

In addition to these design features, there are other design features cited in other sections of this EIS to reduce environmental effects that, if adverse, could lead to effects on human health and safety. In particular, design features that would control air pollutant emissions include a Dust Control Plan to limit dust emissions; diesel particulate emissions control measures; the application of daily cover: and the implementation of a system to collect and burn landfill gases (see Section 4.3, Air Quality and Greenhouse Gases). Design features would also include protection from rockfall hazards through inspections and use of diversion structures (see Section 4.7, Geology and Soils); fire protection measures such as firebreaks; no burning of refuse, load checking; safe tire handling, application of daily soil cover; controls on internal combustion engines; the use of a screening material placed above blasting areas, and fire-fighting training of site personnel (see Section 4.12.2, Fire Protection and Emergency Medical Services); and site security features including controlled site entry, sign postings, and security lighting (see Section 4.12.1, Law Enforcement). In addition, design features to protect groundwater quality would include environmental control systems (a single composite liner system, a leachate collection and removal system, and a subdrain) and a water control monitoring program with provision for corrective actions should they be required (see Section 4.9, Hydrology); and features to protect surface water quality and flow conditions would include the development of a SWPPP and SWMP , and environmental monitoring and control systems (See Section 4.14, Surface Hydrology). The alternative's new access road would be designed to meet County standards (See Section 4.15, Transportation).

### 4.8.7.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through the release, transport, use, production, disposal or exposure to hazardous materials.*

**Impact Statement Merriam HHS-1: The Merriam Mountain Alternative would provide a Class III landfill, which would accept only non-hazardous solid wastes and inert wastes. Landfill operations would include a HWEP intended to preclude hazardous materials from entering the landfill site, and disposing of hazardous materials inadvertently brought to the site in a safe manner per state regulations. Therefore, landfill operations would not create significant adverse effects to the public or the environment through the transport, use, production, or disposal or release of hazardous materials.**

The Merriam Mountain Alternative would include the construction, operation, and closure of a Class III solid waste facility, in accordance with CCR Title 27. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. Non-hazardous wastes would be disposed through the County's HHWE through a number of programs that channel hazardous waste materials to facilities designed to accommodate them.

Notwithstanding, some household hazardous materials may be inadvertently brought to the landfill. Hazardous products purchased by the general public for household use include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a hazard to human health or the environment. These wastes include such items as cleaners, pesticides, paint products, automotive products, hobby products, and other toxic substances commonly found in households. In addition, HHW may include infectious wastes, such as syringes or other material contaminated with etiologic (i.e., disease-causing) agents.

As described in the design features above, the Merriam Mountain Alternative would include a HWEP that includes mechanisms to preclude hazardous material from being brought to the landfill, procedures for identifying hazardous materials that might be brought to the landfill against regulations, and methods of handling of such hazardous materials should they be brought to the landfill facility. More detailed discussion of the protective mechanisms and procedures regarding their implementation on landfill sites is provided in the discussion of the Applicant's Proposed Alternative, above.

As discussed above, protection of the public begins with precluding attempts to dispose of hazardous waste materials through such devices as advance notifications to non-residential users, signage at the landfill advising of prohibited materials, and potential bans on use of the landfill by past offenders. Once haul vehicles enter the site they are subject to extensive monitoring by trained personnel with on-going checking in order to detect HHW that might be brought to the landfill. Loads are also checked for low levels of radioactive waste with a gamma-scintillation counter. As a deterrent, random loads are selected for a full search for prohibited wastes. Identification of hazardous materials results in one or more responses based on the hazardous material presented. The responses may include such items as: refused entry, quarantine of the material in approved storage containers, laboratory testing of material, and transport and disposal at a permitted hazardous waste facility in compliance with all federal, state and local regulations. Responses may include notification to the County DEHs HIRT, the California Highway Patrol or 911. The handling of hazardous materials would also be subject to procedures established in a hazardous materials business plan that provides coordination with local emergency service organizations.

In summary, there are a number of regulatory and design feature procedures that place layers of protection from public contact with hazardous materials. These include procedures to 1) keep hazardous materials from reaching the landfill, 2) identify hazardous materials being presented at the landfill, and 3) contain and dispose hazardous materials in a manner that is safe. These measures would limit potential contact with hazardous materials and no significant adverse effects on human population would occur.

Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Merriam Mountain Alternative would not create significant adverse health risk to the public due to receipt and handling of hazardous materials. No mitigation measures are proposed.

**Impact Statement Merriam HHS-2: Potential contamination and hazards associated with the handling of Class III non-hazardous wastes would be contained by the landfill's environmental containment systems that would limit emissions of hazardous materials in keeping with standard**

**safety criteria. This would substantially limit effects on human population and no significant adverse effect would occur.**

Waste materials, when disposed in Class III landfills, undergo a number of processes that can create potential contaminants. Such contaminants may enter the air or migrate toward water resources, whereby they could potentially be transported to contact with human population. Further, landfills can support vectors that can carry contamination or disease to nearby population. Potential effects associated with each of these conveyance sources is discussed below.

### Airborne Contaminates

As was discussed more fully for the Applicant's Proposed Alternative, health effects to offsite populations can be caused by exposure to airborne emissions resulting from landfill construction and operation activities such as earthwork (most notably dust with metal particulates), vehicle operation (particularly the operation of diesel engines), and decomposition of landfill wastes that create landfill gas emissions. Further, a number of design features reduce these potential impacts, summarized above and enumerated more fully in Chapter 3, Description of Alternatives, and Section 4.3, Air Quality and Greenhouse Gases. They include such features as a Dust Control Plan and diesel particulate emissions control measures.

Section 4.3, Air Quality and Greenhouse Gases, includes analyses of the landfill's air pollutant emissions. These analyses include a range of evaluations that address 1) the amount of criteria pollutants that would be generated as compared to criteria established for identifying the necessity for mitigation measures; 2) the dispersion of the emissions to sensitive human population; 3) the expected health effects on those populations; and 4) an evaluation of odor effects. The conclusions of the evaluations in Section 4.3 indicate the following:

- An evaluation of health risks indicates that potential cancer risks and acute and chronic non-cancer health risks associated with the landfill's TACs would be below the levels that would result in significant adverse effects.
- An evaluation of localized CO concentrations congested intersections indicates that the contribution of the alternative to the 1-hour and 8-hour CO concentrations would not exceed state and federal significance criteria.
- An evaluation of the concentration of air contaminants in the vicinity of sensitive human population indicates the concentrations of potentially harmful CO, $NO_x$, $PM_{10}$ and $PM_{2.5}$ would not exceed 1-hour and 8-hour state and federal standards.
- An evaluation of the emission of odorous compounds indicates that the maximum concentration of a sulfur compound having an odor would remain at least one order of magnitude (ten-fold) lower than the detectable limit by the human nose.

In summary, the air quality analysis indicates that pollutant concentrations in the vicinity of effected sensitive populations would not exceed significance thresholds nor health risk criteria. Therefore, no significant adverse health impacts associated with landfill generated air contamination would occur.

### Waterborne Contaminates

Class III landfills generate hazardous materials that if not controlled could be conveyed through water sources to sensitive populations during construction and operation activities. As described in more detail for the Applicant's Proposed Alternative, and in Chapter 3, Description of Alternatives, Section 4.9, Hydrogeology, and Section 4.14, Surface Hydrology, potential adverse effects regarding water quality and water flow/drainage would be subject to regulations for the protection of water resources and the public safety, that would be implemented as design features. Initial construction and operations would be implemented under a SWPPP prepared in accordance with California NPDES Construction General Permit requirements and using BMPs identified in the California Stormwater BMP Handbook–Construction. In addition, a SWMP would be implemented to further define BMPs and minimize the potential for storm water quality degradation. The BMPs would be site-specific and would be designed to prevent pollutants from entering groundwater flows. With the implementation of BMPs and construction monitoring, initial construction would not result in the exceedance of any water quality standards or waste discharge requirements, and would not result in an adverse effect on groundwater quality.

During operations potential constituents (including leachate and landfill gas condensate) would be prevented from entering the groundwater through standard federal, state, and local regulatory mechanisms. These would include a single landfill liner and LCRS, a subdrain system, and a landfill gas and condensate collection system. A groundwater monitoring network would also be implemented. This alternative would not include an RO system to treat contaminated water on-site, as was the case with the Applicant's Proposed Alternative. However water collected by the subdrain system would be treated or discharged in accordance with RWQCB requirements. Further, the single liner systems, as contrasted with the double liner system that would be included in the Applicant's Proposed Alternative, would provide sufficient protection to meet regulatory standards. Lastly, as with the Applicant's Proposed Alternative, if a landfill leak is detected, the operator would be required to implement an EMP and a CAP, under the regulatory guidance of the RWQCB.

With the implementation of the regulatory design features, the Merriam Mountain Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements. As there would not be significant adverse effects to the water resources there would be no significant adverse effects to human population due to landfill wastes being transmitted by water.

### Vector Carried Contaminants

The alternative could potentially attract vectors (including rodents, flies, mosquitoes, and birds) seeking food and refuge amongst the waste prism. Standard landfill design measures, consistent with regulatory requirements, would be implemented to control such vectors. The design features would be implemented under a vector control and management plan that would be tailored to the alternative site relative to the surrounding land uses and sensitive receptors. Design features would include measures similar those described in more detail for the Applicant's Proposed Alternative, above. They would include such features as regular inspection, refuse compaction and application of a daily cover, storage/enclosure of items that might lure vectors, closures of building openings and fences, avoidance of ponding/wet areas, regular tire shredding, bird deterrence measures (such as playback of distress vocalizations, falcon kites, owl decoys, or dispersal by humans and/or dogs), and professional pest control services.

These measures would limit the access of vectors to the landfill and would control vectors that might congregate at the landfill site so as to avoid vector transmission of disease. With implementation of these measures, no significant adverse effects associated with vectors would occur.

### Litter Dispersal

The alternative could potentially generate litter that, if allowed to accumulate off-site, would fester contamination and/or provide a refuge for vectors that carry threats to human health. Design features would be implemented, consistent with regulatory measures, to control vectors under the auspices of a litter control program that would be tailored to the alternative site relative to the surrounding land uses and sensitive receptors. Key design features would include such measures as compacting of refuse and placement of daily cover, required use of tarps for commercial loads, use of portable fencing if appropriate, and controlled operations during high wind events. With implementation of the litter control program, the Merriam Mountain Alternative would not create a significant litter problem in the area.

#### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the alternative would not create significant adverse health risk to the public due to the dispersion of contaminated waste materials that are associated with Class III landfills. No mitigation measures are proposed.

**Impact Statement Merriam HHS-3: Existing hazardous materials on the alternative site would not have adverse health effects on site population.**

The alternative site does not contain structures, and therefore does not pose a threat of risk from LBP and/or ACM containing materials. Further, the site does not contain electrical transmission lines that would be a source of EMFs. Thus, significant adverse effects to human health and safety in this regard would not occur.

#### Mitigation Measures

There would be no significant adverse effects associated with existing on-site structures. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through reasonably foreseeable accident conditions as a result of activities associated with landfill operations.*

**Impact Statement Merriam HHS-4: Landfill construction and operation would be implemented in accordance with regulatory requirements that would protect the public from hazardous conditions and risk of accidents. No significant adverse accident/risk effects would occur from landfill activity.**

### Landfill Gas Concentration

The Merriam Mountain Alternative would include a landfill gas control system, that would collect and burn/flair accumulating landfill gasses. The system would limit potential concentrations of landfill gas from reaching ignitable/explosive levels.

### Flood Hazard

The alternative site is not located within a 100-year floodplain. Further, the site is not located in proximity to a floodway that would be directly altered by the development of the landfill, access road, and ancillary facilities. Further, the alternative would incorporate construction and operational BMP's to collect and distribute additional runoff from impervious services so that no net increase in surface water runoff from the site would occur. Therefore, the alternative would not pose a threat of adverse flooding effects.

### Fire Hazards

Potential fires that can occur at landfills would be avoided and/or quickly controlled through the implantation of design features that are consistent fire prevention regulatory measures. Key design measures include the following: forbidden burning of refuse and load checking for smoldering or burning wastes; procedures for safe tire handling; application of daily soil cover; controls on internal combustion engines; training/equipping of site personnel to avoid fire outbreaks and to provide a first response should a fire occur within the landfill; the availability of water for fire suppression; the and the use of fire breaks around the landfill site. The design features address the potential causes of fire and allow for quick response and control of landfill fires should they occur. Further, public firefighting services would be available to serve the site in case of an emergency. With implementation of these measures significant adverse effects would not occur.

### Rockfall

Development of a landfill at the alternative site would follow standard design features, consistent with regulatory measures to protect workers from harm from rockfall. Design features would include measures such as inspection for large boulders prior to development of an area of the landfill; identification of rockfall potential prior to blasting; observation of potential rockfalls during operations through the use of a spotter, and inspection of the rock masses surrounding the landfill every 5 years and/or after a major earthquake event. In the event a loose boulder were identified, controlled displacement of the boulder(s) where possible would occur and/or placement of catching walls would be provided to stop a potential rockfall. With implementation of these measures, significant adverse effects relative to rockfall would not occur.

### Site Security

Adverse safety effects associated with unauthorized access to the site would be avoided through the implementation of design features. These design features include such measures as restricted site access through the use of "No Trespassing" signs, visitor check-in requirements, lockable gates and perimeter fencing, locking/enclosing of office trailers, equipment storage units, and material storage areas, and use of security lighting. Further, while not expected, Sheriff's Department services would be available to serve the

site if needed. The design features would secure the site and protect the public from unauthorized site access.

### Disposal Operations Hazards

The safety of site workers and visitors would be provided through regulatory procedures that are applicable to landfill construction and operations. Employees would be trained in health and safety procedures and preventative controls. Training and safety procedures are regulated by OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. Training would include: site safety, first aid, accident prevention, hazardous waste recognition, and emergency measures related to hazardous waste exposure. Appropriate safety equipment, such as dust masks, ear plugs, goggles, gloves, and orange safety vests, would be provided to landfill employees. First aid supplies would be provided in an accessible location. Self-contained emergency eye wash stations and showers having attached water reservoirs would be installed. Communication equipment would be provided between operations areas, the office, the scale houses, and any necessary emergency responders (police, fire, etc.).

All haul trucks would have contact with their company either via a 2-way radio or a cell phone, which is standard practice in order for truck operators to report truck accidents, problems with trash collection, road blockage, or truck accidents caused by driving under the influence, driver violations, driver error, and/or excessive speeds. Further, scavenging would be prohibited, and traffic directors would control traffic movements and enforce traffic rules on the site. Small vehicles and "hand unloads" would be directed to a separate disposal area, away from the large, automatic dumping refuse trucks, ensuring orderly and safe disposal operations. With implementation and enforcement of employee and user safety controls as part of the landfill operations, significant adverse safety effects would not occur.

### Roadway Safety

Landfill construction and operation would add traffic at nearby roadways and along a new access road that would connect to Lawrence Welk Drive. The access road would be sized and configured to meet County roadway standards. Further, haul truck drivers are professional trained drivers, operating in a work environment with worker responsibility. As such, haul truck drivers are not expected to generate unusual impacts on traffic safety. This is supported by the findings on accident data that was reported for SR 76 in the analysis of the Applicant's Proposed Alternative. That data indicated that trucks are not notable contributors to roadway accidents. For these reasons no significant adverse effects to population arising from landfill traffic is expected.

#### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Merriam Mountain Alternative would not pose a threat to public safety from the safety risks associated with construction and operation of the landfill. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would interfere with emergency response plans or emergency evacuation plans.*

**Impact Statement Merriam HHS-5: The Merriam Mountain Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no significant adverse effect would occur.**

Emergency response planning in the vicinity of the Merriam Mountain site is included within the County's Emergency Services Organization Operation Area Emergency Plan. This plan provides guidance for emergency response, and includes I-5 as a primary route for evacuations. During an emergency situation, the landfill would cease normal operations and thus, would avoid effects to emergency travel. During normal times, adequate emergency vehicular access would be maintained. The alternative would not adversely affect local roadways during an emergency situation; and would not impair implementation of or physically interfere with the response and evacuation features of the County of San Diego OES Operational Area Emergency Plan.

As part of the Merriam Mountain Alternative and prior to its implementation, an Emergency Response Preparedness Plan would be developed that would identify an emergency coordinator(s) and an emergency notification list, identify the responsibilities of the emergency coordinator, and define specific action plans and equipment available in the event of an emergency. Employees would be trained in health and safety procedures and preventative controls in accordance with OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. These features would allow landfill staff to provide coordination with other emergency response plans and evacuation plans. No significant adverse effects regarding emergency response would occur.

Mitigation Measures

With implementation of design features, the Merriam Mountain Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No mitigation measures are proposed.

## 4.8.8 EAST OTAY MESA ALTERNATIVE

### 4.8.8.1 Affected Environment

The East Otay Mesa site is undeveloped. The site contains areas designated Farmland of Local Importance. Some areas surrounding the site are used for grazing or other farming operations, such as annual field crops and grasses. Other areas, the majority, are vacant and not actively used. The nearest existing land use development in the vicinity, located along the U.S.–Mexico border approximately 0.25 miles south of the alternative site, includes border facilities and a mixed-use community (intermixed residential, commercial and industrial uses) located in Mexico. The land immediately west of the alternative site lies within the boundaries of the East Otay Mesa Business Park Specific Plan, an area proposed for approximately 2,110 acres as a modern industrial and business center, and 552 acres for conservation or very low-density residential use.

### 4.8.8.2 Design Features

The East Otay Mesa Alternative would be designed, constructed and operated in accord with regulatory requirements that protect the public health and safety, including preparation of a HWEP and HMBP, with a

load checking program. These regulations prohibit the disposal of hazardous wastes and provide mechanisms for handling of waste disposal in Class III landfills, with procedures for prohibiting hazardous materials from entering the landfill, identifying attempts to dispose of hazardous materials in the landfill, and safe handling of such materials if found at the landfill site. It would also include programs for vector control and litter control, such as application of daily cover; barrier enclosures and fencing, avoidance of wet breeding areas, regular tire shredding; use of sounds and/or human/dogs presence as deterrents; and pest control measures. The litter control measures would include such features as application of daily cover; temporary fencing; use of tarps on commercial vehicles; inspection and cleanup of litter on adjacent roads.

In addition to these design features, there are other design features cited in other sections of this EIS to reduce environmental effects that, if adverse, could lead to effects on human health and safety. In particular: design features that would control air pollutant emissions include a Dust Control Plan to limit dust emissions; diesel particulate emissions control measures; the application of daily cover: and the implementation of a system to collect and burn landfill gases (see Section 4.3, Air Quality and Greenhouse Gases). Design features would also include protection from rockfall hazards through inspections and use of diversion structures (see Section 4.7, Geology and Soils); fire protection measures such as firebreaks; no burning of refuse, load checking; safe tire handling, application of daily soil cover; controls on internal combustion engines; the use of a screening material placed above blasting areas, and fire-fighting training of site personnel (see Section 4.12.2, Fire Protection and Emergency Medical Services); and site security features including controlled site entry, sign postings, and security lighting (see Section 4.12.1, Law Enforcement). In addition, design features to protect groundwater quality would include environmental control systems (a single composite liner system, a leachate collection and removal system, and a subdrain) and a water control monitoring program with provision for corrective actions should they be required (see Section 4.9, Hydrology); and features to protect surface water quality and flow conditions would include the development of a SWPPP, a SWMP that would be required to prevent direct surface runoff, and environmental monitoring and control systems (See Section 4.14, Surface Hydrology). The alternative's new access road would be designed to meet County standards (See Section 4.15, Transportation).

### 4.8.8.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through the release, transport, use, production, disposal or exposure to hazardous materials.*

**Impact Statement East Otay HHS-1: The East Otay Mesa Alternative would provide a Class III landfill, which would accept only non-hazardous solid wastes and inert wastes. Landfill operations would include a HWEP intended to preclude hazardous materials from entering the landfill site, and disposing of hazardous materials inadvertently brought to the site in a safe manner per state regulations. Therefore, landfill operations would not create significant adverse effects to the public or the environment through the transport, use, production, or disposal or release of hazardous materials.**

The East Otay Mesa Alternative would include the construction, operation, and closure of a Class III solid waste facility, in accordance with CCR Title 27. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. Non-hazardous wastes would be disposed through the County's HHWE

through a number of programs that channel hazardous waste materials to facilities designed to accommodate them.

Notwithstanding, some household hazardous materials may be inadvertently brought to the landfill. Hazardous products purchased by the general public for household use include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a hazard to human health or the environment. These wastes include such items as cleaners, pesticides, paint products, automotive products, hobby products, and other toxic substances commonly found in households. In addition, HHW may include infectious wastes, such as syringes or other material contaminated with etiologic (i.e., disease-causing) agents.

As described in the design features above, the East Otay Mesa Alternative would include a HWEP that includes mechanisms to preclude hazardous material from being brought to the landfill, procedures for identifying hazardous materials that might be brought to the landfill against regulations, and methods of handling of such hazardous materials should they be brought to the landfill facility. More detailed discussion of the protective mechanisms and procedures regarding their implementation on landfill sites is provided in the discussion of the Applicant's Proposed Alternative, above.

As discussed above, protection of the public begins with precluding attempts to dispose of hazardous waste materials through such devices as advance notifications to non-residential users, signage at the landfill advising of prohibited materials, and potential bans on use of the landfill by past offenders. Once haul vehicles enter the site they are subject to extensive monitoring by trained personnel with on-going checking in order to detect HHW that might be brought to the landfill. Loads are also checked for low levels of radioactive waste with a gamma-scintillation counter. As a deterrent, random loads are selected for a full search for prohibited wastes. Identification of hazardous materials results in one or more responses based on the hazardous material presented. The responses may include such items as: refused entry, quarantine of the material in approved storage containers, laboratory testing of material, and transport and disposal at a permitted hazardous waste facility in compliance with all federal, state and local regulations. Responses may include notification to the County DEHs HIRT, the California Highway Patrol or 911. The handling of hazardous materials would also be subject to procedures established in a hazardous materials business plan that provides coordination with local emergency service organizations.

In summary, there are a number of regulatory and design feature procedures that place layers of protection from public contact with hazardous materials. These include procedures to 1) keep hazardous materials from reaching the landfill, 2) identify hazardous materials being presented at the landfill, and 3) contain and dispose hazardous materials in a manner that is safe. These measures would limit potential contact with hazardous materials and no significant adverse effects on human population would occur.

### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the East Otay Mesa Alternative would not create significant adverse health risk to the public due to receipt and handling of hazardous materials. No mitigation measures are proposed.

**Impact Statement East Otay HHS-2: Potential contamination and hazards associated with the handling of Class III non-hazardous wastes would be contained by the landfill's environmental containment systems that would limit emissions of hazardous materials in keeping with standard safety criteria. This would substantially limit effects on human population and no significant adverse effect would occur.**

Waste materials, when disposed in Class III landfills, undergo a number of processes that can create potential contaminants. Such contaminants may enter the air or migrate toward water resources, whereby they could potentially be transported to contact with human population. Further, landfills can support vectors that can carry contamination or disease to nearby population. Potential effects associated with each of these conveyance sources is discussed below.

### Airborne Contaminates

As was discussed more fully for the Applicant's Proposed Alternative, health effects to offsite populations can be caused by exposure to airborne emissions resulting from landfill construction and operation activities such as earthwork (most notably dust with metal particulates), vehicle operation (particularly the operation of diesel engines), and decomposition of landfill wastes that create landfill gas emissions. Further, a number of design features reduce these potential impacts, summarized above and enumerated more fully in Chapter 3, Description of Alternatives, and Section 4.3, Air Quality and Greenhouse Gases. They include such features as a Dust Control Plan and diesel particulate emissions control measures.

Section 4.3, Air Quality and Greenhouse Gases, includes analyses of the landfill's air pollutant emissions. These analyses include a range of evaluations that address 1) the amount of criteria pollutants that would be generated as compared to criteria established for identifying the necessity for mitigation measures; 2) the dispersion of the emissions to sensitive human population; 3) the expected health effects on those populations; and 4) an evaluation of odor effects. The conclusions of the evaluations in Section 4.3 indicate the following:

- An evaluation of health risks indicates that potential cancer risks and acute and chronic non-cancer health risks associated with the landfill's TACs would be below the levels that would result in significant adverse effects.
- An evaluation of localized CO concentrations congested intersections indicates that the contribution of the alternative to the 1-hour and 8-hour CO concentrations would not exceed state and federal significance criteria.
- An evaluation of the concentration of air contaminants in the vicinity of sensitive human population indicates the concentrations of potentially harmful CO, $NO_x$, $PM_{10}$ and $PM_{2.5}$ would not exceed 1-hour and 8-hour state and federal standards.
- An evaluation of the emission of odorous compounds indicates that the maximum concentration of a sulfur compound having an odor would remain at least one order of magnitude (ten-fold) lower than the detectable limit by the human nose.

In summary, the air quality analysis indicates that pollutant concentrations in the vicinity of effected sensitive populations would not exceed significance thresholds nor health risk criteria. Therefore, no significant adverse health impacts associated with landfill generated air contamination would occur.

### Waterborne Contaminates

Class III landfills generate hazardous materials that if not controlled could be conveyed through water sources to sensitive populations during construction and operation activities. As described in more detail for the Applicant's Proposed Alternative, and in Chapter 3, Description of Alternatives, Section 4.9, Hydrogeology, and Section 4.14, Surface Hydrology, potential adverse effects regarding water quality and water flow/drainage would be subject to regulations for the protection of water resources and the public safety, that would be implemented as design features. Initial construction and operations would be implemented under a SWPPP prepared in accordance with California NPDES Construction General Permit requirements and using BMPs identified in the California Stormwater BMP Handbook–Construction. In addition, a SWMP would be implemented to further define BMPs and minimize the potential for storm water quality degradation. The BMPs would be site-specific and would be designed to prevent pollutants from entering groundwater flows. With the implementation of BMPs and construction monitoring, initial construction would not result in the exceedance of any water quality standards or waste discharge requirements, and would not result in an adverse effect on groundwater quality.

During operations potential constituents (including leachate and landfill gas condensate) would be prevented from entering the groundwater through standard federal, state, and local regulatory mechanisms. These would include a single landfill liner and LCRS, a subdrain system, and a landfill gas and condensate collection system. A groundwater monitoring network would also be implemented. This alternative would not include an RO system to treat contaminated water on-site, as was the case with the Applicant's Proposed Alternative. However water collected by the subdrain system would be treated or discharged in accordance with RWQCB requirements. Further, the single liner systems, as contrasted with the double liner system that would be included in the Applicant's Proposed Alternative, would provide sufficient protection to meet regulatory standards. Lastly, as with the Applicant's Proposed Alternative, if a landfill leak is detected, the operator would be required to implement an EMP and a CAP, under the regulatory guidance of the RWQCB.

With the implementation of the regulatory design features, the East Otay Mesa Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements. As there would not be significant adverse effects to the water resources there would be no significant adverse effects to human population due to landfill wastes being transmitted by water.

### Vector Carried Contaminants

The alternative could potentially attract vectors (including rodents, flies, mosquitoes, and birds) seeking food and refuge amongst the waste prism. Standard landfill design measures, consistent with regulatory requirements, would be implemented to control such vectors. The design features would be implemented under a vector control and management plan that would be tailored to the alternative site relative to the surrounding land uses and sensitive receptors. Design features would include measures similar those described in more detail for the Applicant's Proposed Alternative, above. They would include such features as regular inspection, refuse compaction and application of a daily cover, storage/enclosure of items that

might lure vectors, closures of building openings and fences, avoidance of ponding/wet areas, regular tire shredding, bird deterrence measures (such as playback of distress vocalizations, falcon kites, owl decoys, or dispersal by humans and/or dogs), and professional pest control services.

These measures would limit the access of vectors to the landfill and would control vectors that might congregate at the landfill site so as to avoid vector transmission of disease. With implementation of these measures no significant adverse effects associated with vectors would occur.

### Litter Dispersal

The alternative could potentially generate litter that, if allowed to accumulate off-site, would fester contamination and/or provide a refuge for vectors that carry threats to human health. Design features would be implemented, consistent with regulatory measures, to control vectors under the auspices of a litter control program that would be tailored to the alternative site relative to the surrounding land uses and sensitive receptors. Key design features would include such measures as compacting of refuse and placement of daily cover, required use of tarps for commercial loads, use of portable fencing if appropriate, and controlled operations during high wind events. With implementation of the litter control program, the East Otay Mesa Alternative would not create a significant litter problem in the area.

#### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the alternative would not create significant adverse health risk to the public due to the dispersion of contaminated waste materials that are associated with Class III landfills. No mitigation measures are proposed.

**Impact Statement East Otay HHS-3: Existing hazardous materials on the alternative site would not have adverse health effects on site population.**

The alternative site does not contain structures, and therefore does not pose a threat of risk from LBP and/or ACM containing materials. Further, the site does not contain electrical transmission lines that would be a source of EMFs. Thus, significant adverse effects to human health and safety in this regard would not occur.

#### Mitigation Measures

There would be no significant adverse effects associated with existing on-site structures. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through reasonably foreseeable accident conditions as a result of activities associated with landfill operations.*

**Impact Statement East Otay HHS-4: Landfill construction and operation would be implemented in accordance with regulatory requirements that would protect the public from hazardous conditions and risk of accidents. No significant adverse accident/risk effects would occur from landfill activity.**

### Landfill Gas Concentration

The East Otay Mesa Alternative would include a landfill gas control system, that would collect and burn/flair accumulating landfill gasses. The system would limit potential concentrations of landfill gas from reaching ignitable/explosive levels.

### Flood Hazard

The alternative site is not located within a 100-year floodplain. Further, the site is not located in proximity to a floodway that would be directly altered by the development of the landfill, access road, and ancillary facilities. Further, the alternative would incorporate construction and operational BMP's to collect and distribute additional runoff from impervious services so that no net increase in surface water runoff from the site would occur. Therefore, the alternative would not pose a threat of adverse flooding effects.

### Fire Hazards

Potential fires that can occur at landfills would be avoided and/or quickly controlled through the implantation of design features that are consistent fire prevention regulatory measures. Key design measures include the following: forbidden burning of refuse and load checking for smoldering or burning wastes; procedures for safe tire handling; application of daily soil cover; controls on internal combustion engines; training/equipping of site personnel to avoid fire outbreaks and to provide a first response should a fire occur within the landfill; the availability of water for fire suppression; the and the use of fire breaks around the landfill site. The design features address the potential causes of fire and allow for quick response and control of landfill fires should they occur. Further, public firefighting services would be available to serve the site in case of an emergency. With implementation of these measures, significant adverse effects would not occur.

### Rockfall

Development of a landfill at the alternative site would follow standard design features, consistent with regulatory measures to protect workers from harm from rockfall. Design features would include measures such as inspection for large boulders prior to development of an area of the landfill; identification of rockfall potential prior to blasting; observation of potential rockfalls during operations through the use of a spotter, and inspection of the rock masses surrounding the landfill every 5 years and/or after a major earthquake event. In the event a loose boulder were identified, controlled displacement of the boulder(s) where possible would occur and/or placement of catching walls would be provided to stop a potential rockfall. With implementation of these measures, significant adverse effects relative to rockfall would not occur.

### Site Security

Adverse safety effects associated with unauthorized access to the site would be avoided through the implementation of design features. These design features include such measures as restricted site access through the use of "No Trespassing" signs, visitor check-in requirements, lockable gates and perimeter fencing, locking/enclosing of office trailers, equipment storage units, and material storage areas, and use of security lighting. Further, while not expected, Sheriff's Department services would be available to serve the

site if needed. The design features would secure the site and protect the public from unauthorized site access.

### Disposal Operations Hazards

The safety of site workers and visitors would be provided through regulatory procedures that are applicable to landfill construction and operations. Employees would be trained in health and safety procedures and preventative controls. Training and safety procedures are regulated by OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. Training would include: site safety, first aid, accident prevention, hazardous waste recognition, and emergency measures related to hazardous waste exposure. Appropriate safety equipment, such as dust masks, ear plugs, goggles, gloves, and orange safety vests, would be provided to landfill employees. First aid supplies would be provided in an accessible location. Self-contained emergency eye wash stations and showers having attached water reservoirs would be installed. Communication equipment would be provided between operations areas, the office, the scale houses, and any necessary emergency responders (police, fire, etc.).

All haul trucks would have contact with their company either via a 2-way radio or a cell phone, which is standard practice in order for truck operators to report truck accidents, problems with trash collection, road blockage, or truck accidents caused by driving under the influence, driver violations, driver error, and/or excessive speeds. Further, scavenging would be prohibited, and traffic directors would control traffic movements and enforce traffic rules on the site. Small vehicles and "hand unloads" would be directed to a separate disposal area, away from the large, automatic dumping refuse trucks, ensuring orderly and safe disposal operations. With implementation and enforcement of employee and user safety controls as part of the landfill operations, significant adverse safety effects would not occur.

### Roadway Safety

Landfill construction and operation would add traffic at nearby roadways and along a new access road that would connect to Siempre Viva Road. The access road would be sized and configured to meet County roadway standards. Further, haul truck drivers are professional trained drivers, operating in a work environment with worker responsibility. As such, haul truck drivers are not expected to generate unusual impacts on traffic safety. This is supported by the findings on accident data that was reported for SR 76 in the analysis of the Applicant's Proposed Alternative. That data indicated that trucks are not notable contributors to roadway accidents. For these reasons no significant adverse effects to population arising from landfill traffic is expected.

#### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the East Otay Mesa Alternative would not pose a threat to public safety from the safety risks associated with construction and operation of the landfill. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would interfere with emergency response plans or emergency evacuation plans.*

**Impact Statement East Otay HHS-5: The East Otay Mesa Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no significant adverse effect would occur.**

Emergency response planning in the vicinity of the East Otay Mesa site is included within the within the County's Emergency Services Organization Operation Area Emergency Plan. This plan provides guidance for emergency response, and includes SR 905, SR 125, I-1, I15 and I-805 as primary routes for evacuations. During an emergency situation, the landfill would cease normal operations and thus, would avoid effects to emergency travel. During normal times, adequate emergency vehicular access would be maintained. The alternative would not adversely affect local roadways during an emergency situation; and would not impair implementation of or physically interfere with the response and evacuation features of the County of San Diego OES Operational Area Emergency Plan.

As part of the East Otay Mesa Alternative and prior to its implementation, an Emergency Response Preparedness Plan would be developed that would identify an emergency coordinator(s) and an emergency notification list, identify the responsibilities of the emergency coordinator, and define specific action plans and equipment available in the event of an emergency. Employees would be trained in health and safety procedures and preventative controls in accordance with OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. These features would allow landfill staff to provide coordination with other emergency response plans and evacuation plans. No significant adverse effects regarding emergency response would occur.

#### Mitigation Measure

With implementation of design features, the East Otay Mesa Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No mitigation measures are proposed.

## 4.8.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.8.9.1 Affected Environment

The Sycamore Canyon Expansion Alternative site is currently operating as a landfill with a capacity for continued operations of approximately 20 years. Three electric power transmission lines pass through the site within a 22-foot wide SDG&E easement. Two additional lines are located within a 100-foot easement located along the southerly portion of the landfill. The site sits within a large undeveloped area surrounded by rolling hills designated as "Park, Open Space & Recreation." The closest development to the alternative site consists of urbanized development in the City of Santee. This development is somewhat isolated from the landfill prism due to distance and topographic features. However, the landfill facilities area at the site access is located directly across from the Santee development. West Hills Park, West Hills High School and a residential community are located across Mast Boulevard from the landfill entrance.

### 4.8.9.2 Design Features

The Sycamore Canyon Expansion Alternative is an operating landfill site subject to regulatory requirements that protect the public health and safety, including operations of a HWEP and HMBP. These regulations

would continue to be followed, including measures that prohibit the disposal of hazardous wastes and that provide mechanisms for handling of waste disposal in Class III landfills. Pursuant to the regulations, these measures include litter control (e.g. confining the waste area, collection of litter and use of litter prevention fences); and vector control (e.g. reducing food supply, eliminating water ponding, use of sounds as a deterrence, pest control measures, use of daily cover and site inspections).

In addition to these design features, there are other design features cited in other sections of this EIS to reduce environmental effects that, if adverse, could lead to effects on human health and safety. In particular: design features that would control air pollutant emissions include dust control measures (e.g. grading and watering of haul roads, application of a fine water spray, use of water/additives/planting on intermediate soil cover, and installation of vegetative cover on the completed landfill slopes) (see Section 4.3, Air Quality and Greenhouse Gases). Design features would also include protection from rockfall hazards through inspections and use recommended hazard avoidance measures as/if needed (see Section 4.7, Geology and Soils); fire protection measures such as firebreaks, availability of on-site fire-fighting equipment, landscaping in compliance with the City of San Diego's brush management requirements, a 150-foot clearance between waste and flammables, training of site personnel, and control of on-site fires (see Section 4.12.2, Fire Protection and Emergency Medical Services); and site security features including controlled site entry, camera monitoring of gate to scale transactions, and use of a private security firm (see Section 4.12.1, Law Enforcement). In addition, design features to protect groundwater quality would include environmental control systems (a composite liner system, a LCRS, a landfill gas management program, landfill monitoring and reporting, drainage controls, and continued implementation of existing groundwater monitoring and remediation efforts) (see Section 4.9, Hydrology); and features to protect surface water quality and flow conditions pursuant to the SWPPP, with measures such as drainage control structures, unlined (vegetated or rock-filled) drainage facilities, detention/sedimentation basins, inlet filters, erosion control mats, mulching, straw/hay bales, berms, fiber rolls, silt fences, dikes, biofilter/compost bags, vegetated buffer strips, and hydroseeding with native plants (See Section 4.14, Surface Hydrology). The alternative's access entryway has been designed to accommodate all potential queuing and traffic to avoid adverse effects at the entryway intersection (See Section 4.15, Transportation).

### 4.8.9.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through the release, transport, use, production, disposal or exposure to hazardous materials.*

**Impact Statement Sycamore HHS-1: The Sycamore Canyon Expansion Alternative would provide a Class III landfill, which would accept only non-hazardous solid wastes and inert wastes. Landfill operations would include a HWEP intended to preclude hazardous materials from entering the landfill site, and disposing of hazardous materials inadvertently brought to the site in a safe manner per state regulations. Therefore, landfill operations would not create significant adverse effects to the public or the environment through the transport, use, production, or disposal or release of hazardous materials.**

The Sycamore Canyon Expansion Alternative includes the expansion, on-going operations and closure of a Class III solid waste facility, in accordance with CCR Title 27. As a Class III landfill, only non-hazardous solid wastes and inert wastes are accepted. Non-hazardous wastes are disposed through the County's HHWE

through a number of programs that channel hazardous waste materials to facilities designed to accommodate them.

Notwithstanding, some household hazardous materials may be inadvertently brought to the landfill. Hazardous products purchased by the general public for household use include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a hazard to human health or the environment. These wastes include such items as cleaners, pesticides, paint products, automotive products, hobby products, and other toxic substances commonly found in households. In addition, HHW may include infectious wastes, such as syringes or other material contaminated with etiologic (i.e., disease-causing) agents.

As described in the design features above, the Sycamore Canyon Expansion Alternative operates under a HWEP that includes mechanisms to preclude hazardous material from being brought to the landfill, procedures for identifying hazardous materials that might be brought to the landfill against regulations, and methods of handling of such hazardous materials should they be brought to the landfill facility.

As discussed above, protection of the public begins with precluding attempts to dispose of hazardous waste materials through such devices as advance notifications to non-residential users, signage at the landfill advising of prohibited materials, and potential bans on use of the landfill by past offenders. Once haul vehicles enter the site they are subject to extensive monitoring by trained personnel with on-going checking in order to detect HHW that might be brought to the landfill. Loads are also checked for low levels of radioactive waste. Identification of hazardous materials results in one or more responses based on the hazardous material presented. The responses may include such items as: refused entry, quarantine of the material in approved storage containers, laboratory testing of material, and transport and disposal at a permitted hazardous waste facility in compliance with all federal, state and local regulations. Responses may include notification to the County DEHs HIRT, the California Highway Patrol or 911. The handling of hazardous materials would also be subject to procedures established in a hazardous materials business plan that provides coordination with local emergency service organizations.

In summary, there are a number of regulatory and design feature procedures that place layers of protection from public contact with hazardous materials. These include procedures to 1) keep hazardous materials from reaching the landfill, 2) identify hazardous materials being presented at the landfill, and 3) contain and dispose hazardous materials in a manner that is safe. These measures would limit potential contact with hazardous materials and no significant adverse effects on human population would occur.

Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Sycamore Canyon Expansion Alternative would not create significant adverse health risk to the public due to receipt and handling of hazardous materials. No mitigation measures are proposed.

**Impact Statement Sycamore HHS-2: Potential contamination and hazards associated with the handling of Class III non-hazardous wastes would be contained by the landfill's environmental containment systems that would limit emissions of hazardous materials in keeping with standard safety criteria; with the exception of effects associated with airborne $NO_2$ emissions. This would**

**substantially limit effects on human population whose health and safety could be affected. Notwithstanding, there would be a limited significant adverse effect on human population from landfill contamination associated with $NO_2$.**

Waste materials, when disposed in Class III landfills, undergo a number of processes that can create potential contaminants. Such contaminants may enter the air or migrate toward water resources, whereby they could potentially be transported to contact with human population. Further, landfills can support vectors that can carry contamination or disease to nearby population. Potential effects associated with each of these conveyance sources is discussed below.

### Airborne Contaminates

As was discussed more fully for the Applicant's Proposed Alternative, health effects to offsite populations can be caused by exposure to airborne emissions resulting from landfill construction and operation activities such as earthwork (most notably dust with metal particulates), vehicle operation (particularly the operation of diesel engines), and decomposition of landfill wastes that create landfill gas emissions. Further, a number of design features reduce these potential impacts, summarized above and enumerated more fully in Chapter 3, Description of Alternatives, and Section 4.3, Air Quality and Greenhouse Gases. They include such features as a Dust Control Plan and diesel particulate emissions control measures.

Section 4.3, Air Quality and Greenhouse Gases, includes analyses of the landfill's air pollutant emissions. Included within the range of analyses are several that address health effects on local sensitive population. These analyses include a range of evaluations that address health impacts on local sensitive populations, as summarized below.

- An evaluation of health risks indicates that potential cancer risks and acute and chronic non-cancer health risks associated with the landfill's TACs would be below the levels that would result in significant adverse effects.
- An evaluation of localized CO concentrations congested intersections indicates that the contribution of the alternative to the 1-hour and 8-hour CO concentrations would not exceed state and federal significance criteria.
- An evaluation of the concentration of air contaminants in the vicinity of sensitive human population indicates the concentrations of potentially harmful CO, $PM_{10}$ and $PM_{2.5}$ would not exceed 1-hour and 8-hour state and federal standards. The $NO_2$ concentration at the nearest current residents, future residents, and nearest sensitive receptor would exceed the allowable one-hour $NO_2$ NAAQS standard, which is considered a significant adverse effect.
- An evaluation of the emission of odorous compounds indicates that the maximum concentration of a sulfur compound having an odor would remain at least one order of magnitude (ten-fold) lower than the detectable limit by the human nose.

In summary, the air quality analysis indicates that pollutant concentrations in the vicinity of effected sensitive populations would generally not exceed significance thresholds nor health risk criteria; however, localized concentrations of $NO_2$ would be considered a significant adverse effect.

### Waterborne Contaminates

Class III landfills generate hazardous materials that if not controlled could be conveyed through water sources to sensitive populations during construction and operation activities. As described in more detail in Section 4.9, Hydrogeology, and Section 4.14, Surface Hydrology, potential adverse effects regarding water quality and water flow/drainage would be subject to regulations for the protection of water resources and the public safety, that would be implemented as design features. Operations would continue to be implemented under a SWPPP prepared in accordance with California NPDES Construction General Permit requirements and using BMPs.

Further, potential constituents (including leachate and landfill gas condensate) would be prevented from entering the groundwater through standard federal, state, and local regulatory mechanisms. These would include a composite liner system, a LCRS, a landfill gas management program, landfill monitoring and reporting, drainage controls, and continued implementation of existing groundwater monitoring and remediation efforts. It would also include drainage control measures such as drainage control structures, unlined (vegetated or rock-filled) drainage facilities, detention/sedimentation basins, inlet filters, erosion control mats, mulching, straw/hay bales, berms, fiber rolls, silt fences, dikes, biofilter/compost bags, vegetated buffer strips, and hydroseeding with native plants. Potential effects on water quality are subject to monitoring with implementation of an EMP and CAP under the regulatory guidance of the RWQCB if leaks occur.

With the implementation of the regulatory design features, the Sycamore Canyon Expansion Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements. As there would not be significant adverse effects to the water resources there would be no significant adverse effects to human population due to landfill wastes being transmitted by water.

### Vector Carried Contaminants

The alternative could potentially attract vectors (including rodents, flies, mosquitoes, and birds) seeking food and refuge amongst the waste prism. Standard landfill design measures to avoid adverse vector impacts, consistent with regulatory requirements, are implemented at the alternative site. These measures include such procedures as reducing food supply, eliminating water ponding, creating sounds as a deterrence, implementing pest control measures, providing daily cover and providing site inspections. These measures would limit the access of vectors to the landfill and would control vectors that might congregate at the landfill site so as to avoid vector transmission of disease. With implementation of these measures no significant adverse effects associated with vectors would occur.

### Litter Dispersal

The alternative could potentially generate litter, that, if allowed to accumulate off-site, would fester contamination and/or provide a refuge for vectors that carry threats to human health. Design features would be implemented, consistent with regulatory measures, to control vectors. The landfill currently implements such measures as confinement of the waste area, collection of litter and use of litter prevention fences. With implementation of such litter control measures, the Sycamore Canyon Expansion Alternative would not create a significant litter problem in the area.

Mitigation Measures

With implementation of design features and compliance with applicable regulations, the alternative would not create significant adverse health risk to the public due to the dispersion of contaminated waste materials that are associated with Class III landfills, other than concentrations of $NO_2$ that would be conveyed by air passage. The significant adverse $NO_2$ effect is discussed further in Section 4.3, which indicates that design features would reduce the $NO_2$ emissions, but there are no feasible mitigation measures available for further reduction. No other mitigation measures are proposed.

**Impact Statement Sycamore HHS-3: Existing hazardous materials on the alternative site would not have adverse health effects on-site population.**

The alternative would include the replacement of some structures with new facilities. Demolition activities would be consistent with OSHA regulations and the demolition practices of NESHAP to avoid adverse effects due to such materials as LBP and ACM.

The existing SDG&E transmission line corridor that passes through the landfill site would be relocated along the western and northern boundaries of the landfill parcel. Demolition of existing transmission lines/structures and construction of new lines would be done in accordance with all applicable SDG&E and CPUC safety procedures and regulations. These regulations would require design procedures for the reduction of EMFs, including the use of optimal phasing (as is done with the existing transmission lines). The relocated transmission corridor would be situated adjacent to residentially-zoned land, creating a potential for EMF impacts, however, no residential development would be allowed within or immediately adjacent to the transmission corridor, pursuant to SDG&E policy. Therefore, no significant adverse effect due to EMF hazards would occur.

Thus, significant adverse effects to human health and safety in this regard would not occur.

Mitigation Measures

Compliance with existing regulations and construction standards would avoid threats to public safety from LBP or ACM materials or EMFs. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would create a significant hazard to the public or the environment through reasonably foreseeable accident conditions as a result of activities associated with landfill operations.*

**Impact Statement Sycamore HHS-4: Landfill construction and operation would be implemented in accordance with regulatory requirements that would protect the public from hazardous conditions and risk of accidents. No significant adverse accident/risk effects would occur from landfill activity.**

### Landfill Gas Concentration

The Sycamore Canyon Expansion Alternative would include a landfill gas control system, that would collect and burn/flair accumulating landfill gasses. The system would limit potential concentrations of landfill gas from reaching ignitable/explosive levels.

### Flood Hazard

The alternative site is not located within a 100-year floodplain. Further, the site is not located in proximity to a floodway and would not alter a floodway in manner that would increase velocities and peak flows. The alternative would decrease surface water runoff and, thus, decrease water entering the San Diego River from the site. Pursuant to regulatory procedure, the alternative would incorporate BMP's to collect and distribute runoff. Therefore, the alternative would not pose a threat of adverse flooding effects.

### Fire Hazards

Potential fires that can occur at landfills would be avoided and/or quickly controlled through the implantation of design features that are consistent fire prevention regulatory measures. Key design measures include the following: use of firebreaks, availability of on-site fire-fighting equipment, landscaping in compliance with the City of San Diego's brush management requirements, a 150-foot clearance between waste and flammables, training of site personnel, and procedures to control of on-site fires. The design features address the potential causes of fire and allow for quick response and control of landfill fires should they occur. Further, public firefighting services would be available to serve the site in case of an emergency. With implementation of these measures significant adverse effects would not occur.

### Rockfall

Development of a landfill at the alternative site would follow standard design features, consistent with regulatory measures to protect workers from harm from rockfall. Design features would include inspections and use recommended hazard avoidance measures as/if needed. With implementation of these measures, significant adverse effects relative to rockfall would not occur.

### Site Security

Adverse safety effects associated with unauthorized access to the site would be avoided through the implementation of design features. These design features include such measures as controlled site entry, camera monitoring of gate to scale transactions, and use of a private security firm. The design features would secure the site and protect the public from unauthorized site access.

### Disposal Operations Hazards

The safety of site workers and visitors would be provided through regulatory procedures that are applicable to landfill construction and operations. Employees would be trained in health and safety procedures and preventative controls. Training and safety procedures are regulated by OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. Training would include: site safety, first

aid, accident prevention, hazardous waste recognition, and emergency measures related to hazardous waste exposure. Appropriate safety equipment, such as dust masks, ear plugs, goggles, gloves, and orange safety vests, would be provided to landfill employees. First aid supplies would be provided in an accessible location. Self-contained emergency eye wash stations and showers having attached water reservoirs would be installed. Communication equipment would be provided between operations areas, the office, the scale houses, and any necessary emergency responders (police, fire, etc.).

With implementation and enforcement of employee and user safety controls as part of the landfill operations, significant adverse safety effects would not occur.

### Roadway Safety

The alternative would include redesign of the entry facilities and access road. The new design is based on an analysis of all potential queuing and traffic effects and standard safety considerations. Hence, traffic entry would be safe and there would be no significant adverse effects at the entry intersection along Mast Boulevard. Further, haul truck drivers are professional trained drivers, operating in a work environment with worker responsibility. As such, haul truck drivers are not expected to generate unusual impacts on traffic safety. This is supported by the findings on accident data that was reported for SR 76 in the analysis of the Applicant's Proposed Alternative. That data indicated that trucks are not notable contributors to roadway accidents. For these reasons no significant adverse effects to population arising from landfill traffic is expected.

### Air Traffic Safety

The alternative site is located in the vicinity Marine Corps Air Station Miramar air traffic facilities, Gillespie Field, a county-owned public-use airport. The potential effects on flight safety for these two facilities are evaluated in the Sycamore Landfill Master Development Plan, Revised Final EIR. In particular, Appendix C.1 includes an FAA evaluation of air traffic safety titled "Determination of No Hazard to Air Navigation – Power Lines and Landfill Peaks near Santee." The analysis and supporting documentation indicated that neither the transmission towers nor landfill peaks would have impediments on flight procedures. Certain transmission line towers would be lighted/marked in accordance with FAA rules and regulation to ensure that pilots are aware of their presence during inclement weather and night-time operations. Therefore, there would be no significant adverse effects on flight safety.

#### Mitigation Measures

With implementation of design features and compliance with applicable regulations, the Sycamore Canyon Expansion Alternative would not pose a threat to public safety from the safety risks associated with construction and operation of the landfill. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on human health and safety if the alternative would interfere with emergency response plans or emergency evacuation plans.*

**Impact Statement Sycamore HHS-5: The Sycamore Canyon Expansion Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no significant adverse effect would occur.**

Emergency response planning in the vicinity of the Sycamore Canyon Expansion site is included within the within the County's Emergency Services Organization Operation Area Emergency Plan. This plan provides guidance for emergency response, and includes SR 52, SR 163, SR 67 and I-15 as primary routes for evacuations. During an emergency situation, the landfill would cease normal operations and thus, would avoid effects to emergency travel. During normal times, adequate emergency vehicular access would be maintained. The alternative would not adversely affect local roadways during an emergency situation; and would not impair implementation of or physically interfere with the response and evacuation features of the County of San Diego OES Operational Area Emergency Plan.

The Sycamore Canyon Expansion Alternative would be required to operate under an Emergency Response Preparedness Employees would be trained in health and safety procedures and preventative controls in accordance with OSHA Final Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. These features would allow landfill staff to provide coordination with other emergency response plans and evacuation plans. No significant adverse effects regarding emergency response would occur.

### Mitigation Measure

With implementation of design features, the Sycamore Canyon Expansion Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No mitigation measures are proposed.

# 4.9 HYDROGEOLOGY

## INTRODUCTION

This section provides an analysis of the potential impacts of each of the alternatives with respect to hydrogeologic conditions. The section includes: an overview of regulations pertinent to groundwater resources and for each alternative site; a description of existing regional and local hydrogeological conditions; and, an evaluation of potential impacts to groundwater supplies, groundwater flow direction or recharge, and groundwater quality during landfill construction and operation.

The hydrogeology analysis for the Applicant's Proposed Alternative is based primarily on the Geologic, Hydrogeologic, and Geotechnical Investigations Report (Appendix C of the Joint Technical Document [JTD]) prepared by the GeoLogic Associates (GLA), as well as the 2009 Addendum to the Gregory Canyon Certified Final Environmental Impact Report (the 2009 Addendum). A peer review of the JTD was undertaken by Geosyntec Consultants and a copy of the technical memorandum is contained in Appendix I of this EIS. Analysis of the Aspen Road Alternative is based in part on the 1990 Draft EIR/EIS prepared for a County Class III landfill on that site as well as other generally available information. Analysis of the Merriam Mountain Alternative is based, in part, on the 2009 Merriam Mountains Specific Plan EIR. The analysis of potential impacts to hydrogeology from the Sycamore Canyon Expansion Alternative is based on the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012). The San Diego County General Plan Update and associated EIR were also used in the analysis of potential impacts to the alternatives.

## 4.9.1 REGULATORY FRAMEWORK

### 4.9.1.1 Federal

#### Resource Conservation and Recovery Act

Municipal solid waste landfills are subject to federal regulations which became effective on October 9, 1993, under the Resource Conservation and Recovery Act (RCRA). RCRA regulations were promulgated under Title 40 Code of Federal Regulations (CFR) 257 and 258. Specifically, Title 40 CFR 258 establishes criteria for municipal solid waste landfills, including location restriction criteria, operating criteria, design criteria, groundwater monitoring and corrective action criteria, closure and post-closure care criteria, and financial assurance criteria. One of the most important aspects of RCRA (40 CFR 258.40) requires operators of municipal solid waste landfills to construct a composite or approved engineered alternative liner system in new waste management units, lateral expansions, or areas within a previously permitted waste management unit which had not had refuse placed within them as of October 9, 1993. Title 40 CFR 258 also establishes constituents of concern (COC) to be monitored during the operation and closure of landfills. The COCs include a broad range of general chemistry constituents, 17 metals, as well as volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, herbicides and polychlorinated biphenyls (PCBs). Lastly, with respect to groundwater quality in general, 40 CFR 141 establishes threshold concentrations for specific minerals and chemicals in groundwater and drinking water to protect human health.

### National Pollutant Discharge Elimination System Program

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the Clean Water Act (CWA) to regulate both point source discharges and nonpoint source discharges to surface waters of the U.S. (Please see Section 4.14, Surface Hydrology, of this EIS for a more detailed discussion and analysis of potential effects.) The NPDES program consists of characterizing receiving water quality, identifying harmful constituents, targeting potential sources of pollutants, and implementing a comprehensive stormwater management program. Construction and industrial activities are typically regulated under statewide general permits that are issued by the State Water Resources Control Board (SWRCB). The Regional Water Quality Control Board (RWQCB) also issues Waste Discharge Requirements (WDRs) that serve as NPDES permits under the authority delegated to the RWQCBs, under the CWA. The NPDES authorizes the State of California to serve as the NPDES permitting authority in lieu of the U.S. Environmental Protection Agency (USEPA). The following general permits are required for industrial operations and construction projects in accordance with NPDES permit program:

- SWRCB Order No. 2009-009-DWQ, NPDES Permit No. CAS000002, WDRs for Discharges of Stormwater Runoff Associated with Construction Activity (Construction General Permit). The permit requires a risk-based permitting approach, dependent upon the likely level of risk imparted by a project.
- SWRCB Water Quality Order No. 97-03-DWQ NPDES General Permit No. CAS000001 (Construction General Permit) WDRs for Discharges of Stormwater Associated with Industrial Activities Excluding Construction Activities.

The NPDES Construction General Permit requires the implementation of a Stormwater Pollution Prevention Plan (SWPPP), prepared in accordance with California NPDES Construction General Permit requirements and using Best Management Practices (BMPs) identified in the California Stormwater Best Management Practices Handbook–Construction. Under CA Construction General Permit requirements, the SWPPP would be designed to ensure that all pollutants and their sources are controlled.

## 4.9.1.2 State

The Porter-Cologne Water Quality Control Act requires that Water Quality Control Plans (Basin Plans) be prepared for the nine state-designated hydrologic basins in the State of California. The SWRCB approved the San Diego Region Basin Plan (Basin Plan) on March 20, 1975. A second Basin Plan was adopted in September 1994 which supersedes the 1975 plan, and an update to the Basin Plan was approved by the San Diego RWQCB (RWQCB) in 2007. The Basin Plan sets forth water quality objectives for constituents that could potentially cause an adverse effect or impact on the beneficial uses of water. Specifically, the Basin Plan is designed to accomplish the following: 1) designate beneficial uses for surface and ground waters; 2) set the narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy; 3) describe mitigation measures to protect the beneficial uses of all waters within the region; and 4) describe surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan. The Basin Plan incorporates by reference all applicable SWRCB and RWQCB plans and policies.

Federal and state guidelines dictate the primary maximum contaminant levels (MCLs) for pollutants in groundwater designated for municipal/domestic and agricultural uses. These primary standards are

threshold concentrations for specific COCs to protect human health. The state has also developed secondary standards for constituents that may adversely affect the taste, odor or appearance of the water. These secondary MCLs are provided in the California Code of Regulations (CCR), Title 22, Chapter 15, Article 16, Section 64449. The SWRCB has established general water quality objectives whereby existing water quality superior to the established water quality objectives is to be maintained unless provided for otherwise by SWRCB Resolution No. 68-16.

CCR Title 27, Section 20340, requires that a landfill implement a leachate collection and removal system (LCRS) to remove leachate from the landfill. The LCRS shall be designed to collect and remove a minimum of twice the anticipated maximum daily volume of leachate generated within the refuse prism, as well as maintain less than a 12-inch depth of leachate over the composite liner system. CCR Title 27, Section 20340, also requires that the LCRS be effectively designed to collect leachate without clogging through the scheduled closure of the unit and during the post closure maintenance period.

CCR Title 27, Section 20415 establishes water quality monitoring and protection standards for landfills. Specifically, the water quality protection standards include: establishment of monitoring systems for the groundwater, surface water, and unsaturated zone, including background and compliance monitoring points for each medium; establishment of COCs; establishment of monitoring parameters; and establishment of a monitoring protocol and a compliance period. In accordance with 27 CCR, Section 20410, an operator must continue monitoring during the compliance period, which is the period throughout the active life of the landfill and the closure period. If the discharger is engaged in a corrective action program at the end of the compliance period, the compliance period shall extend until the discharger demonstrates continuous compliance with the established water standard for the site for three consecutive years.

### 4.9.1.3 Regional

The San Diego County Water Authority (SDCWA) is a public agency that was founded in 1944 to supplement existing supplies by importing water into the San Diego Region. The SDCWA, which is the largest purveyor of Metropolitan Water District (MWD) water in the San Diego region, allocates water supplies to member agencies in San Diego County. In response to continued demand for water and the decreased reliability of imported water sources, SDCWA has been evaluating the potential to develop additional local water supplies and water storage, including water conservation, water transfers, water reclamation and purification, and groundwater resource development and management.

The San Diego County Groundwater Ordinance establishes regulations for the protection, preservation, and maintenance of groundwater resources in the County. The purpose of the ordinance is to ensure that development will not occur in groundwater-dependent areas of the County unless adequate groundwater supplies are available to serve both the existing uses within the affected groundwater basin and the proposed uses. San Diego County manages groundwater through the County Groundwater Ordinance. The Ordinance does not limit the number of wells or the amount of groundwater extracted, but does identify specific measures to mitigate the potential effects of projects. Existing land uses are not subject to the Ordinance unless a listed discretionary permit is required. The Groundwater Ordinance separates the County into three regulatory areas: Borrego Valley, Groundwater Impacted Basins, and All Other Projects. The Borrego Valley is located in eastern San Diego County and none of the alternatives would be located within this valley. Section 67.721 of the Groundwater Ordinance contains regulations for how to identify groundwater impacted basins. Specifically, groundwater impacted basins are those that are characterized by

one or more of three following groundwater problems: low yielding wells, basins with parcels smaller than permitted in Section 67.722 of the Groundwater Ordinance and in excess of available water resources, and basins with declining groundwater levels and a measurable groundwater overdraft. To date, no groundwater impacted basins have been identified in San Diego County.[1]

## 4.9.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on hydrogeology.

### 4.9.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. An alternative would have a significant adverse effect on hydrogeological resources if it would:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or
- Violate any federal, state, or local groundwater quality standard or waste discharge requirements.

### 4.9.2.2 Methodology

The section is based on existing technical studies. The analysis of the Applicant's Proposed Alternative is based primarily on the JTD prepared for the Gregory Canyon Landfill, as well as the 2009 Addendum, and a peer review of the JTD by Geosyntec Consultants. For the off-site alternatives, information was derived from the 1990 Draft EIR/EIS for a Class III North County Landfill (the Aspen Road Alternative site) and a 2009 Draft EIR for a specific plan at the Merriam Mountain site. The analysis of potential effects to hydrogeology from the Sycamore Canyon Expansion Alternative is based on the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012). In addition, the San Diego County Draft General Plan Update and 2011 General Plan Final EIR were used in the analysis of potential effect to the alternative sites. Water demand/supply issues are discussed in Section 4.16.1, Water Supply, of this EIS.

Extensive groundwater studies have been performed on the Applicant's Proposed Alternative site over the years since the passage of Proposition C. The following methodologies have been used with regard to groundwater:

*Groundwater Supplies*: Two sources of available groundwater are located within the Gregory Canyon watershed, riparian underflow (available in alluvium under the northern, lower portion of Gregory Canyon) and percolating groundwater (available in fractured bedrock in the southern, upper portion of Gregory Canyon and in fractured bedrock beneath the alluvium in the northern, lower portion of Gregory Canyon). The location of underlying alluvium and fractured bedrock were determined through field mapping and soil borings.

[1] *San Diego County Department of Planning and Land Use. Groundwater Limitations Map. Available at: http://www.sdcounty.ca.gov/dplu/docs/precip030104_small.pdf. Accessed August 6, 2012.*

Two yield calculations were made to determine the quantity of groundwater that could be withdrawn at the site without overdrafting the underlying resources; a sustainable yield calculation and a safe yield calculation. Both groundwater yield calculations are based on a GLA 2009 Evaluation of Additional Percolating Groundwater Resources on the Gregory Canyon Property, included in Appendix G-1 of the JTD. The sustainable groundwater yield calculation was based on well pumping and geophysical test data collected from eight fractured bedrock wells in the northern portion of the Gregory Canyon watershed. The data collected from these wells was entered into the Rockworks Drawdown Calculator Software to determine sustainable yields. The safe groundwater yield calculation was based on precipitation and percolation data over the Gregory Canyon watershed, without consideration of well data, storage capacity, or other site-specific data (e.g., soil type, soil moisture, evapotranspiration). The GLA 2009 Evaluation of Additional Percolating Groundwater Resources recognized that the safe yield volume would be reduced as the Gregory Canyon watershed area is reduced (i.e., a portion of the recharge area is removed by landfill construction and replaced with the impervious landfill footprint), ultimately reducing the main canyon estimated safe yield when the 183-acre landfill footprint is fully constructed.[2,3] To provide a conservative analysis, this EIS utilizes the reduced estimated safe yield, even though this scenario would only be fully realized once the landfill cell area is complete. The safe yield analysis resulted in a more conservative groundwater yield, and was subsequently used in the analysis to determine the effects of the Applicant's Proposed Alternative. Sustainable groundwater yields were utilized to determine pumping limits on individual on-site wells within Gregory Canyon.

To determine safe yield volumes in the three other watersheds on the site, the same rainfall and infiltration rate assumptions were used as the estimated safe yield calculation performed for the Gregory Canyon watershed, the results of which were outlined in a GLA memorandum dated December 5, 2005.

*Groundwater Flows*: Existing groundwater flows at the Gregory Canyon site and the surface of underlying groundwater was obtained from data collected from an existing groundwater monitoring network. The horizontal average linear velocity of groundwater moving through a fracture, or group of fractures was estimated using the borehole dilution method, which utilizes de-ionized water as the tracer and fluid electrical conductivity as a measure of "concentration" of the tracer. Data obtained from these wells was entered into a two-dimensional groundwater flow model in the Flowpath computer program to determine the existing and expected groundwater flowpath at the site. This program was also utilized to evaluate the potential flowpath of leachate at the site, as discussed below.

*Groundwater Quality*: Existing groundwater quality at the Applicant's Proposed Alternative was obtained from a network of monitoring wells requested by the RWQCB in their in their Tentative WDRs to characterize naturally-occurring water quality beneath the site before solid waste is received by the facility. Specifically, GLA performed an initial limited water quality evaluation in August 1999, and subsequently obtained four quarters of water quality data between December 2000 and September 2001.[4] More recently, water quality samples were obtained in December 2004. Further, groundwater samples were obtained from wells GLA-4

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[2] *Geo-Logic Associates. Evaluation of Additional Percolating Groundwater Resources on the Gregory Canyon Property, San Diego County, California (included in JTD Appendix G-1). pg.4. November 7, 2009.*

[3] *Geo-Logic Associates. Joint Technical Document for the Gregory Canyon Landfill. pg. B.5-34.*

[4] *Bedrock wells within the water quality monitoring program include wells GMW-I, GLA-2 and its replacement well GLA-2R (GLA-2/2R), GLA-3, GLA-4, GLA-5, GLA11, GLA-12, GLA-13, GLA-14, and GLA-A through GLA-G. Samples collected from each of these wells were analyzed for the full suite of constituents of concern (COCs) provided in the Code of Federal Regulations (40 CFR Part 258, Appendix II). Included in this list of compounds are cyanide, sulfide, 20 metals, VOCs, semi-volatile organic compounds (SVOCs), chlorinated herbicides, pesticides and polychlorinated biphenyls (PCBs). In addition, samples were submitted for indicator parameters including chloride, nitrate, sulfate, pH, and TDS.*

and GLA-5 in 2006, and from 2007 to 2009, to evaluate concentrations of an organic constituent, methylene chloride, within these wells.[5]

Leachate generation rates for the Applicant's Proposed Alternative were calculated using the USACE Hydrologic Evaluation of Landfill Performance (HELP) computer program (v3.07), which uses total area landfilled, representative rainfall and evapotranspiration data to calculate the amount of leachate that might be generated in a municipal solid waste landfill. The results of the computer modeling were calibrated by comparing the calculated leachate generation rates to actual observed leachate generation rates obtained from the lined West Miramar Phase II Landfill, a similar sized landfill located in San Diego County.

The flow direction of a potential leachate leak from the Applicant's Proposed Alternative was modeled using the Flowpath computer program.[6] Flowpath models pollutant transport through the use of particle tracking techniques, which simulate pollutants as "particles" that follow the groundwater flowlines. Two conditions were simulated. The first was to simulate groundwater flow under existing conditions with a worst case leakage through the liner.[7] The second simulation involved a groundwater elevation approximately 10 feet lower (20 feet below ground surface) in the southwest corner of the Basin, to evaluate the potential effect of increased pumping during extended drought periods.

## 4.9.3 APPLICANT'S PROPOSED ALTERNATIVE

### 4.9.3.1 Affected Environment

#### Regional Hydrogeology

The Applicant's Proposed Alternative is located in the Gregory Canyon watershed, within the San Diego Hydrologic Basin, which occupies approximately 3,900 square miles of San Diego County and portions of Orange and Riverside Counties in southwestern California.

The Gregory Canyon watershed is tributary to the San Luis Rey River and is part of the San Luis Rey Hydrologic Unit. The San Luis Rey Hydrologic Unit, depicted on Figure 4.9-1, *San Luis Rey Hydrologic Unit*, encompasses a semi-rectangular area of about 565 square miles. The San Luis Rey River, which traverses through the northern portion of the Gregory Canyon site, occupies a narrow east-west valley in a basin filled with water-bearing alluvial sediments bounded by sedimentary rocks in the lower reach of the basin and igneous or metamorphic rocks in the middle and upper reaches of the basin. The San Luis Rey Hydrologic Unit is subdivided into three hydrologic areas, which from east to west are the Warner, Monserate, and Lower San Luis (Mission) Hydrologic Areas. The Monserate Hydrologic Area occupies approximately the middle third of the San Luis Rey Hydrologic Unit and the Gregory Canyon site is located in this hydrologic area. The Monserate Hydrologic Area is further subdivided into three hydrologic subareas, which from east to west are the La Jolla Amago, Pauma and Pala Hydrologic Subareas. The Gregory Canyon site is located in the Pala Hydrologic Subarea, south of and adjacent to the Pala Basin boundary.

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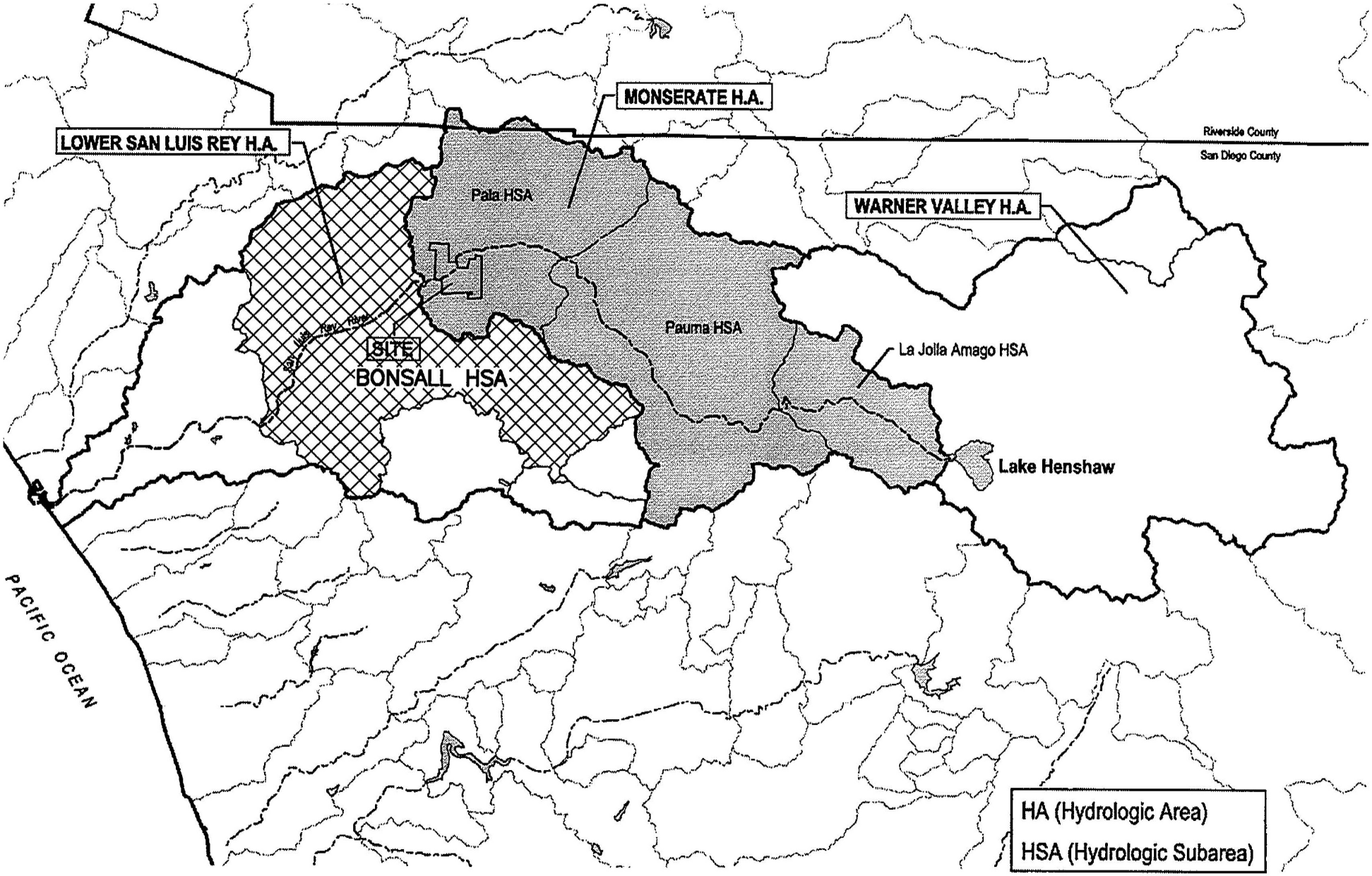
[5] *Geo-Logic Associates, Joint Technical Document for the Gregory Canyon Landfill, pg. D.5-21.*

[6] *Geo-Logic Associates. Geologic, Hydrogeologic and Geotechnical Investigations Report (Appendix C of the JTD), pg. 2-17. November 2003.*

[7] *For the modeling purposes of this analysis, a worst-case leak was assumed to be about 10 gallons per day per acre (1,850 gallons per day for the 185-acre area).*




N

Not to scale

**San Luis Rey Hydrologic Unit**

**Gregory Canyon**

Source: SANDAG GIS Data, 1997; David Evans and Associates, Inc., 1999; PCR Services Corporation, 2012.

FIGURE

**4.9-1**

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Alluvial deposits along the San Luis Rey River form narrow elongated groundwater basins. Groundwater generally flows downgradient through these basins from east to west, from the Pauma Basin to the Pala Basin and then to the Bonsall Basin located in the Lower San Luis Hydrologic Area. The Pala Basin covers approximately 4,500 acres. Total thickness of the alluvial sediments in the Pala Basin ranges from zero at the basin margins to an estimated maximum 244 feet, with an average depth of 150 feet. Fractured bedrock is situated beneath the alluvial sediments. The groundwater storage capacity of the fractured bedrock is notably less than the overlying alluvial sediments. Since groundwater recharge is inconsistent and seasonal, historical depth-to-water measurements from the period 1965 to 1990 for the alluvial aquifer (Pala Basin) indicate that groundwater levels for a particular well may fluctuate from the ground surface to approximately 25 feet below ground surface (bgs) in the center of the river valley (CDWR, 1971; USGS, 1990). The western part of the basin is managed by the San Luis Rey Municipal Water District (SLRMWD). A 2009 evaluation by GLA indicates that the Pala alluvial basin is not in an overdraft situation.[8] Specifically, the evaluation states that "No significant change in groundwater levels are noted within the alluvium on the [Gregory Canyon] property, or at the Monserate narrows, suggesting that groundwater storage in the basin has remained relatively constant in the Pala Basin even under recent drought conditions within the region."

### Local Hydrology

Four watersheds are located within the Gregory Canyon landfill property. These four watersheds are the Gregory Canyon watershed, within Gregory Canyon, and three other smaller watersheds. The Gregory Canyon watershed is located south of the San Luis Rey River, adjacent to Gregory Mountain. Two of the three smaller watersheds are located south of the San Luis Rey River and west of Gregory Canyon, adjacent to the western and southern site boundaries. The third smaller watershed is located north of the San Luis Rey River. Figure 4.9-2, *Additional Watershed Locations at the Applicant's Proposed Alternative Site,* illustrates the three smaller watersheds on the property.

Gregory Mountain is an elongated, relatively flat-topped prominence, drained to the east, north and west (into Gregory Canyon and the Gregory Canyon watershed) by steep, rocky secondary canyons. The potential catch basin of the mountain dominates recharge to the Gregory Canyon watershed. Recharge to the Gregory Canyon watershed from the west ridgeline and southern drainage divide is believed to be relatively minimal because of the relatively small size of the portions of these catch basins that drain into Gregory Canyon.

Within the Gregory Canyon watershed, extensive drilling and well installation data indicate that there are two distinct groundwater zones; an alluvial aquifer (supporting riparian underflow) and a fractured bedrock flow system (supporting percolating groundwater). In contrast, the three smaller watersheds contain percolating groundwater. The well data also demonstrates that the predominant direction of groundwater movement in both the alluvial aquifer and bedrock fractured flow system is northerly, toward the alluvial aquifer of the San Luis Rey River. The groundwater sources are discussed in detail in the subsections below.

#### Gregory Canyon Watershed – Riparian Underflow

The alluvial aquifer is contained within a sediment "wedge" at the southern, lower reaches of the mouth of the Gregory Canyon watershed. The sediment wedge becomes thicker to the north, where it eventually merges with the channel deposits of the San Luis Rey River. The alluvium becomes thinner toward the

[8] *Geo-Logic Associates. Evaluation of Current Utilization of Groundwater Resources in the Pala Groundwater Basin, San Diego, California. pg. 4. October 9, 2009.*

southern end of the canyon. Woodward Clyde Consultants (WCC) concluded in a 1995 study that the groundwater within the alluvium forms an unconfined aquifer recharged by direct infiltration from precipitation or runoff from the bedrock ridges east and west of the canyon, and by underflow through weathered bedrock. Because groundwater recharge is inconsistent and seasonal, historical depth-to-water measurements from the period 1965 to 1990 for the alluvial aquifer indicate that groundwater levels for a particular well may fluctuate from the ground surface to approximately 25 feet bgs in the center of the river valley. Although no springs have been identified in Gregory Canyon, the vigorous development of riparian vegetation along the thalweg of the canyon, and its main tributaries, suggests that the piezometric surface of the underlying fractured rock aquifer is close to the surface along the lowest points of the canyon.

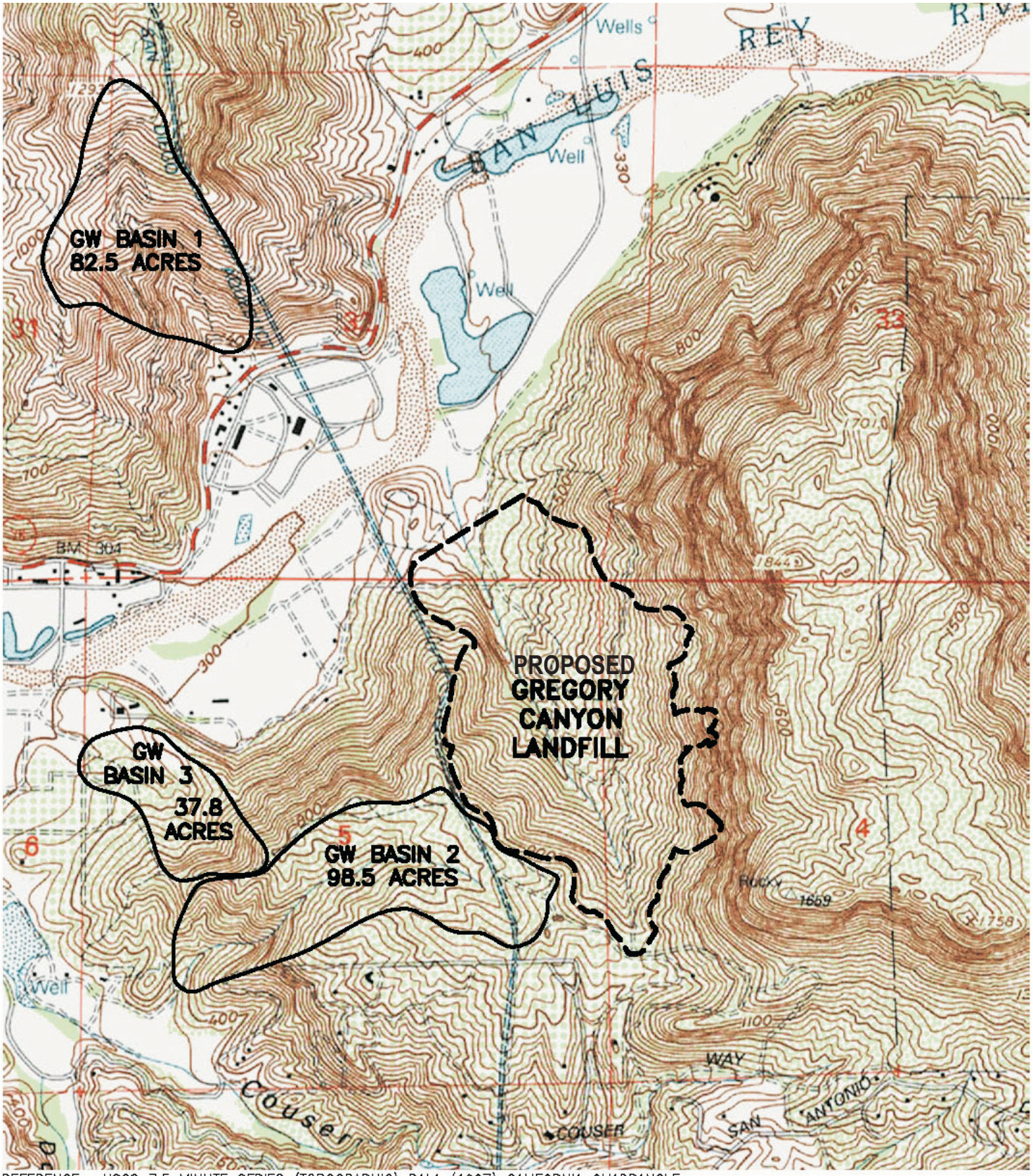
On October 17, 2002, the SWRCB issued Water Rights Decision 1645, finding that the groundwater flowing in the alluvium underlying the San Luis Rey River within the Pala Basin is a subterranean stream flowing through known and definite channels. Because of this designation, the rules regarding the use of groundwater from the alluvial aquifer located in the Pala Basin are the same that apply to surface streams. This groundwater is subject to the Water Code, as well as a long series of court decisions establishing what is generally referred to as the "riparian doctrine". Riparian rights are to be distinguished from rights applicable to percolating groundwater, which is discussed under the "Percolating Groundwater" subheading immediately below.

Subsequent to Water Rights Decision 1645, the ability to legally use underlying groundwater in the Pala alluvial aquifer was analyzed in a memorandum by the law firm of Allen Matkins Leek Gamble Mallory & Natsis LLP (the Allen Matkins Memorandum), utilizing geologic data collected in the field. The Allen Matkins Memorandum concluded that riparian underflow in the alluvium underlying the San Luis Rey River is available for reasonably anticipated future uses on the portions of the site, as long as riparian underflow pumped from wells located within the boundaries of the underlying alluvium is used on portions of the landfill within the boundaries of the underlying alluvium. In contrast, percolating groundwater (discussed below) may be used throughout the landfill property. Alluvial groundwater available for use on the site is depicted on Figure 4.9-3, *Riparian Area and the Extent of Alluvium Compared with Landfill Development Area*.

### Percolating Groundwater

As discussed under the "Local Hydrology" subheading above, there are four watersheds on the Gregory Canyon landfill property that contain percolating groundwater. These four watersheds include the Gregory Canyon watershed and the three, smaller watersheds located on the property.

The existing bedrock monitoring wells within the Gregory Canyon watershed indicate that percolating groundwater in the canyon can be characterized as a fracture-controlled, interconnected flow system. Within this system, rainwater infiltrates through the upper soil layers and then travels downward and northerly along the fractures (i.e., "cracks") in the underlying bedrock. This fracture-controlled groundwater is hydraulically connected with and recharges the alluvial aquifer at the northern end of the canyon, and ultimately recharges the alluvial groundwater in the San Luis Rey River valley (Pala Basin), although contributions from the bedrock are relatively minor relative to the volume of water transmitted through the alluvium.




REFERENCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC) PALA (1997) CALIFORNIA QUADRANGLE

**EXPLANATION:**

APPROXIMATE LIMIT OF GROUNDWATER BASIN

N

0 1500 Feet

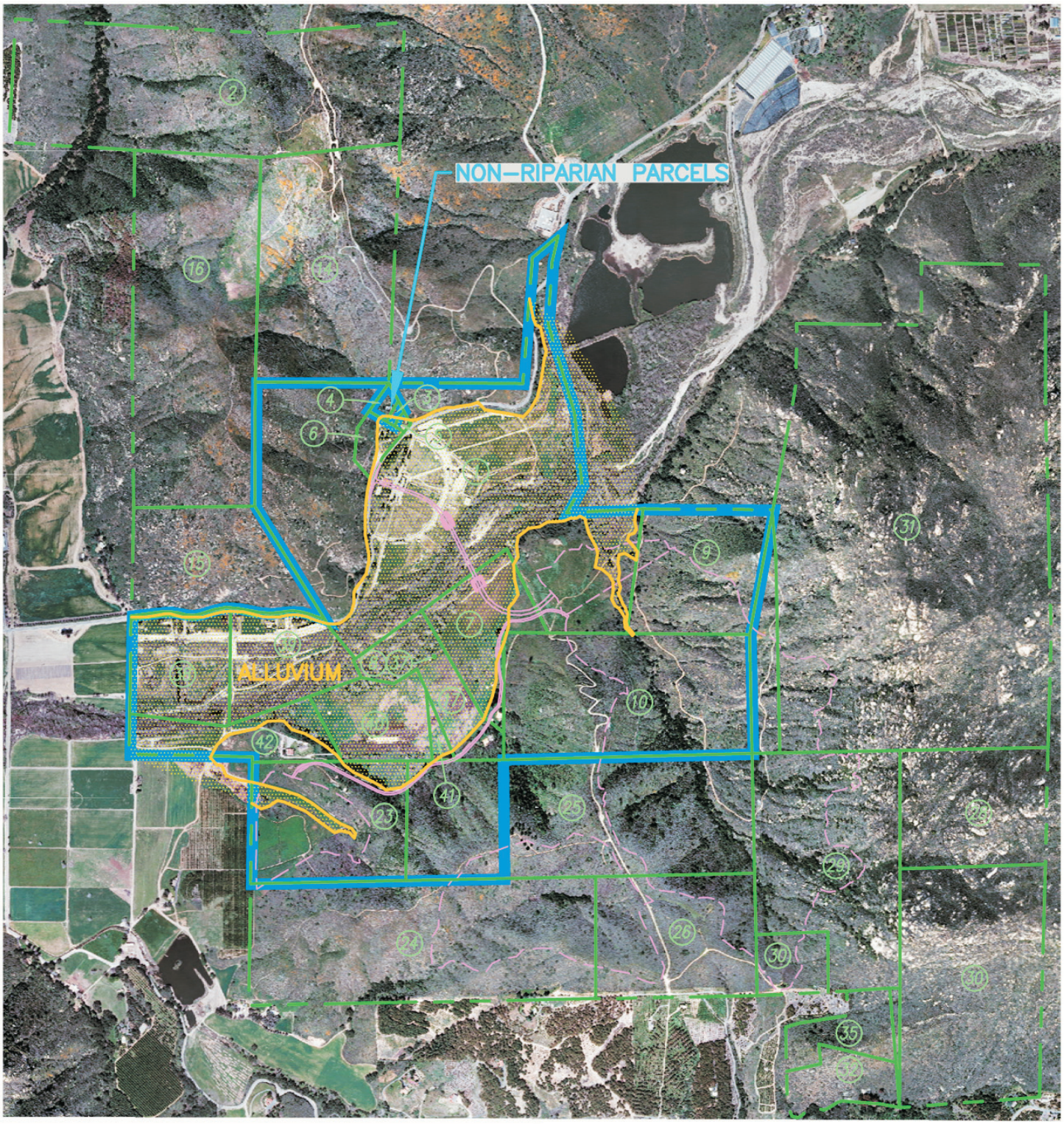
**Additional Watershed Locations at the Applicant's Proposed Alternative Site**

**Gregory Canyon**

Source: GeoLogic Associates, 2009.

FIGURE

**4.9-2**




PROPERTY BOUNDARY

PARCELS

ALLUVIUM

RIPARIAN PARCELS

LANDFILL COMPONENTS

Note: The limits of the alluvium extend beyond the property boundary. However, its extent outside the property has not been defined.

N

0 1600 Feet

**Riparian Area and the Extent of Alluvium Compared with Landfill Development Area**

**Gregory Canyon**

Source: Geo Logic Associates, 2009.

FIGURE

**4.9-3**

Aquifer testing at the site found that shallow fractured rock wells, or the shallow portions of deeper wells, respond in a manner characteristic of wells installed in a porous medium. This response is consistent with the extremely weathered nature of the shallow tonalite, which for practical purposes behaves as silty sand. In the deeper portion of the wells, where the tonalite becomes slightly weathered, the number and size of fractures is reduced and the volume of groundwater flow is more restrained. As such, groundwater flow in the underlying fractured rock aquifer is predominately through shallow fracture zones. The fractured bedrock flow system can thus be differentiated into an upper zone of predominant flow through a network of interconnected fractures and weathered rock, and a deeper zone of relatively low flow through more widely spaced and poorly connected fractures. Boreholes drilled within the canyon encountered tonalite with various degrees of weathering and significant fracturing in the upper 50 to 100 feet. Water-bearing fractures become sparse at depths greater than 100 feet.

The three smaller watersheds within the site boundary have a similar surface topography and underlying geology as that found in the Gregory Canyon watershed, with the exception that none of the three other watersheds contains groundwater-bearing alluvium. Each of these watersheds contains percolating groundwater in the underlying fractured bedrock system that can be accessed by installing pumping wells.

## Groundwater Quality

### Regional Groundwater Quality

Water quality data for wells in the Pala Hydrologic Subarea are sparse. One key indicator of groundwater quality is the total dissolved solids (TDS) concentration. The state has recommended that the TDS concentration be no greater than 500 milligrams per liter (mg/L) in drinking water supplies. However, given the higher level of naturally occurring TDS in the Pala Subarea, the RWQCB Basin Plan establishes a TDS objective of 900 mg/L.[9] The quality of the water in the alluvial aquifer in the Pala Hydrologic Subarea is generally good, with groundwater concentrations of TDS estimated in the range of 200 to 860 mg/L (J.A. Moreland, 1974), with an average TDS concentration of 600 mg/L (NBS Lowery, 1995). In comparison, TDS concentrations in the Bonsall Subarea ranged from 600 to 3,400 mg/L (NBS Lowery and Stetson Engineers, 1992). Further, TDS concentrations in SDCWA imported supplies range from about 500 to 700 mg/L (SDCWA, 1997).

### Local Groundwater Quality

Local groundwater quality has been affected by existing and past land uses. Former uses on the Applicant's Proposed Alternative site include dairy and cattle grazing operations. As a result of these on-site uses, irrigation return water has had an influence on background groundwater quality. Two primary concerns with irrigation return water are salt loading and the transport of applied chemicals. Since the groundwater supply in the San Diego region is already relatively high in salts and the climate is dry, irrigation generally results in salt accumulation in soil. Crop roots absorb only essentially pure water while leaving salts behind. If these salts are not leached out by regularly applying more irrigation water than is needed for evapotranspiration, salts accumulate in the root zone and the land eventually becomes too salty for agriculture. Though saline soils can often be reclaimed by leaching, the percolation of the leach water can result in groundwater degradation.

[9] *San Diego Regional Water Quality Control Board, San Diego Region Basin Plan, Table 3-3: Water Quality Objective. September 1994.*

In addition to the accumulation of salts, modern agriculture often relies on extensive use of applied chemicals such as fertilizers, pesticides and herbicides. The release of applied chemicals into surface and groundwater can have adverse effects on the quality of those waters and the beneficial uses supported by them. The application of agricultural chemicals, in some cases, has been linked directly to aquatic toxicity and is suspect in many impaired water bodies. In addition to degradation of the aquatic environment, the contamination of ground and surface waters by pesticides and fertilizers may also pose a threat to human health.

As discussed in subsection 4.9.2, a groundwater monitoring network was constructed at the Gregory Canyon site in accordance with RWQCB requirements to characterize naturally-occurring water quality of the site before solid waste is received by the facility. Based on the data collected, TDS in groundwater samples collected from wells located within the site boundary generally range from about 300 mg/L to 2,500 mg/L in bedrock wells and from 500 to 1,000 mg/L in alluvial wells. Only the groundwater sample from upgradient well GLA-4 (with an average value of 474 mg/L) generally met the state recommended MCL of 500 mg/L for TDS for drinking water and beneficial groundwater use designation. Samples collected from bedrock wells located on the west side of the site—including wells GLA-2, GLA-D, GLA-E, and GLA-F, and upgradient well GLA-5—typically contained the highest TDS concentrations. Groundwater samples from the alluvial wells also typically exceed the state recommended MCL for TDS, though the concentrations generally are lower and generally do not exceed the RWQCB Basin Plan objective of 900 mg/L. Water delivered by the SDCWA and its member agencies has typical TDS concentrations ranging between 500 and 700 mg/L, and these values are within the range of many of the wells at the site. Therefore, with respect to TDS, concentrations in groundwater samples collected at the site are within the typical range of concentrations for San Diego County, with some areas of the site exhibiting elevated TDS concentrations. Similarly, samples collected from upgradient (background) well GLA-5 contained concentrations of nitrate as nitrogen (averaging 17.6 mg/L) and sulfate (averaging 294 mg/L) above the state recommended MCLs of 10 mg/L and 250 mg/L, respectively.[10] Samples collected from downgradient bedrock wells GLA-2, GLA-A, GLA-D, GLA-E and GLA-F, GLA-13 and GLA-14, and alluvial well GLA-16 have consistently contained higher concentrations of nitrate as nitrogen and also have exceeded the state and federal MCLs for this constituent. The state recommended MCL for sulfate has only been exceeded in samples from alluvial wells Lucio #2R and SLRMWD#34R.[11]

Review of COC data from the monitoring wells demonstrates that no pesticides or polychlorinated biphenyls (PCBs) were detected in groundwater at the Applicant's Proposed Alternative site, and one chlorinated herbicide (2,4-D) was identified once and at a trace (above the method detection limit of the instrument and below the laboratory reporting limit) concentration in the sample from downgradient bedrock wells GLA-13 and GLA-F.

### Surrounding Groundwater Uses

Existing beneficial uses identified by the RWQCB in the Pala Subarea include municipal, agricultural, and industrial purposes. The groundwater in the Pala Subarea provides the majority of the potable water supply for the Pala Indian Reservation (upgradient of the site), the SLRMWD (downgradient of the site), and for other municipal and agricultural purposes in the subarea. A few commercial uses have been established that utilize groundwater from the subarea, most notably the Pala Casino Spa & Resort. It is anticipated that the

[10] *Geo-Logic Associates, Joint Technical Document for the Gregory Canyon Landfill, pg. D.5-19*

[11] *Ibid.*

groundwater in the Pala Hydraulic Subarea will continue to be used for municipal, agricultural, livestock, and commercial uses in the future. The sole source of water to properties within the SLRMWD is the San Luis Rey River and the groundwater basin it supplies.[12]

The locations of known off-site wells in the vicinity of the site are shown on Figure 4.9-4, *Applicant's Proposed Alternative - Off-Site Well Locations*. The largest concentration of off-site wells is in the alluvial basin of the San Luis Rey River, with a few additional domestic wells serving dwellings in Couser Canyon.

Local jurisdictions occurring within the San Luis Rey Hydrologic Unit as a whole include the cities of Oceanside, Vista, and Escondido, and the counties of San Diego and Riverside. A number of other governmental agencies also administer lands within the unincorporated areas of San Diego County. Federal government jurisdiction applies to military lands (predominately the Camp Pendleton Marine Corps Base), National Forest System lands (Cleveland National Forest), and miscellaneous Bureau of Land Management holdings. In addition, the State of California manages lands within the watershed including state parks, state roadways, and some miscellaneous holdings.

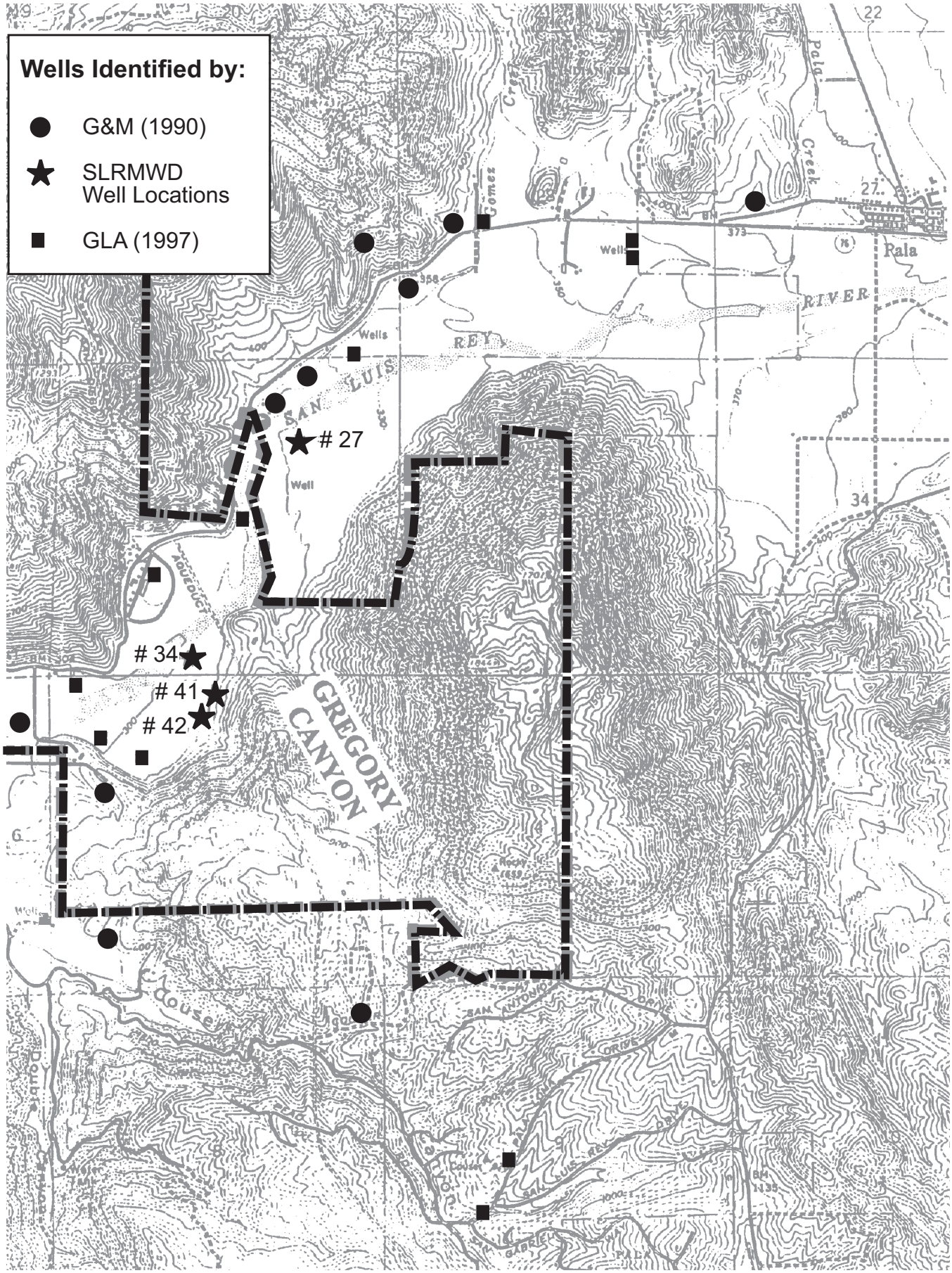
### 4.9.3.2 Design Features from the Gregory Canyon EIR

The Applicant's Proposed Alternative would be designed to meet or exceed federal and state regulatory requirements. The following design features would be included:

- A double composite liner system with an additional drainage layer, an additional HDPE geomembrane, and a leachate collection and removal system (LCRS) would be installed and monitored as required by the RWQCB. The performance of the landfill would be monitored with a subdrain and groundwater monitoring systems. The subdrain system would be constructed to collect and control groundwater that is within five feet of the waste. The subdrain system would serve to maintain the separation of five feet between the refuse and groundwater required by federal regulations (40 CFR Subtitle D 258). The subdrain system effluent would be monitored for the presence of contamination in accordance with the WDR parameters. Monitoring procedures would also be designed consistent with the requirements of the RWQCB.
- The water quality monitoring system would include the installation of monitoring wells at both upgradient (background) and downgradient (point of compliance) locations to the landfill and establishing surface water monitoring points both upstream (background) and downstream of the landfill as required by CCR Title 27 Section 20415 (b).
- Implementation of a combination of engineering controls, (e.g., interim covering of the refuse, suitable slopes for efficient drainage, culverts), and a water quality monitoring program, to ensure that water quality is adequately protected.
- A reverse osmosis (RO) system would be installed in the southwestern portion of the ancillary facilities area. The RO equipment and interconnecting piping would be constructed above ground inside a concrete containment area with a slatted chain link fence around the area. The RO system would be designed to process 50 gallons per minute (although the housing would be sized to allow for a larger system).

[12] *SLRMWD, SLRMWD Mission Statement. Available at: http://sanluisreymwd.com/index.php. Accessed July 9, 2012.*

- Two 10,000-gallon leachate collection storage tanks would be located in the southwestern portion of the ancillary facilities area. The collection tanks would be monitored for capacity at least once per day.
- Water discharge from the subdrain system would be collected in a 10,000-gallon holding tank in the southwest portion of the ancillary facilities area. Although greater volumes are not anticipated, if needed, additional above ground tanks would be added to collect all of the subdrain system water. Subdrain system drainage water would be reused on-site or may be discharged to the San Luis Rey River only after tests determine the water complies with the required standards of a project specific NPDES permit. Any contaminated water would be treated by the on-site RO system for on-site use or transported to an appropriate off-site disposal facility.
- The extent of the riparian areas within the landfill footprint would be marked using monuments or other markings placed by the operator, following a survey performed by a licensed surveyor.
- Water storage tanks and water trucks would be installed with a bracket to hold removable signs. A sign would be placed on each storage tank or water truck noting the source of its contents: riparian underflow, percolating groundwater, or recycled water.
- Riparian underflow would not be commingled with percolating groundwater in any water storage tank.
- Riparian underflow would not be commingled with percolating groundwater or recycled water in any water truck where discharged outside of the riparian areas. When riparian underflow and recycled water are commingled in a water truck, the signage would indicate that both types of water are present. Use of that product would then be limited to riparian portions of the landfill property.
- Each pumping well would be installed with a totalizer meter, as well as a level control to cycle the pump on and off at a rate that matches the well's production capability. The settings for the level control would be determined through aquifer testing and a sustainable yield calculation using RockWorks Drawdown Calculator software (or an equivalent method approved by the Local Enforcement Agency [LEA]).
- In order to provide ongoing verification, each pumping well would undergo a new pumping test on a biennial basis (every other year), and the sustainable yield recalculated using RockWorks Drawdown Calculator software (or an equivalent method approved by the LEA). If needed, the level controls would be re-set based on the results of the calculation of long term sustainable yield.
- In order to provide ongoing verification, an updated safe yield analysis would be undertaken on a biennial basis within each watershed, with the results compared with actual pumping rates obtained from the totalizer meters. Based on this comparison, coupled with the biennial sustainable yield analysis, a recommendation regarding additional modifications to pumping rates would be submitted to LEA for review and concurrence.
- Alluvial groundwater capture would be evaluated on a biennial basis to ensure that groundwater extracted from bedrock wells do not draw groundwater from the alluvial aquifer. Alluvial well MW-3 and proposed alluvial well GMW-2A would be used as observation wells during the initial and biennial pumping tests performed for bedrock wells GLA-3, GLA-12, GLA-13, GLA-B, GLA-C, GLA-G, and GMW-1. If drawdown is measured in the adjacent alluvial observation wells during the pumping test, the pumping rate would be adjusted so that no measurable drawdown is indicated in these alluvial observation wells.




N

0 4000 Feet

**Applicant's Proposed Alternative - Off-Site Well Locations**

**Gregory Canyon**

Source: USGS, 1988, 7.5 minute Pala Quadrangle; GeoLogic Associates, 1999; David Evans and Associates, Inc., 1999.

FIGURE

**4.9-4**

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- An alluvial observation well would be installed in the vicinity of the Area 1 and Area 3 pumping wells. Alluvial groundwater capture would be evaluated as part of the initial and biennial pump tests for the Area 1 and Area 3 bedrock pumping wells. If drawdown is measured in the adjacent alluvial observation well during the pumping test, the pumping rate would be adjusted so that no measurable drawdown is indicated in the alluvial observation well.

In addition to the above design features, the following summarizes mitigation measures that would be required under CEQA by the County with implementation of the Gregory Canyon Landfill project pursuant to a Mitigation Monitoring and Reporting Program (MMRP) adopted by the San Diego Department of Health (DEH) on May 13, 2011. As these measures would be required as part of the project, they are referred to and considered as design features in this EIS. The MMRP with the full text of the measures is included in Appendix A of this EIS.

- **DF 4.3-1a, b, and j. Groundwater Monitoring.** Monitor two production wells (downgradient SLRMWD well #34 and upgradient Lucio well #2), upgradient alluvial well GMW-3, and downgradient alluvial well GLA-16, in addition to the 13 monitoring wells, within the project boundary. Treat and dispose of impacted groundwater if detected in a monitored well. Consult with the SLRMWD concerning the number, specifications, location, and frequency of data collection at the monitoring stations.
- **DF 4.3-1c. Reporting Requirements.** Provide data collected from the groundwater monitoring program to the SLRMWD simultaneously with the RWQCB. Provide split samples to RWQCB and its consultants from any groundwater monitoring well upon reasonable notice given before the next regularly scheduled sampling to enable the SLRMWD to verify data.
- **DF 4.3-1d. Irrevocable Letter of Credit.** Prior to the commencement of Phase I, provide the SLRMWD and the other parties to the SLRMWD Agreement with an irrevocable letter of credit, which would be automatically renewed annually.
- **DF 4.3-1e. Trust Fund Administration.** Prior to commencement of project operation, establish, maintain, and administer a trust fund or third party custodial account for the benefit of the SLRMWD and the other parties to the SLRMWD Agreement.
- **DF 4.3-1f and g. Sufficient Groundwater Supplies.** Reduce diversion of groundwater if the amount of water available to users in the SLRMWD is insufficient to meet the reasonable beneficial needs of users in the SLRMWD. Identify and use an alternate water supply for construction and operation of the project if groundwater supplies become inadequate.
- **DF 4.3-1h. Water Degradation.** If construction, operation, or closing of the landfill degrades water quality of the Pala Subarea, the Applicant would be liable to the SLRMWD to the extent of degradation, including the cost of remediation or providing an alternative water supply pending permanent remediation measures to the extent necessary. Remediating the water quality or providing an alternative water supply shall be part of the closure plan and the project's cost estimate.
- **DF 4.3-1i. Closure Plan Notification.** Notify the SLRMWD and each of the parties to the SLRMWD Agreement of any request to modify or to be released from the requirements of the closure plan or the post closure maintenance plan for the project.

### 4.9.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Gregory HGEO-1: The Applicant's Proposed Alternative would withdraw sustainable quantities of groundwater and sufficient unlined area would remain on-site to facilitate recharge. Thus, the Applicant's Proposed Alternative would not result in a significant adverse effect to groundwater supplies or groundwater recharge.**

#### Groundwater Supply

Groundwater would be utilized as the primary source of water for the initial construction, operation, and closure of the Applicant's Proposed Alternative. As discussed above, the Gregory Canyon landfill site includes two sources of groundwater, riparian underflow and percolating groundwater. Riparian underflow is available only within the Gregory Canyon watershed, while percolating groundwater is available in all on-site watersheds.

Safe yield is an important concept in groundwater management. Safe yield is achieved when the amount of groundwater pumped from a particular basin balances the amount of groundwater flowing into that basin, either from groundwater flow or rainwater infiltration. Safe yield does not consider the storage capacity of the underlying basin. Similarly, sustainable yield is an important concept for individual well management. Sustainable yield is achieved at an individual well when the pumping at that well does not exceed the well's capacity to replenish groundwater within the immediate vicinity of the well. If groundwater for landfill development is withdrawn in quantities that exceed the calculated safe yield, the groundwater levels at the Gregory Canyon site could fall below current levels, thus potentially causing groundwater in nearby wells to drop to levels that would not support identified beneficial uses within the Pala Basin.

As outlined above, the Applicant's Proposed Alternative would include design features to prevent groundwater withdrawal exceeding safe yields. For instance, each groundwater well would be operated at a capacity that would not overdraft groundwater resources, as determined by a sustainable yield calculation for each well. The applicant would update sustainable yield calculations for each well on a biennial basis. Based on this calculation, a totalizer meter and level control would be installed in each groundwater well to ensure that pumping matches the well's production capacity. If the water level in the well drops below the sustainable yield as measured by the level control, the well would automatically shut off. Additionally, alluvial observation wells would be installed to ensure that no measurable drawdown is recorded in the observation wells. Further, the Applicant would reduce groundwater use if the amount of water available to users in the SLRMWD is insufficient to meet the reasonable the beneficial needs of users in the SLRMWD, as determined by technical reports prepared by the SLRMWD or other beneficial users.

With implementation of sustainable production rates and the design features described in subsection 4.9.3.2, the Applicant's Proposed Alternative would not exceed the calculated safe yield of on-site groundwater resources and would not overdraft groundwater basins. Riparian underflow available for use would vary

throughout the landfill development phases because development during the later phases would occur at the southern portion of the landfill footprint, where riparian underflow cannot legally be used. Specifically, while all riparian underflow would be available during Phase 1 development, riparian underflow available for use would decrease during Phases 2 and 3 of landfill development, when construction and operation would be occurring at the southern portion of the landfill footprint. Thus, the riparian underflow available for use would range from approximately 8,414 gallons per day (gpd) (during Phase 2 and 3) to 66,742 gpd (during Phase 1). In contrast, the estimated safe yield of percolating groundwater (in both the Gregory Canyon watershed and the other three on-site watersheds) would remain constant at approximately 41,925 gpd. When the groundwater available from riparian underflow and percolating groundwater are combined, the safe yield for on-site groundwater resources ranges from approximately 50,339 gpd to 108,667 gpd.

A detailed discussion of water supplies and water demand for each alternative is found in Section 4.16.01, Water Supply, of this EIS. With implementation of the identified design features, water demand during initial construction, operation, and closure would range from approximately 34,753 gpd to 66,785 gpd.[13] Based on these calculations, the safe yield of on-site groundwater resources would exceed water demand by at least 24 percent during the phases of development. When the availability of riparian underflow is most restricted (during Phase 2), the safe yield would total 50,339 gpd, while the water demand would be 40,617 gpd, for a safe yield surplus of 9,722 gpd. As a result, the extraction of 34,753–66,785 gpd of groundwater would not exceed safe yield quantities and would not cause the Pala Hydrologic Subarea to become overdrafted. It is important to note that initial construction was concluded to have a lower water demand than the landfill's operational phases, and thus, would also not overdraft available groundwater resources.

In conclusion, the Applicant's Proposed Alternative would implement design features as discussed herein to prevent groundwater withdrawal from exceeding safe wields and would not result in an overdraft of groundwater resources in the Pala Subarea. Thus, the groundwater level would not be lowered to a level that would not result in a significant adverse effect on the production capacity of off-site wells or the beneficial needs of other groundwater users in the Basin. Therefore, the Applicant's Proposed Alternative is not anticipated to result in significant adverse effects to groundwater supplies.

### Groundwater Recharge

Groundwater recharge at the site is by direct infiltration from precipitation or runoff from the bedrock ridges of the on-site canyons, including Gregory Canyon. The groundwater recharge would decrease slightly in the Gregory Canyon watershed as a result of the development of the landfill because the waste prism would inhibit infiltration over the footprint area. Borrow/Stockpile Areas would be located within two of the three other on-site watersheds, but the fill would not notably reduce recharge in these watersheds.[14] No development would occur in the watershed north of the San Luis Rey River, and infiltration rates in that watershed would remain unchanged. Assuming an infiltration rate of 1.6 inches per year (about 10 percent of precipitation), the Applicant's Proposed Alternative could result in an average decrease in groundwater recharge of approximately 2,960 cubic feet per day (25 AFY).[15] This amount comprises a small percentage of

[13] *San Diego County Department of Environmental Health. 2009 Addendum to the Gregory Canyon Certified Final Environmental Impact Report. Table 1: Annualized Water Demand for Scenarios 1 through 5. pg. 13. December 2009.*

[14] *Geo-Logic Associates. Evaluation of Additional Percolating Groundwater Resources on the Gregory Canyon Property, San Diego, California, pg. 4. November 2009.*

[15] *Geo-Logic Associates. Geologic, Hydrogeologic and Geotechnical Investigations Report (Appendix C of the JTD), pg. 2-12. November 2003.*

average groundwater recharge (2,165 AFY) that occurs in the Pala Subarea annually.[16] Thus, the Applicant's Proposed Alternative would not result in significant adverse effects to groundwater recharge.

### Groundwater Flow Direction

With regard to groundwater flow direction, because the landfill would be a minimum of five-feet above the highest anticipated groundwater level, the excavation for the landfill would not affect the direction of groundwater flow, which would continue to be northerly toward the mouth of Gregory Canyon. The Applicant's Proposed Project would not adversely affect groundwater flow direction within Gregory Canyon or the Pala Hydrologic Subarea.

#### Mitigation Measures

With implementation of design features, the Applicant's Proposed Alternative would not have a significant adverse effect on groundwater supplies, groundwater recharge, or groundwater flow direction. Therefore, no mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would violate any federal, state, or local groundwater quality standard or waste discharge requirements.*

**Impact Statement Gregory HGEO-2: With implementation of the environmental control systems designed to prevent pollutants from entering groundwater (i.e., hydraulic barrier components of the double liner system, LCRS, and landfill gas collection system), and groundwater monitoring system, the Applicant's Proposed Alternative would not result in the violation of any federal, state, or local groundwater quality standard or waste discharge requirements.**

### Short-Term (Construction) Impacts

Potentially hazardous materials used during initial construction, such as oils, grease, lubricants, coolant, paints, and solvents, pose a risk to groundwater if they are released to the ground. The Applicant's Proposed Alternative would implement a SWPPP prepared in accordance with California NPDES Construction General Permit requirements and using BMPs identified in the California Stormwater BMP Handbook–Construction. In accordance with SWRCB Order No. 2009-009-DWQ (NPDES Permit No. CAS000002 ), the SWPPP would be prepared in accordance with a site-specific conceptual risk analysis.[17]

Although the SWPPP is largely focused on preventing pollutants and sediment from being conveyed off-site by storm water and non-storm water flows, the SWPPP would also protect groundwater quality by requiring implementation of source control BMPs that reduce the availability of pollutants from potential hazardous materials used during construction to infiltrate to groundwater through surface water runoff. Construction BMPs would include, but are not limited to, maintaining and fueling vehicles in a designated area using drip pans or over an impermeable surface and away from any natural or manmade drainage courses. Equipment

[16] *County of San Diego Department of Planning and Land Use, General Plan Groundwater Study, Appendix D-1: Groundwater Study Appendices, Table C-57: Pala Basin. April 2010*

[17] *The NPDES General Permit establishes three levels of risk possible for a construction site (Risk Levels 1–3). Risk is calculated in two parts: 1) Project Sediment Risk, and 2) Receiving Water Risk.*

would be inspected daily for leaks and necessary repairs would be made. In addition, a spill prevention and control plan to prevent and contain any on-site spills would be implemented. In the event that groundwater is encountered during initial construction, dewatering procedures would be implemented to facilitate completion of the excavation and subdrain installation. The project site would be inspected on a weekly basis and prior to an applicable forecasted storm. Further, stormwater flows would be sampled and documented in accordance with non-visible pollutant monitoring requirements. With the implementation of BMPs targeted to control and eliminate pollutants associated with construction activities and monitoring requirements, the Applicant's Proposed Alternative would not result in a significant adverse effect on groundwater quality during initial construction.

### Long-Term (Operation) Impacts

Because construction would occur during the operating period, some of the initial construction BMPs discussed above would remain applicable during the operations phase, but to a more limited extent, since periodic construction would be limited to the landfill footprint area.

Solid waste deposited in landfills decomposes by a combination of chemical, physical, and biological processes. Physical decomposition results from the breakdown of refuse components by physical degradation and by the rinsing and flushing action of water movement. There are three phases of solid waste decomposition: (i) aerobic decomposition of organic materials, in which aerobic microorganisms degrade organic materials while oxygen is still available; (ii) acid-phase anaerobic decomposition, in which acetogenic microorganisms further degrade materials in a reduced oxygen environment; and (iii) methanogenesis decomposition, in which anaerobic decomposition involving methanognic bacteria occurs as oxygen becomes even more depleted.

As decomposition continues, a liquid known as leachate is produced. Surface water infiltration into the waste also produces leachate. In addition, landfill gas produced by the waste is another source of contaminants in leachate (see discussion below). Leachate poses a potential threat to groundwater if it is allowed to migrates beyond the landfill.[18]

State and federal regulations require new landfills to control external sources of water, such as precipitation and surface water run-on, to prevent leachate generation. The Applicant's Proposed Alternative would include redundant pollution prevention systems that exceed these state and federal regulations to address potential liquid pollutants and reduce the potential that the proposed landfill would introduce pollutants into the underlying groundwater. The components of the comprehensive pollutant prevention systems include a double composite liner and LCRS (with a storage and disposal system), a subdrain collection system, and a landfill gas and condensate collection system. These systems are in addition to required daily operating procedures, such as reducing the landfill working face to the extent feasible, applying a daily cover during and at the end of each day of operation, draining surface water off of the landfill footprint, and installing surface drainage systems to intercept stormwater before it reaches the landfill footprint. The functionality and effectiveness of each of the systems intended to contain and collect leachate are briefly

[18] *The composition of leachate changes over time. Young leachates have very high chemical oxygen demand (COD) and biological oxygen demand (BOD), high total organic compounds (TOC) and volatile fatty acids, and a low pH. Older leachates have modest COD, BOD, TOC and volatile fatty acid contents, and a higher pH level.*

described below. For a detailed description of these systems, please refer to subsection 3.2 of Chapter 3, Description of Alternatives, of this EIS.

### Double Composite Liner/Leachate Collection and Recovery System (LCRS)

GLA prepared an updated *Leachate Generation Sensitivity Analysis* (June 2012) using the HELP computer software (version 3.07). Based on the analysis, the Applicant's Proposed Alternative would have a peak annual leachate generation of 414,000 gallons, with a peak daily leachate volume of 5,700 gallons.

Leachate would be contained within the landfill by the double composite liner system, which has been designed to exceed the minimum prescriptive design standards for Class III solid waste sites as specified in 40 CFR 258.40, and to adequately contain leachate within the landfill. The double composite liner and LCRS would provide a combination of a drainage layer, the double composite liner, and a soil barrier of low permeability that would perform redundant functions. Specifically, the double composite liner would include a drainage layer (the LCRS) above high density polyethylene (HDPE) plastic geomembrane to remove the leachate before it could pond over the bottom liner. In addition, the liner system would include a low-permeability geosynthetic clay liner that would itself resist the passage of leachate should a hole occur in the overlying HDPE geomembrane. Below the geosynthetic clay liner, the liner would include another drainage layer with secondary HDPE geomembrane layers, underlain by a 24-inch low-permeability soil. The relatively impermeable character of HDPE geomembranes, inclusion of both a primary (upper) and secondary (lower) geomembrane layer in a double-composite liner system, and a drainage layer underlain by a third geomembrane, would exceed requirements and thus would increase protection compared to a single geomembrane layer in the prescriptive design.

Liner construction and inspections monitoring would be performed in accordance with a site-specific Construction Quality Assurance (CQA) plan that has been reviewed and approved by the RWQCB and LEA as part of the landfill permitting process. However, despite CQA procedures, damage to liner systems can occur during the construction of subsequent landfill components (e.g., the LCRS) and prior to receiving solid waste. Therefore, the applicant would install and test the double composite liner in a manner that would prevent leaks. For instance, as part of the final quality control for the upper geomembrane installation, an electronic leak location survey would be performed to provide quality control in the upper geomembrane layer. The survey would identify holes/anomalies that might have occurred during the placement of the liner, LCRS gravel, and/or the protective soil cover layer. Identified anomalies would be investigated and the liner would be repaired as needed prior to the placement of solid waste.

With respect to long-term performance of the liner after solid waste is being received, the double composite liner system would have an effective life that would exceed the time period in which leachate and gas would be expected to be produced in the landfill.[19] With respect to the landfill liner's ability to prevent leaks, previous studies have found that landfills with liners similar to that of Gregory Canyon's primary liner (i.e., a geomembrane/ geocomposite clay liner installed in accordance with a CQA program and overlain with a LCRS) have achieved an effectiveness of 99 to 99.9 percent.[20] Additional studies have concluded that geomembrane/geocomposite liners demonstrate leakage prevention that is several orders of magnitude

[19] *Effective life is considered to be 30 years of landfill operation, plus a 30 year post-closure period.*

[20] *Environmental Protection Agency (Bonaparte, et el.). Assessment and Recommendations for Improving the Performance of Waste Containment Systems. pg. 5-19. December 2002.*

higher than other liner types.[21] The proposed double-composite liner would exceed these performance expectations as it also includes secondary drainage and geomembrane layers beneath the primary geomembrane layer. A liner performance evaluation completed by GLA for the project found that defects in standard geomembrane liners are now infrequent and breeches are generally identified at densities of less than about 1 $cm^2$ per acre.[22] The study noted that the 80-mil primary geomembrane liner proposed for the Gregory Canyon landfill would be thicker than a standard liner, providing added resistance to punctures or damage. Given the probability that minor and relatively infrequent defects could be spatially distributed in both the primary and secondary geomembranes, it is highly unlikely that a defect in the primary geomembrane would align within 10 feet of a defect in the secondary membrane. The evaluation concluded that the transport time for leachate to travel through a 1 $cm^2$ leak in the primary geomembrane to a similar leak in the secondary geomembrane was calculated to take hundreds of years and the volume of leachate available for infiltration through the secondary geomembrane defect would be minute (less than one milliliter per year). Thus, the proposed double composite liner system would effectively prevent the leakage of leachate from the encapsulated landfill at a rate that exceeds 99 percent.[23]

With respect to potential damage during an earthquake, the landfill waste prism, the double composite liner system is designed to withstand a major earthquake occurring on the Elsinore fault without resulting in adverse effects. Please see Section 4.7, Geology and Soils, of this EIS for a discussion of potential geological effects.

The LCRS is designed to transport landfill leachate to storage tanks located in the ancillary facilities area. The LCRS would include a gravel layer and a network of leachate collection pipes to collect and convey leachate by gravity flow to the mouth of the canyon to be discharged into two, double-walled collection tanks. The leachate storage tanks would be routinely monitored by the operator in accordance with the site specific WDRs. If liquid were detected during routine monitoring, a grab sample would be taken and analyzed in accordance with the WDRs. Leachate collected in storage tanks would be transported off-site for treatment and disposal at a licensed wastewater treatment facility.

A gravel or equivalent drainage layer (with collection pipes) is proposed beneath the LCRS, geosynthetic clay liner, and secondary geomembrane. This drainage layer would collect leachate that potentially infiltrated through defects in the overlying liner components and provides another component in the liner system that can be used for leak detection.

However, in the unlikely event that a leak occurs in the double composite liner, the underlying subdrain system, discussed below, would capture the liquid and support characterization.

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[21] *R. Kerry Rowe, et al., Systems Engineering the Design and Operation of Municipal Solid Waste Landfills to Minimize Contamination of Groundwater, pg. 8. 2009.*

[22] *Liner Performance Evaluation, Proposed Composite Liner System, GLA, April 2004 (contained in Appendix H of the JTD).*

[23] *This calculation assumed that the maximum leachate head calculated by HELP analyses remains on the liner (3 inches or 0.25 feet) and assuming that the two geomembrane leaks are separated horizontally by 10 feet,*

### Subdrain System

A subdrain system would be installed as part of the waste containment systems and would be located below the lowest layer of the double composite liner and LCRS. The subdrain system would serve two purposes. First, for the proposed landfill liner configuration, even in the unlikely event that leachate were to migrate through the double composite liner, on the floor areas it will encounter the subdrain system.[24] In this manner, leachate that might penetrate the five containment layers of the double composite liner system would be captured by the underlying subdrain system, prior to reaching the fractured bedrock formation beneath the landfill footprint. Secondly, the subdrain system would prevent groundwater from coming into contact with the double composite liner system.

The subdrain system for the Applicant's Proposed Alternative would be placed beneath the double composite liner and would consist of a one-foot thick gravel blanket and gravel filled trenches with slotted collector pipes in the landfill floor areas. The floor subdrain system is designed so that the highly permeable gravel and the collector pipes can convey over a million gallons of liquid per day. A geotextile layer would separate the subdrain gravel layer from the low-permeability soil layer on the landfill floor to prevent the floor subdrain system from clogging with subgrade soil.

The subdrain system would also address groundwater seeps that may be encountered within the landfill footprint on the landfill side slopes. Seeps encountered above the active development areas would be directed into the perimeter surface water control system (i.e., perimeter channels). In this event, the design also includes provisions for a subdrain system beneath the double composite liner in slope areas. The seeps would be measured for flow volume design the subdrain collector. Once liner construction reaches the observed seep elevation, a localized subdrain collection feature would be installed. The subdrain system would maintain the separation of five feet between the refuse and groundwater required by federal regulations (40 CFR Subtitle D 58).

Although no groundwater is anticipated to accumulate in the subdrain system, if liquid were observed in the subdrain storage tanks, a sample of the liquid would be collected and the subdrain system would be monitored for the presence of leachate in accordance with the WDR parameters. Impacted groundwater identified would be treated in accordance with the agreement between the applicant and the SLRMWD. If warranted by sampling efforts, liquid collected in the storage tanks would be treated by the RO water treatment system. The RO system would remove TDS and would include a granular activated carbon (GAC) system to remove VOCs, which are generally the constituents associated with Class III landfills that require removal and treatment from groundwater.[25]

The RO system has the capability to treat 50 gpm. The RO system creates two effluent streams, the reduced TDS water that passed through the RO membrane (clean water) and the elevated TDS solution (brine) that remains on the feed side of the RO membrane. If necessary, the effluent (clean water) would be stored in a

[24] *A release of leachate or landfill gas condensate would likely contain a variety of inorganic and organic compounds. Typically, landfill-generated leachate and condensate contain numerous chlorinated aliphatic and aromatic organic compounds. The most commonly detected of these include tetrachloroethene (PCE), trichloroethene (TCE), isomers of dichloroethene (DCE) and dichloroethane (DCA), vinyl chloride, and aromatic compounds such as benzene, toluene, ethylbenzene, and xylenes (collectively, BTEX compounds).*

[25] *The GAC would be used in the event of a release and implementation of a CAP under the reasonably foreseeable release scenario.*

tank and then discharged into the San Luis Rey River or used on site and would meet a standard of 500 mg/L of TDS or a standard as set by the RWQCB for discharge to the San Luis Rey River. The brine would be collected in a tank and hauled off site for disposal at a licensed facility. Please see Section 4.16.2, Wastewater, of this EIS, for a discussion regarding off-site treatment.

### Landfill Gas

Another source of potential groundwater impacts is from landfill gas produced by the waste. The landfill gas generated at the site would be collected in the landfill gas collection and control system and monitored (please see Section 4.3, Air Quality and Greenhouse Gasses, for an analysis of emissions). However, upon exiting the refuse prism, landfill gases may also impact groundwater in two ways. Where groundwater is relatively shallow, landfill gases may mix directly with groundwater. More commonly, warm landfill gases migrate to the cooler vadose zone and the water vapor associated with the landfill gas condenses to the liquid phase carrying with it some VOC components. Once condensed, these landfill constituents may migrate vertically downward through the unsaturated zone to groundwater, following a similar migration pathway as the leachate generated by the landfill.

However, the Applicant's Proposed Alternative would collect landfill gas and contain and treat landfill gas condensate. In addition, the Applicant's Proposed Alternative would contain a subdrain system and several barrier layers to keep groundwater from contacting the landfill, thus the direct mixing of landfill gas and groundwater is not anticipated. As with other potential pollutants in leachate, the placement of cover materials, the proposed double composite liner system and LCRS would serve to limit landfill gas condensate migration into the underlying groundwater. Leachate (including landfill gas condensate) in the leachate collection tanks would be treated at a licensed off-site facility. VOCs are the pollutant of concern with landfill gas condensate. Thus, in the unlikely event that leachate (including any landfill gas condensate) were detected in the collection tanks for the subdrain system, the RO system (with GAC system) would be used to treat landfill gas condensate. Therefore, landfill gas condensate from the Applicant's Proposed Alternative would not result in an adverse effect on groundwater quality or discharge requirements.

### Groundwater Monitoring Program

In addition to the systems discussed, the Applicant's Proposed Alternative would include a groundwater monitoring program to document that the above-described containment systems are operating properly. The groundwater monitoring program at the site would be implemented in accordance with state water protection requirements, including the establishment of monitoring systems for the groundwater and background and compliance monitoring points for each medium. In accordance with 27 CCR, Section 20410, the applicant would continue monitoring groundwater until the Applicant's Proposed Alternative demonstrates continuous compliance with the site's established water standard for three consecutive years. The compliance period for the Applicant's Proposed Alternative is the active life of the site, anticipated to be 30 years based on the projected inflow rate plus the minimum 30-year post-closure maintenance period, or a minimum total of 60 years.

Figure 4.9-5, *Applicant's Proposed Alternative - Groundwater Monitoring Network*, shows the proposed groundwater monitoring network. The final configuration of the groundwater monitoring network for the Applicant's Proposed Alternative would include 14 fractured bedrock wells, six weathered bedrock wells,

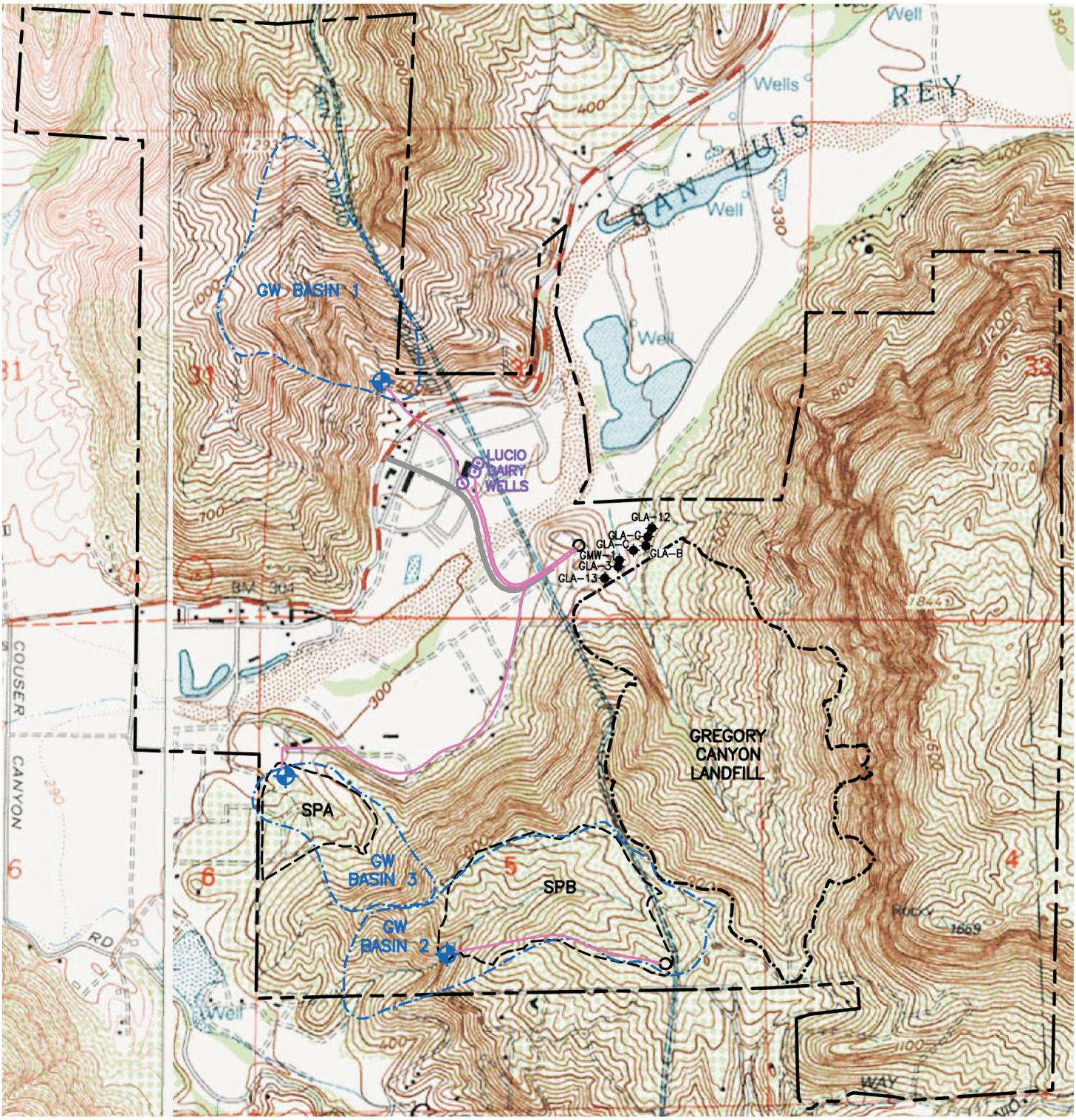
and three alluvial wells (see Table 3-5 in subsection 3.2.1.4, Groundwater Monitoring, in Chapter 3 of this EIS). In addition, the groundwater monitoring network would include two alluvial "sentry" wells, downgradient of the point of compliance to detect impacted groundwater prior to reaching the San Luis Rey River.

The groundwater monitoring wells would be sampled on a quarterly basis in accordance with site-specific WDRs issued by the RWQCB. The results of the sampling and testing would be simultaneously submitted to the SWRCB and the RWQCB. In addition, as part of the groundwater monitoring program, the applicant would provide continuous pumping of monitoring wells in the fractured bedrock at the northern end of the landfill. The continuous pumping would provide for substantial capture before any contaminants could reach the alluvial aquifer in the unlikely event of a leak in the landfill liner, and would be already operational at the time of any hypothetical release of contaminants through the double composite liner system.

### Potential Leak in the Liner

As discussed above, while the liner system is considered to be at least 99 percent effective, in the unlikely event that a leak should develop in each of the hydraulic barrier components of the double composite liner, the subdrain system would collect the leachate. In the unlikely event that these two systems fail, potential contamination would be detected by the proposed groundwater monitoring program. The groundwater monitoring program would be designed to provide the earliest indication of a release in a downgradient monitoring well so that corrective measures can be implemented as necessary, to prevent impacts to the San Luis Rey aquifer.

If contamination were detected in a monitoring well located adjacent to the landfill and/or in a downgradient production well, and its source is believed to be the landfill, the landfill operator would be responsible for treatment of the contaminated groundwater in accordance with the proposed mitigation measures. Upon determination that there is evidence of a release, the discharger (i.e., operator) must make a verbal notification to the RWQCB immediately and provide written notification by certified mail within seven days. As mandated by law (CCR Title 27, Sections 20425 and 20430), if a landfill release is detected, the applicant shall implement an Evaluation Monitoring Program (EMP) and a Corrective Action Plan (CAP), under the regulatory guidance of the RWQCB. Within 90 days of determining a release, a report of waste discharge must be submitted to the RWQCB, including a detailed description of the measures to be taken as part of the EMP. Within 180 days of determining a release, an initial engineering feasibility study (EFS) for a CAP must be submitted to the RWQCB providing a detailed description of the measures that could be taken for the CAP. The EMP shall be used to assess the nature and extent of the release and to design the CAP. The CAP would consist of engineering measures aimed at achieving the water quality standards set by the RWQCB, and in accordance with the appropriate permitting agencies. These engineering measures would include common remediation technologies used in the treatment of groundwater affected by landfills. Common remediation technologies can be grouped into four major categories: source control (e.g., placement of cover, landfill gas extraction), plume containment (e.g., barriers, hydraulic controls), mass reduction methods (e.g., pump-and-treat, soil vapor extraction), in-situ attenuation of contaminants (e.g., bioremediation, funnel-and-gate treatment "curtains", air sparging, natural attenuation). These remediation technologies are often combined to form a comprehensive remediation program to address the high diversity in the level and type of contaminants and hydrogeologic conditions specific to the site.




REFERENCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC) PALA (1997) AND BONSALL (1975) CALIFORNIA QUADRANGLES

EXPLANATION:

- PERCOLATING GROUNDWATER WELL
- RIPARIAN GROUNDWATER WELL
- PROPOSED PERCOLATING GROUNDWATER WELL
- WATER TANK(S) LOCATION
- PROPOSED PIPELINE ROUTE
- ACCESS ROAD
- STOCKPILE AREA BOUNDARY
- APPROXIMATE LIMIT OF GROUNDWATER BASIN
- LANDFILL LIMIT
- PROPERTY BOUNDARY

N

0 1800 Feet

**Applicant's Proposed Alternative - Groundwater Monitoring Network**

**Gregory Canyon**

Source: Geo Logic Associates, 2009.

FIGURE

**4.9-5**

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Although highly unlikely, in the event that leachate passes through the proposed redundant containment systems, a technical memorandum prepared by Dr. Huntley, Professor Emeritus of Geological Sciences at San Diego State University, found that the volume of flow in the bedrock formation is significantly less than the volume of flow in the alluvial aquifer. Thus, the potential contaminants would be reduced by 95 percent over a distance of approximately 50 feet, and it would take several years for potential contaminants to reach the San Luis Rey alluvial aquifer, providing adequate time for a CAP to be implemented and address contaminants.[26] The natural attenuation processes such as absorption into clay surfaces and biodegradation would also serve to decrease contaminant concentrations to background levels over a distance of a few thousand feet, even without the benefit of a CAP.

### Use of Recycled Water

As discussed in detail in Section 4.16.1, Water Supply, of this EIS, the applicant has entered into a contract with the San Gabriel Valley Water Company (SGVWC) to supply recycled water to the landfill site. A separate storage system for recycled water would be installed on site. The recycled water would be stored in a 20,000-gallon storage tank with a secondary containment area constructed of impervious materials that would accommodate the entire volume of the tank.

The percolation of recycled water, if used on unlined portions of the landfill, could adversely affect groundwater quality if the recycled water were to contain pollutants. However, the recycled water purchased from SGVWC would consist of Title 22 tertiary effluent purchased from the Upper San Gabriel Valley Municipal Water District (USGVMWD), and processed at the Whittier Narrows Water Reclamation Plant (WRP), which is owned and operated by a consortium of sanitation districts including the Los Angeles County Sanitation District.[27] SGVWC obtains the recycled water through a purchase agreement with USGVMWD. As recycled water would be treated in accordance with LARWQCB, state, and local standards, it would not introduce pollutants into the groundwater of the Pala Hydrologic Subarea. Further, the approved use of recycled water on the site by the San Diego RWQCB would prevent the use of impacted recycled water on the site. Therefore, the use of recycled of recycled water under the Applicant's Proposed Alternative would not adversely affect groundwater quality or discharge standards.

### Conclusion

As discussed above, the double composite liner, LCRS, and landfill gas collection system included as part of an environmental control systems under the Applicant's Proposed Alternative create a redundant environmental control system. Liner systems such as those proposed under the Applicant's Proposed Alternative have proven efficiencies of at least 99 percent in the capture and removal of leachate (and landfill gas condensate) before it can leak from the landfill. In the unlikely event that a leak were to occur through the liner system, the subdrain would collect the liquid as well as any groundwater which comes into contact with the subdrain layer. Liquid collected by the subdrain would be tested for the presence of naturally occurring or landfill contaminants and treated by the RO system, if determined necessary. Effluent water from the RO system would be either released into the San Luis Rey River in accordance with RWQCB requirements or treated at a licensed off-site facility. Further, the groundwater monitoring system would

[26] *Dr. David Huntley Technical Memorandum. June 24, 2009.*

[27] *Operation of the Whittier Narrows WRP is governed by Los Angeles Regional Water Quality Control Board (LARWQCB) Order No. R4-2009-0077, NPDES No. CA0053716. Recycled water standards are set forth in LARWQCB Order No. R4-2009-0077.*

document that the containment systems are operating properly and that pollutants are not entering the underlying groundwater. The monitoring system would provide early detection for the landfill operator and appropriate regulatory agencies. In the unlikely event that a leak was to occur, the operator would be required to remedy the situation though the implementation of an EMP and/or CAP. With the redundant systems proposed, the Applicant's Proposed Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements.

Mitigation Measures

With implementation of the design features and federal, state, and RWQCB requirements, no significant adverse effects regarding groundwater quality would occur. No mitigation measures are proposed.

## 4.9.4 NO FEDERAL ACTION ALTERNATIVE

### 4.9.4.1 Affected Environment

The No Federal Action Alternative generally represents existing conditions at the Gregory Canyon site. Therefore, the affected environment for the No Federal Action Alternative is the same as that for the Applicant's Preferred Alternative. Refer to subsection 4.9.3.1 for a detailed description of the affected environment for hydrogeology at the Applicant's Proposed Alternative site.

### 4.9.4.2 Design Features

Under the No Federal Action Alternative, the property would not be developed and a conservation bank would be created. The conservation bank would include removal of invasive species and vegetation planting on the site. Activities that would occur under the No Federal Action Alternative would meet applicable regulatory requirements.

### 4.9.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement No Federal Action HGEO-1: As groundwater infiltration rates would remain essentially unchanged and any groundwater withdrawal would be limited under the No Federal Action Alternative, no adverse effect is expected to groundwater supplies or groundwater recharge.**

Under the No Federal Action Alternative, the site would remain generally unoccupied. Riparian underflows and groundwater percolation would not be altered. Groundwater from the existing wells would be used for the irrigation of the conservation bank; however, the quantity of groundwater required would be small when compared to the development of an on-site landfill. As the No Federal Action Alternative would use quantities of groundwater well below safe yield volumes and the Pala Hydraulic Subarea is not currently in a

state of overdraft, the No Federal Action Alternative would not result in an adverse effect with respect to groundwater supplies.

While minor grading would take place for the conservation bank, there would be no change in the amount of impervious surfaces on the site when compared to the overall site area, and thus, there would be no change in the amount of infiltration that would occur. Therefore, under the No Federal Action Alternative, there would be no adverse effect with respect to groundwater supply and groundwater recharge.

Mitigation Measures

The No Federal Action Alternative would not result in significant adverse effects with respect to groundwater supply and groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would violate any federal, state, or local groundwater quality standard or waste discharge requirements.*

**Impact Statement No Federal Action HGEO-2: The No Federal Action Alternative would likely use limited herbicides and pesticides in accordance with applicable regulations regarding a conservation bank. Therefore, the No Federal Action Alternative would not violate any federal, state, or local groundwater quality standard or waste discharge requirements.**

Under the No Federal Action Alternative, a landfill would not be constructed. Minor grading would take place for a conservation bank. Some herbicides and pesticides would likely be used for the conservation bank to control invasive plant species. However, these substances would be used in accordance with federal and state regulations, as well as with manufacturer recommendations, and would not be used in quantities that would be anticipated to effect groundwater quality. Further, the use of these materials would be in reduced quantities when compared to historical agricultural uses on the site. Groundwater in the fractured bedrock would continue to contain TDS and nitrate (as nitrate) at levels above the upper state MCLs, with downgradient wells exhibiting higher concentrations of these COCs. Alluvial groundwater would also likely continue to exceed federal and state, and occasionally local basin objectives, for TDS and nitrate (as nitrogen). However, the No Federal Action Alternative would not result in a change in groundwater quality at the site. Therefore, the No Federal Action Alternative is not anticipated to result in an adverse effect with respect to groundwater quality standards or waste discharge requirements.

Mitigation Measures

The No Federal Action Alternative would not result in an adverse effect with respect to groundwater quality. No mitigation measures are proposed.

## 4.9.5 ASPEN ROAD ALTERNATIVE

### 4.9.5.1 Affected Environment

The Aspen Road Alternative site is primarily underlain by igneous rock classified as a gabbro, covered by a thin veneer of alluvium/colluvium in the bottom of canyons and along the lower slopes. The gabbro

encountered at the Aspen Road site varies from fresh to extremely weathered, with the latter dominant at shallower depths.

The Aspen Road Alternative site is located within the Santa Margarita Hydrologic Unit. The intermittent drainage on the site flows southward and is a minor tributary to an unnamed stream that joins Rainbow Creek, which is located over 1,000 feet southwest of the site. Rainbow Creek drains westerly into Santa Margarita River, which is a source of groundwater recharge for Camp Pendleton in the Santa Margarita Coastal Basin. Based on the USEPA 2006 Waterbody Report, Rainbow Creek is designated as an impaired water body for iron, sulfates and total dissolved solids (TDS) pursuant to Clean Water Act Section 303(d).[28] Total Maximum Daily Loads (TMDLs) are cited as being needed but currently have not been recorded by the USEPA to address these impairments.

The Santa Margarita Hydrologic Unit encompasses an irregularly shaped area of about 750 square miles. The hydrologic unit includes portions of Camp Pendleton as well as the population centers of Murrieta, Temecula and part of Fallbrook. The Santa Margarita Hydrologic Unit is subdivided into nine hydrologic areas, which are the Ysidora, DeLuz, Murietta, Auld, Pechanga, Wilson, Cave Rocks, Aguanga, and Oakgrove Hydrologic Areas. The DeLuz Hydrologic Area, in which the Aspen Road Alternative site is located, is further divided into three hydrologic subareas, the DeLuz Creek, Gavilan, and Vallecitos Hydrologic Subareas. The Aspen Road Alternative site is located within the Gavilan Hydrologic Subarea, which is approximately 28,956 acres in size. Existing beneficial uses identified by the RWQCB Basin Plan for groundwater in the DeLuz Hydrologic Area include municipal, agricultural, and industrial purposes. No operational public supply wells operate within the De Luz Hydrologic Area, but a number of private wells exist within the area. Well production is limited by aquifer characteristics; current groundwater pumping is estimated at approximately 600 AFY.[29]

The Aspen Road Alternative site encompasses a canyon drainage that is bowl-like in the upper, northerly reaches becoming constricted at the lower south end. Similar to the Gregory Canyon site, two sources of groundwater exist at the Aspen Road site, bedrock groundwater and alluvial groundwater. According to previous technical documents prepared by Geotechnical Consultants, Inc. (GCI), groundwater within the bedrock aquifer discharges to a spring located at the mouth of Aspen Road Canyon (GCI, 1990). Discharge at the spring was estimated to range from two to three gpm in April 1989 to approximately one gpm in October 1989.

Groundwater within the weathered gabbro was encountered at depths between 50 to 60 feet below ground surface; however, the active spring indicates shallow groundwater may be present in some areas. Borings were not advanced beneath the weathered gabbro to evaluate groundwater resources within the unweathered fractured rock beneath the site. Shallow alluvial/colluvial deposits were present immediately downstream of the active spring, and GCI concluded that groundwater within the alluvium/colluvial deposits is likely sourced by the spring as well as the moderate surface flow along the tributary drainage east-northeast of the spring. Borings advanced downstream of the spring encountered groundwater in the alluvial aquifer at depths of 7 to 20 feet below ground surface.

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[28] *Environmental Protection Agency. 2006 Waterbody Report for Rainbow Creek. Available at: http://ofmpub.epa.gov/tmdl_waters10/attains_waterbody.control?p_list_id=CAR9022200019980803102333&p_cycle=2006&p_state=CA&p_report_type=T Accessed July 11, 2012.*

[29] *County of San Diego, Santa Margarita River Watershed Management Plan. Pg. 16. March 2005.*

Previous technical reports prepared for the North County Class III Landfill (GCI, 1990) evaluated the feasibility of utilizing underlying groundwater as a potential resource for the Aspen Road landfill. Above the active spring, the bedrock groundwater is a thin, slow moving feature that exists within weathered bedrock. As demonstrated during aquifer testing performed on monitoring wells installed within the alluvial/colluvial deposits and the weathered bedrock, the aquifer materials were incapable of transmitting water to the wells in usable quantities. Below the spring, where a monitoring well was constructed within the shallow alluvial deposits, a yield of 5 gpm was sustainable for a short time period. However, the alluvium in this area is a relatively small geologic unit that would become dewatered (e.g., has sufficient storage capacity and would not be capable of providing a consistent yield of economically viable quantities of water to support the construction or operation of a landfill) by any extended effort to extract groundwater, even at modest pumping rates of 5 to 10 gpm. GCI concluded that the groundwater identified beneath the Aspen Road site is not a developable resource, and would not be adequate to serve the needs of a landfill. Thus, on-site groundwater within the alluvial/colluvial deposits and weathered bedrock would not be sufficient for use at the Aspen Road Alternative site.

As mentioned above, the Aspen Road Site is located within the De Luz Hydrologic Area. A key issue within the De Luz Hydrologic Area is the lack of data to adequately characterize the groundwater quality. The limited available data indicate that groundwater TDS and nitrate concentrations may represent an issue of concern.[30] With respect to groundwater quality on the Aspen Road site, previous investigations on the site have found groundwater at the site to be slightly alkaline, with a TDS concentration of 450 mg/L.[31] The state has recommended that the TDS concentration be no greater than 500 mg/L in drinking water supplies. However, given the higher level of naturally occurring TDS in the Gavilan Basin Subarea, the RWQCB Basin Plan establishes a TDS objective of 750 mg/L.[32] Upon review of the general minerals analyses, nitrate was found at the site at concentrations of 13mg/L mg/L. This slightly exceeds the nitrate objective of 10 mg/L established in the RWQCB Basin Plan and the State Primary MCL of 10 mg/L.

### 4.9.5.2 Design Features

As with the Applicant's Proposed Alternative, the Aspen Road Alternative would be designed to meet regulatory requirements. With respect to groundwater quantity, previous technical documents concluded that groundwater resources in and around the landfill site are inadequate to support the construction and operation of a landfill. Thus, the Aspen Road Alternative would not utilize groundwater for operations at the site, and the alternative would not require design features intended to prevent overdraft of underlying groundwater resources.

With the respect to groundwater quality, in accordance with RWQCB requirements (as authorized by CCR Title 27, Chapter 4, Article 4), the Applicant would be required to obtain a WDR and associated operating permits. In accordance with 40 CFR 258.40, the Aspen Road Alternative would install a single composite liner to contain leachate in compliance with the design standards for a Class III solid waste landfill. The liner would be overlain by a LCRS that would be designed to capture double the amount of leachate generation anticipated from the site. Similar to the Applicant's Proposed Alternative, leachate collected in the LCRS

[30] *County of San Diego, Santa Margarita River Watershed Management Plan. Pg. 32. March 2005.*

[31] *County of San Diego Department of Public Works Solid Waste Division, Draft Environmental Impact Report/Environmental Impact Statement for the Proposed North County Class III Landfill. pg. 4-18. January 1990.*

[32] *San Diego Regional Water Quality Control Board, San Diego Region Basin Plan, Table 3-3: Water Quality Objective. September 1994.*

would be conveyed and stored in on-site storage tanks. Leachate would be treated off-site at a licensed facility in accordance with applicable regulations. The Aspen Road Alternative would include a subdrain that would provide the minimum required five-foot separation between groundwater and the bottom liner of the landfill, in accordance with 40 CFR Subtitle D 258 and CCR Title 27 regulations. As with the Applicant's Proposed Alternative, the Aspen Road Alternative would include a groundwater quality monitoring system to document the environmental control systems are operating properly and that pollutants are not entering groundwater supplies. Should contaminants be identified by the groundwater monitoring system, the applicant would implement an EMP and/or a CAP, under the regulatory guidance of the RWQCB.

### 4.9.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Aspen HGEO-1: The Aspen Road Alternative landfill would not utilize groundwater and would occupy a small portion of the Gavilan Hydrologic Subarea. Therefore, no significant adverse effect on groundwater supplies or groundwater recharge would occur with implementation of the Aspen Road Alternative.**

Due to the limited presence of groundwater underlying the Aspen Road site, groundwater would not be used in the initial construction, operation, and closure of the Aspen Road Alternative. Therefore, the Aspen Road Alternative would not withdraw groundwater for construction or operation, and the alternative would not result in an adverse effect with respect to groundwater supplies in the Gavilan Hydrologic Subarea.

Similar to the Applicant's Proposed Alternative, development of the landfill would effectively create an impervious layer that would reduce the infiltration of precipitation through the soil layers. The approximately 165-acre landfill footprint would constitute a negligible portion (0.6 percent) of the recharge area of the 28,956-acre Gavilan Subarea, and an even smaller portion of the larger overall Santa Margarita Hydrologic Unit. Therefore, any reduction in infiltration would not result in significant adverse effect with respect to groundwater recharge.

With regard to groundwater movement, landfill construction would alter the existing groundwater setting. Specifically, the geologic units through which groundwater migration is occurring would be removed by excavation for the landfill. This, combined with requisite surface drainage controls around any landfill development, would alter the identified groundwater environment beneath Aspen Road Canyon. As with the Applicant's Proposed Alternative, a subdrain system would be installed in accordance with applicable regulations. The subdrain system would be designed and implemented to maintain natural groundwater flow conditions so that the subdrain system would operate properly and effectively. Therefore, the Aspen Road Alternative would not result in a significant adverse effect with respect to groundwater movement.

In summary, the Aspen Road Alternative would not utilize groundwater in the construction and operation of the landfill and would not substantially reduce infiltration rates in the groundwater basin. Therefore, the

Aspen Road Alternative would not result in significant adverse effects with respect to the depletion of groundwater supplies or groundwater recharge.

Mitigation Measures

The Aspen Road Alternative would not result in significant adverse effects with respect to groundwater supplies and groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would violate any federal, state, or local groundwater quality standard or waste discharge requirements.*

**Impact Statement Aspen HGEO-2: Since the Aspen Road Alternative would be developed in accordance with applicable regulations and design features to prevent groundwater contamination, no significant adverse effect would occur with respect to federal, state, or local groundwater quality standard or waste discharge requirements.**

### Short-Term (Construction) Impacts

Similar to the Applicant's Proposed Alternative, in accordance with federal, state, and local regulations, the Aspen Road Alternative would implement a SWPPP during initial construction that is prepared in accordance with NPDES General Permit requirements and the California Stormwater BMP Handbook–Construction. The BMPs would be site-specific and would be designed to prevent pollutants from entering groundwater flows. With the implementation of BMPs and construction monitoring, initial construction would not result in the exceedance of any water quality standards or waste discharge requirements, and would not result in a significant adverse effect on groundwater quality.

### Long-Term (Operation) Impacts

Leachate generation rates at the Aspen Road site would be similar to those at the Gregory Canyon site because the landfill is located in an area with similar climatic conditions, the types of solid waste received would be similar, and because daily and intermediate soil cover would be also required at the Aspen Road site per federal and state regulations.[33] Standard mechanisms based on federal, state, and local regulations would be implemented to prevent landfill constituents (including leachate and landfill gas condensate) from entering groundwater. For instance, the Aspen Road Alternative would include environmental control systems to capture leachate and prevent groundwater contamination. These systems would include a single landfill liner and LCRS, a subdrain system, and a landfill gas and condensate collection system. A groundwater monitoring network would also be implemented. The liner system and LCRS would be designed to accommodate anticipated leachate flows in accordance with applicable regulations. The Aspen Road Alternative would consist of a single liner, whereas the Applicant's Proposed Alternative includes a double liner system. Nonetheless, as discussed above in Subsection 4.3.3.3, even single primary liners (i.e., a geomembrane/geosynthetic clay liner installed in accordance with a CQA program and overlain with a LCRS)

[33] *Although leachate generation rates are anticipated to be similar to the Applicant's Proposed Alternative, the HELP (v 3.07) leachate generation modeling software incorporates a number of site-specific data factors that would ultimately determine leachate generation rates at the Aspen Road landfill.*

have achieved an effectiveness of 99 to 99.9 percent.[34] Thus, the single liner under this alternative would still effectively prevent the leakage of leachate from the encapsulated landfill at a rate of 99 percent or better. With respect to long-term performance, the single liner system would be effective at preventing leaks from the landfill, but not to the same extent as the Applicant's Proposed Alternative. Additionally, the liner would be designed to not be adversely affected by the design earthquake. While the Aspen Road Alternative would not include an RO system to treat contaminated water on-site, water collected by the subdrain system would be treated or discharged in accordance with RWQCB requirements. Lastly, as with the Applicant's Proposed Alternative, if a landfill leak is detected, the operator would be required to implement an EMP and a CAP, under the regulatory guidance of the RWQCB. For a full description of how each of these systems operates to contain leachate and prevent groundwater contamination, please refer to the discussion of the Applicant's Proposed Alternative.

In conclusion, although the Aspen Road Alternative would incorporate a single composite liner, the environmental control systems incorporated into the Aspen Road Alternative per federal, state, and RWQCB requirements would prevent groundwater contamination at the Aspen Road Alternative site. Therefore, the Aspen Road Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements.

Mitigation Measures

With implementation of the design features and federal, state, and RWQCB requirements, including the implementation of environmental control systems and a groundwater monitoring network, the Aspen Road Alternative would not result in significant adverse effects to groundwater quality. No mitigation measures are proposed.

## 4.9.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.9.6.1 Affected Environment

The Gopher Canyon Road Alternative site is underlain by crystalline igneous rock classified as gabbro. The gabbro is likely covered by a thin veneer of alluvium/colluvium in the bottom of canyons and along the lower slopes. The estimated depth to competent rock in the Gopher Canyon Road Alternative site is approximately 15 feet below grade. The primary canyon on the site drains to the north and is west of and adjacent to the Vista Valley Country Club golf course in the south fork of Gopher Canyon. No USGS-designated blue line drainage is present at the site; however, a blue line drainage is located to the east of the site within the South Fork of Gopher Canyon.

As with the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative site is also located within the San Luis Rey Hydrologic Unit. For a discussion of the San Luis Rey Hydrologic Unit, please see Subsection 4.9.3.1, Affected Environment, above. The site is located in the Lower San Luis Hydrologic Area, which is subdivided into the following six hydrologic subareas: Mission, Bonsall, Moosa, Valley Center, Woods, and Rincon. The site is located in the Bonsall Hydrologic Subarea, which is approximately 65,494 acres in size. Groundwater in this subarea moves from east to west. The primary source of recharge in the Bonsall

[34] *Environmental Protection Agency (Bonaparte, et el.). Assessment and Recommendations for Improving the Performance of Waste Containment Systems. pg. 5-19. December 2002.*

Hydrologic Subarea is flow from the San Luis Rey River. The Subarea has an estimated storage capacity of 25,000 acre feet.

Well production capacity within the Bonsall Hydrologic Subarea ranges from 400 to 1,100 gpm, with an average estimated production capacity of 750 gpm.[35] The depth to groundwater is estimated to be less than 50 feet in the central canyon flow line, with groundwater substantially deeper over the remainder of the site. Based on USGS calculations, the estimated sustainable yield in the Bonsall Hydrologic Subarea is 5,400 AFY. Existing beneficial uses identified by the RWQCB in the Lower San Luis Hydrologic Area include municipal, agricultural, and industrial purposes.

### 4.9.6.2 Design Features

As with the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative would comply with applicable federal, state, and local regulatory requirements. Groundwater would be utilized in the initial construction, operation, and closure of landfill activities at the Gopher Canyon Road Alternative site. Per regulations, groundwater would be utilized where legally permitted under applicable groundwater regulations and adjudications in the Bonsall Hydrologic Subarea. As with the Applicant's Proposed Alternative, groundwater would be sustainably withdrawn to prevent overdraft in the Bonsall Hydrologic Subarea through the installation of totalizer meters and level controls with automatic shut-off switches in on-site groundwater wells. The settings for the level controls would be determined through pump testing and safe/sustainable yield calculations that would be completed prior to the start of landfill construction. In order to provide ongoing verification, each pumping well would undergo a new pumping test on a biennial basis (every other year), and the safe yield and sustainable yield would be recalculated using appropriate software.

In accordance with RWQCB requirements (as authorized by CCR Title 27, Chapter 4, Article 4), the applicant would be required to obtain a WDR and associated operating permits. In accordance with 40 CFR 258.40, the Gopher Canyon Road Alternative would install a single composite liner to contain leachate in compliance with the design standards for a Class III solid waste landfill. The liner would be overlain by a LCRS that would be designed to capture double the amount of leachate generation anticipated from the site. Similar to the Applicant's Proposed Alternative, leachate collected in the LCRS would be conveyed and stored in on-site storage tanks, and trucked off site for treatment at a licensed facility in accordance with applicable regulations. The Gopher Canyon Road Alternative would include a subdrain that would provide the minimum required five-foot separation between groundwater and the bottom liner of the landfill, in accordance with 40 CFR Subtitle D 258 and CCR Title 27 regulations. As with the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative would include a groundwater quality monitoring system to document the environmental control systems are operating properly and that contaminants are not entering groundwater. In the event that contaminants were identified by the groundwater monitoring system, the operator would implement an EMP and/or a CAP, under the regulatory guidance of the RWQCB.

[35] *Geo-Logic Associates. Joint Technical Document for the Gregory Canyon Landfill. Table 12B: Summary of Aquifer Characteristics in the Vicinity of the Project Site. pg. D.5-3.*

### 4.9.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Gopher HGEO-1: The Gopher Canyon Road Alternative would implement design features to limit groundwater withdrawal to sustainable levels and would occupy a small portion of the Bonsall Hydrologic Subarea. Therefore, the Gopher Canyon Road Alternative would not result in a significant adverse effect with respect to groundwater supplies or groundwater recharge.**

Groundwater underlying the Gopher Canyon Road Alternative site would likely be used in the initial construction, operation, and closure of the landfill. Similar to the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative would include design features to maintain a safe yield of groundwater and prevent overdraft from the Bonsall Subarea. As with the Applicant's Proposed Alternative, safe yield of the Bonsall Subarea would be accomplished through the installation of totalizer meters and level controls with automatic shut-off switches in on-site groundwater wells. The level controls would automatically shut down a well if drawdown exceeds the calculated sustainable yield of the well. The settings for the level control would be determined through pumping tests and a sustainable yield calculation. Therefore, the Gopher Canyon Road Alternative would not result in a significant adverse effect with regard to the production capacity of off-site wells or the beneficial needs of other groundwater users in the Basin.

Similar to the Applicant's Proposed Alternative, development of the landfill would create an impervious layer that would reduce the infiltration of precipitation through the soil layers. The approximately 180 acre landfill footprint would constitute a small portion (0.3 percent) of the recharge area of the 65,494-acre Bonsall Subarea, and an even smaller portion of the larger overall San Luis Rey Hydrologic Unit. Therefore, any reduction in infiltration would not result in significant adverse effect with respect to groundwater recharge.

With regard to groundwater movement, a subdrain system would be installed in accordance with applicable regulations. The subdrain system would be designed and implemented to maintain natural groundwater flow conditions so that the subdrain system would operate properly and effectively. Therefore, the Gopher Canyon Road Alternative would not result in a significant adverse effect with respect to groundwater movement.

In summary, the Gopher Canyon Alternative would include design features similar to that of the Applicant's Proposed Alternative to prevent overdraft of underlying groundwater supplies. Additionally, the Gopher Canyon Road Alternative would comprise a small portion of the recharge area of the Bonsall Hydrologic Subarea and would not substantially affect groundwater recharge rates. Therefore, the Gopher Canyon Road Alternative would not result in significant adverse effects with respect to the depletion of groundwater supplies or groundwater recharge.

Mitigation Measures

With implementation of the proposed design features and federal, state, and RWQCB requirements, including the installation of totalizer meters and level controls in wells, and bi-annual updates to sustainable yield calculations, the Gopher Canyon Road Alternative would not result in significant adverse effects with respect to groundwater supplies or groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would violate any federal, state, or local groundwater quality standard or waste discharge requirements.*

**Impact Statement Gopher HGEO-2: Since the Gopher Canyon Road Alternative would be developed in accordance with applicable regulations and design features to prevent groundwater contamination, no significant adverse effect would occur with regard to groundwater quality.**

### Short-Term (Construction) Impacts

Similar to the Applicant's Proposed Alternative, in accordance with federal, state, and local regulations, the Gopher Canyon Road Alternative would implement a SWPPP during initial construction that is prepared in accordance with NPDES General Permit requirements and the California Stormwater BMP Handbook–Construction. The BMPs would be site-specific to the Gopher Canyon Road Alternative site and would be designed to prevent pollutants from entering groundwater. With the implementation of BMPs and construction monitoring, initial construction would not result in the exceedance of water quality standards or waste discharge requirements, and would not result in a significant adverse effect on groundwater quality.

### Long-Term (Operation) Impacts

Leachate generation rates at the Gopher Canyon Road site would be similar to those at the Gregory Canyon site because the landfill is located in an area with similar climatic conditions, the types of solid waste received would be similar, and because daily and intermediate soil cover would be also required at the Gopher Canyon Road site per federal and state regulations.[36] Standard mechanisms based on federal, state, and local regulations would be implemented to prevent landfill constituents (including leachate and landfill gas condensate) from entering groundwater. For instance, the Gopher Canyon Road Alternative would include environmental control systems to capture leachate and prevent groundwater contamination, such as a single landfill liner and LCRS, a subdrain system, and a landfill gas and condensate collection system. A groundwater monitoring program would also be implemented. The single liner and LCRS would be designed to accommodate anticipated leachate flows in accordance with applicable regulations. The Gopher Canyon Road Alternative would consist of a single liner, whereas the Applicant's Proposed Alternative includes a double liner system. Nonetheless, as discussed above in subsection 4.9.3.3, even single primary liners (i.e., a geomembrane/geosynthetic clay liner installed in accordance with a CQA program and overlain with a LCRS) have achieved an effectiveness of 99 to 99.9 percent. Thus, the single liner under this alternative would still effectively prevent the leakage of leachate from the encapsulated landfill at a rate of 99 percent or better.

[36] *Although leachate generation rates are anticipated to be similar to the Applicant's Proposed Alternative, the HELP (v 3.07) leachate generation modeling software incorporates a number of site-specific data factors that would ultimately determine leachate generation rates at the Gopher Canyon Road landfill.*

With respect to long-term performance, the single liner system would be effective at preventing leaks from the landfill, but not to the same extent as the Applicant's Proposed Alternative. Additionally, the liner would be designed to not be adversely affected by the design earthquake. While the Gopher Canyon Road Alternative would not include an RO system to treat contaminated water on-site, water collected by the subdrain system would be treated or discharged in accordance with RWQCB requirements. Lastly, as with the Applicant's Proposed Alternative, if a landfill release is detected, the operator would be required to implement an EMP and a CAP, under the regulatory guidance of the RWQCB. For a full description of how each of these systems operates to contain leachate and prevent groundwater pollution, please refer to the discussion of the Applicant's Proposed Alternative.

In conclusion, although the Gopher Canyon Road Alternative would incorporate a single composite landfill liner, the environmental control systems incorporated into the Gopher Canyon Road Alternative per federal, state, and RWQCB requirements would prevent groundwater contamination at the Gopher Canyon Road Alternative site. Therefore, the Gopher Canyon Road Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements.

Mitigation Measures

With implementation of the proposed design features and federal, state, and RWQCB requirements, including the implementation of environmental control systems, including a groundwater quality monitoring network, the Gopher Canyon Road Alternative would not result in significant adverse effects to groundwater quality. No mitigation measures are proposed.

## 4.9.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.9.7.1 Affected Environment

The Merriam Mountain Alternative site is underlain by granitic rock, covered by a thin veneer of alluvium/colluvium in the bottom of canyons and along the lower slopes. The alluvium and colluvium are reported to consist of silty to clayey sand, sandy clay, and silty clay. The Merriam Mountain site is not located in close proximity to a creek or river. Drainage at the Merriam Mountain site flows to the east and to the south. Although the Merriam Mountain site is not located in close proximity to a creek or river, the site is a tributary to the San Luis Rey River, located approximately five miles away.

Like the Applicant's Proposed Alternative, the Merriam Mountain site is located within the San Luis Rey Hydrologic Unit. For a discussion of the San Luis Rey Hydrologic Unit, please refer to Subsection 4.9.3.1, Affected Environment, above. The site is located in the Lower San Luis Hydrologic Area, which occupies the western third of the San Luis Rey Hydrologic Unit. The Lower San Luis Hydrologic Area is further subdivided into six hydrologic subareas, which are the Mission, Bonsall, Moosa, Valley Center, Woods, and Rincon Hydrologic Subareas. The site is located in the Moosa Hydrologic Subarea, which is approximately 12,794 acres in size. Groundwater in the Moosa Subarea generally moves from east to west. With respect to groundwater quality, TDS concentrations in the Moosa Subarea range from 650 to 1,380 mg/L. No other constituents of concern have been observed at detectable limits, although limited groundwater quality data is available for the subarea. The state has recommended that the TDS concentration be no greater than 500 mg/L in drinking water supplies. However, given the higher level of naturally occurring TDS in the Moosa

Subarea, the RWQCB Basin Plan establishes a TDS objective of 1,200 mg/L.[37] Existing beneficial uses identified by the RWQCB in the Lower San Luis Hydrologic Area include municipal, agricultural, and industrial purposes.

Groundwater is present in the fractured rock aquifer at estimated depths from between 50 and 200 feet below surface grade, and a shallower or perched water table may be present beneath the primary canyon flow line.[38] No groundwater or seepage was observed in the shallow trench explorations; however, the 2009 Draft EIR for the Merriam Mountain site recognized that near-surface groundwater seepage should be anticipated at the topsoil–bedrock contact after periods of heavy rainfall. It is anticipated that groundwater levels fluctuate during periods of high precipitation and/or irrigation and may become perched on the underlying bedrock or concentrated in fractures within the bedrock. Localized seeps may occur after periods of rainfall. No wells exist on-site.

### 4.9.7.2 Design Features

As with the Applicant's Proposed Alternative, the Merriam Mountain Alternative would utilize site-specific design features to meet federal, state, and local regulatory requirements and to minimize hydrogeologic effects at the site. Groundwater would be utilized in the initial construction, operation, and closure of landfill activities at the Merriam Mountain site. Per regulations, groundwater would be utilized where legally permitted under applicable groundwater regulations and adjudications in the Moosa Hydrologic Subarea. As with the Applicant's Proposed Alternative, groundwater would be sustainably withdrawn to prevent overdraft in the Moosa Hydrologic Subarea through the installation of totalizer meters and level controls with automatic shut-off switches in on-site groundwater wells. The settings for the level controls would be determined through pump testing and safe/sustainable yield calculations that would be completed prior to the start of landfill construction. In order to provide ongoing verification, each pumping well would undergo a new pumping test on a biennial basis (every other year), and the safe yield and sustainable yield would be recalculated using appropriate software.

In accordance with RWQCB requirements (as authorized by CCR Title 27, Chapter 4, Article 4), the applicant would be required to obtain a WDR and associated operating permits. In accordance with 40 CFR 258.40, the Merriam Mountain Alternative would install a single composite liner to contain leachate in compliance with the design standards for a Class III solid waste landfill. The liner would be overlain by a LCRS that would be designed to capture double the amount of leachate generation anticipated from the site. Similar to the Applicant's Proposed Alternative, leachate collected in the LCRS would be conveyed and stored in on-site storage tanks, and trucked off site for treatment at a licensed facility in accordance with applicable regulations. The Merriam Mountain Alternative would include a subdrain that would provide the minimum required five-foot separation between groundwater and the bottom liner of the landfill, in accordance with 40 CFR Subtitle D 258 and CCR Title 27 regulations. As with the Applicant's Proposed Alternative, the Merriam Mountain Alternative would include a groundwater quality monitoring system to document the environmental control systems are operating properly and to prevent pollutants from entering groundwater supplies. Should contaminants be identified by the groundwater monitoring system, the operator would implement an EMP and/or a CAP, under the regulatory guidance of the RWQCB.

[37] *San Diego Regional Water Quality Control Board, San Diego Region Basin Plan, Table 3-3: Water Quality Objective. September 1994.*

[38] *Geosyntec Consultants. Draft Memorandum: Off-Site Alternatives Evaluation, Gregory Canyon Landfill. pg. 5. January 27, 2012,*

### 4.9.7.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Merriam HGEO-1: The Merriam Mountain Alternative would implement design features to limit groundwater withdrawal to sustainable levels and would occupy a small portion of the Moosa Hydrologic Subarea. Therefore, the Merriam Mountain Alternative would not result in a significant adverse effect with respect to groundwater supplies or groundwater recharge.**

Groundwater underlying the Merriam Mountain Road Alternative site would likely be used in the initial construction, operation, and closure of the landfill. Similar to the Applicant's Proposed Alternative, the Merriam Mountain Alternative would include design features to maintain a safe yield of groundwater and prevent overdraft from the Moosa Subarea. As with the Applicant's Proposed Alternative, safe yield of the Moosa Subarea would be accomplished through the installation of totalizer meters and level controls with automatic shut-off switches in on-site groundwater wells. The level controls would automatically shut down a well if drawdown exceeds the calculated sustainable yield of the well. The settings for the level control would be determined through pump testing and a sustainable yield calculation. Therefore, the Merriam Mountain Alternative would not result in a significant adverse effect with regard to the production capacity of off-site wells or the beneficial needs of other groundwater users in the Basin.

Similar to the Applicant's Proposed Alternative, development of the landfill would create an impervious layer that would reduce the infiltration of precipitation through the soil layers. The approximately 199 acre landfill footprint would constitute a small portion (1.6 percent) of the recharge area of the 12,794-acre Moosa Subarea, and an even smaller portion of the larger overall San Luis Rey Hydrologic Unit. Therefore, any reduction in infiltration would not result in a significant adverse effect with respect to groundwater recharge.

With regard to groundwater movement, a subdrain system would be installed in accordance with applicable regulations. The subdrain system would be designed and implemented to maintain natural groundwater flow conditions so that the subdrain system would operate properly and effectively. Therefore, the Merriam Mountain Alternative would not result in a significant adverse effect with respect to groundwater movement.

In summary, the Merriam Mountain Alternative would include design features similar to that of the Applicant's Proposed Alternative to ensure that underlying groundwater supplies are not overdrafted. Additionally, the Merriam Mountain landfill Alternative would only comprise a small portion of the recharge area of the Moosa Hydrologic Subarea and would not substantially affect groundwater recharge rates. Therefore, the Merriam Mountain Alternative would not be anticipated to result in significant adverse effects with respect to the depletion of groundwater supplies or groundwater recharge.

Mitigation Measures

With implementation of the proposed design features and federal, state, and RWQCB requirements, including the preparation of a sustainable yield analysis, the installation of totalizer meters and level controls in wells, and bi-annual updates to sustainable yield calculations, the Merriam Mountain Alternative would not result in significant adverse effects with respect to groundwater supplies and groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would violate any federal, state, or local groundwater quality standard or waste discharge requirements.*

**Impact Statement Merriam HGEO-2: Since the Merriam Mountain Alternative would be developed in accordance with applicable regulations and design features to prevent groundwater contamination, no significant adverse effect would occur with regard to groundwater quality.**

### Short-Term (Construction) Impacts

Similar to the Applicant's Proposed Alternative, in accordance with federal, state, and local regulations, the Merriam Mountain Alternative would implement a SWPPP during initial construction that is prepared in accordance with NPDES General Permit requirements and the California Stormwater BMP Handbook–Construction. The BMPs would be site-specific to the Merriam Mountain Alternative site and would be designed to prevent pollutants from entering groundwater. With the implementation of BMPs and construction monitoring, initial construction would not result in the exceedance of water quality standards or waste discharge requirements, and would not result in a significant adverse effect on groundwater quality.

### Long-Term (Operation) Impacts

Leachate generation rates at the Merriam Mountain site would be similar to those at the Gregory Canyon site because the landfill is located in an area with similar climatic conditions, the types of solid waste received would be similar, and because daily and intermediate soil cover would be also required at the Merriam Mountain site per federal and state regulations.[39] Standard mechanisms based on federal, state, and local regulations would be implemented to prevent landfill constituents (including leachate and landfill gas condensate) from entering groundwater. For instance, the Merriam Mountain Alternative would include systems similar to those of the Applicant's Proposed Alternative to capture leachate and prevent groundwater contamination, such as a single landfill liner and LCRS, a subdrain system, and a landfill gas and condensate collection system. A groundwater monitoring program would also be implemented. The single liner and LCRS would be designed to accommodate anticipated leachate flows in accordance with applicable regulations. The Merriam Mountain Alternative would consist of a single liner, whereas the Applicant's Proposed Alternative includes a double liner system. Nonetheless, as discussed above in subsection 4.9.3.3, even single primary liners (i.e., a geomembrane/geosynthetic clay liner installed in accordance with a CQA program and overlain with a LCRS) have achieved an effectiveness of 99 to 99.9 percent. Thus, the single

[39] *Although leachate generation rates are anticipated to be similar to the Applicant's Proposed Alternative, the HELP (v 3.07) leachate generation modeling software incorporates a number of site-specific data factors that would ultimately determine leachate generation rates at the Merriam Mountain landfill.*

liner under this alternative would still effectively prevent the leakage of leachate from the encapsulated landfill at a rate of 99 percent or better. With respect to long-term performance, the single liner system would be effective at preventing leaks from the landfill, but not to the same extent as the Applicant's Proposed Alternative. Additionally, the landfill liner would be designed to not be adversely affected by the design earthquake. While the Merriam Mountain Alternative would not include an RO system to treat contaminated water on-site, water collected by the Merriam Mountain Alternative subdrain system would be treated or discharged in accordance with RWQCB requirements. Lastly, as with the Applicant's Proposed Alternative, if a landfill release is detected, the operator would be required to implement an EMP and a CAP, under the regulatory guidance of the RWQCB. For a full description of how each of these systems operates to contain leachate and prevent groundwater pollution, please refer to the discussion of the Applicant's Proposed Alternative.

In conclusion, although the Merriam Mountain Alternative would incorporate a single composite landfill liner, the environmental control systems incorporated into the Merriam Mountain Alternative per federal, state, and RWQCB requirements would prevent groundwater contamination at the Merriam Mountain Alternative site. Therefore, the Merriam Mountain Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements.

Mitigation Measures

With implementation of the proposed design features and federal, state, and RWQCB requirements, including the implementation of environmental control systems, including a groundwater quality monitoring network, the Merriam Mountain Alternative would not result in significant adverse effects to groundwater quality. No mitigation measures are proposed.

## 4.9.8 EAST OTAY MESA ALTERNATIVE

### 4.9.8.1 Affected Environment

The East Otay Mesa Alternative site is located within the Tijuana Hydrologic Unit. The majority of the Tijuana Hydrologic Unit is located in Mexico. The 27 percent of the Hydrologic Unit (470 square miles) located in the United States is a triangular-shaped area that is drained by Cottonwood and Campo creeks, which are tributaries to the Tijuana River. The Tijuana River discharges to the Tijuana Estuary and Pacific Ocean on the U.S. side of the international border. The Tijuana Hydrologic Unit is subdivided into eight hydrologic areas: Tijuana Valley, Potrero, Barrett Lake, Monument, Cottonwood, Cameron, and Campo Hydrologic Areas. The Tijuana Valley Hydrologic Area, in which the East Otay Mesa Alternative site is located, is further divided into two hydrologic subareas, the San Ysidro and Water Tanks Hydrologic Subareas. The East Otay Alternative site is located within the Water Tanks Hydrologic Subarea, which is approximately 9,582 acres in size.

The Lower Tijuana River Basin is one of the groundwater basins in San Diego that have been studied for the implementation of a groundwater management plan. A goal of these management plans is to rejuvenate the quality of the groundwater in these basins to meet basin objectives. The proposal set forth in the management plan is to pump the poor quality ground water from these basins to the ocean, and recharge the basins with reclaimed and natural run off waters, which will then be extracted for beneficial use when water quality objectives are met.

Groundwater quality in the Tijuana Hydrologic Unit has been affected by seawater intrusion and waste discharges in both the United States and Mexico.[40] TDS content for this water typically ranges from 1,120 to 3,620 mg/L, although, less than 1,000 mg/L is found beneath some side canyons.[41] Groundwater in the San Diego Formation is sodium chloride in character and TDS content ranges from 380 to 2,360 mg/L.[42] The state has recommended that the TDS concentration be no greater than 500 mg/L in drinking water supplies. However, given the higher level of naturally occurring TDS in the Tijuana Valley Hydrologic Area, the RWQCB Basin Plan establishes a TDS objective of 2,500 mg/L.[43]

The East Otay Mesa Alternative site is underlain by predominantly volcanic rock classified as Santiago Peak Volcanics and is likely covered by a thin veneer of alluvium/colluvium in the bottom of canyons and along lower canyon slopes. The Santiago Peaks Volcanics formation consists of hard, metamorphosed volcanic rock. Due the presence of rock outcrops in aerial imagery of the site and the potential for collection of alluvial/colluvial materials, the depth of rippable rock is assumed at an average of 10 feet below grade.[44] The underlying bedrock at the East Otay Mesa Alternative site have been determined to be non-water bearing (no shallow, underlying aquifer) based on previous investigations.[45] No site specific information is available for depth to groundwater at the site; however, local groundwater appears to be limited to fractured joint systems and two seasonal surface seeps associated with local fractures. The Application for Certification for the proposed Pio Pico Energy Center (located approximately 4.4 miles to the northwest of the East Otay Mesa Alternative site) references a geotechnical investigation performed in 1997 for the Otay Mesa Generating Plant (a neighboring site to the Pio Pico Energy Center), where groundwater was observed below elevation 580 feet, with an unknown datum.[46] As a result, on-site groundwater within the alluvial/colluvial deposits and weathered bedrock would not be available for use at the East Otay Mesa Alternative site.

### 4.9.8.2 Design Features

As with the Applicant's Proposed Alternative, the East Otay Mesa Alternative would be designed to meet all regulatory requirements. With respect to groundwater quantity, previous technical documents concluded that groundwater resources in and around the alternative site are inadequate to support the construction and operation of a landfill. Thus, the East Otay Mesa Alternative would not utilize groundwater for operations at the site, and the alternative would not require design features intended to prevent overdraft of underlying groundwater resources.

With the respect to groundwater quality, in accordance with RWQCB requirements (as authorized by CCR Title 27, Chapter 4, Article 4), the applicant would be required to obtain a WDR and associated operating permits. In accordance with 40 CFR 258.40, the East Otay Mesa Alternative would install a single composite liner to contain leachate in compliance with the design standards for a Class III solid waste landfill. The liner would be overlain by a LCRS that would be designed to capture double the amount of leachate generation

[40] *San Diego Regional Water Quality Control Board, San Diego Region Basin Plan, pg 1-10. April 25, 2007.*

[41] *California Department of Water Resources. Bulletin 118: Tijuana Groundwater Basin. January 20, 2006*

[42] *Ibid.*

[43] *San Diego Regional Water Quality Control Board, San Diego Region Basin Plan, Table 3-3: Water Quality Objective. September 1994.*

[44] *Geosyntec Consultants. April 23, 2012. Off-site Alternatives Evaluation, Gregory Canyon Landfill.*

[45] *Ogden Environmental and Energy Services. Site Feasibility Assessment: Southwest San Diego County. February 1993*

[46] *Geosyntec Consultants. April 23, 2012. Off-site Alternatives Evaluation, Gregory Canyon Landfill.*

anticipated from the site. Similar to the Applicant's Proposed Alternative, leachate collected in the LCRS would be conveyed and stored in on-site storage tanks. Leachate would be treated off-site at a licensed facility in accordance with applicable regulations. The East Otay Mesa Alternative would include a subdrain that would provide the minimum required five-foot separation between groundwater and the bottom liner of the landfill, in accordance with 40 CFR Subtitle D 258 and CCR Title 27 regulations. As with the Applicant's Proposed Alternative, the East Otay Mesa Alternative would include a groundwater quality monitoring system to document the environmental control systems are operating properly and that pollutants are not entering groundwater supplies. Should contaminants be identified by the groundwater monitoring system, the applicant would implement an EMP and/or a CAP, under the regulatory guidance of the RWQCB.

### 4.9.8.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement East Otay HGEO-1: The East Otay Mesa Alternative landfill would not utilize groundwater and would occupy a small portion of the Water Tanks Hydrologic Subarea. Therefore, no significant adverse effect would result to groundwater supplies or groundwater recharge as a result of the East Otay Mesa Alternative.**

Since groundwater resources in and around the East Otay Mesa site are inadequate to support a landfill, groundwater would not be used in the initial construction, operation, and closure of this alternative. Therefore, the East Otay Mesa Alternative would not result in a significant adverse effect with respect to groundwater supplies in the Water Tanks Subarea.

Similar to the Applicant's Proposed Alternative, development of the landfill would effectively create an impervious layer that would reduce the infiltration of precipitation through the soil layers. The approximately 146-acre landfill footprint would constitute a negligible portion (approximately 1.5 percent) of the recharge area of the 9,582-acre Water Tanks Hydrologic Subarea, and an even smaller portion of the larger overall Tijuana Hydrologic Unit. Therefore, any reduction in infiltration would not result in a significant adverse effect with respect to groundwater recharge.

With regard to groundwater movement, landfill construction could alter the existing groundwater setting. However, given the limited presence of groundwater underlying the site, in combination with the subdrain system that would be installed in accordance with applicable regulations, the natural flow of the limited underlying groundwater would be maintained. Therefore, the East Otay Mesa Alternative would not result in a significant adverse effect with respect to groundwater movement.

In summary, the East Otay Mesa Alternative would not utilize groundwater in the construction and operation of the landfill and would not substantially reduce infiltration rates in the groundwater basin. Therefore, the East Otay Mesa Alternative would not result in significant adverse effects with respect to the depletion of groundwater supplies or groundwater recharge.

Mitigation Measures

The East Otay Mesa Alternative would not result in significant adverse effects with respect to groundwater supplies and groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would violate any federal, state, or local groundwater quality standard or waste discharge requirements.*

**Impact Statement East Otay HGEO-2: Since the East Otay Mesa Alternative would be developed in accordance with applicable regulations and design features to prevent groundwater contamination, no significant adverse effect would occur with regard to groundwater quality.**

### Short-Term (Construction) Impacts

Similar to the Applicant's Proposed Alternative, in accordance with federal, state, and local regulations, the East Otay Mesa Alternative would implement a SWPPP during initial construction that is prepared in accordance with NPDES General Permit requirements and the California Stormwater BMP Handbook–Construction. The BMPs would be site-specific to the East Otay Mesa Alternative site and would be designed to prevent pollutants from entering groundwater. With the implementation of BMPs and construction monitoring, initial construction would not result in the exceedance of water quality standards or waste discharge requirements, and would not result in a significant adverse effect on groundwater quality.

### Long-Term (Operation) Impacts

Leachate generation rates at the East Otay Mountain site would be similar to those at the Gregory Canyon site because the landfill is located in an area with similar climatic conditions, the types of solid waste received would be similar, and because daily and intermediate soil cover would be also required at the East Otay Mesa site per federal and state regulations.[47] Standard mechanisms based on federal, state, and local regulations would be implemented to prevent landfill constituents (including leachate and landfill gas condensate) from entering groundwater. For instance, the East Otay Mesa Alternative would include environmental control systems to capture leachate and prevent groundwater contamination, such as a single landfill liner and LCRS, a subdrain system, and a landfill gas and condensate collection system. A groundwater monitoring program would also be implemented. The single liner and LCRS would be designed to accommodate anticipated leachate flows in accordance with applicable regulations. The East Otay Mesa Alternative would consist of a single liner, whereas the Applicant's Proposed Alternative includes a double liner system. Nonetheless, as discussed above in subsection 4.9.3.3 above, even single primary liners (i.e., a geomembrane/geosynthetic clay liner installed in accordance with a CQA program and overlain with a LCRS) have achieved an effectiveness of 99 to 99.9 percent. Thus, the single liner under this alternative would still effectively prevent the leakage of leachate from the encapsulated landfill at a rate of 99 percent or better. With respect to long-term performance, the single liner system would be effective at preventing leaks from the landfill, but not to the same extent as the Applicant's Proposed Alternative. Additionally, the landfill liner would be designed to not be adversely affected by the design earthquake. While the East Otay Mesa

[47] *Although leachate generation rates are anticipated to be similar to the Applicant's Proposed Alternative, the HELP (v 3.07) leachate generation modeling software incorporates a number of site-specific data factors that would ultimately determine leachate generation rates at the Merriam Mountain landfill.*

Alternative would not include an RO system to treat contaminated water on-site, water collected by the subdrain system would be treated or discharged in accordance with RWQCB requirements. Lastly, as with the Applicant's Proposed Alternative, if a landfill release were detected, the operator would be required to implement an EMP and a CAP, under the regulatory guidance of the RWQCB. For a full description of how each of these systems operates to contain leachate and prevent groundwater pollution, please refer to the discussion of the Applicant's Proposed Alternative.

In conclusion, although the East Otay Mesa Alternative would incorporate a single composite landfill liner, the environmental control systems incorporated into the alternative per federal, state, and RWQCB requirements would prevent groundwater contamination at the site. Therefore, the East Otay Mesa Alternative would not result in a significant adverse effect to groundwater quality or discharge requirements.

Mitigation Measures

With implementation of the proposed design features and federal, state, and RWQCB requirements, including the implementation of environmental control systems, including a groundwater quality monitoring network, the East Otay Mesa Alternative would not result in significant adverse effects to groundwater quality. No mitigation measures are proposed.

## 4.9.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

As discussed in subsection 4.9.2.2 above, this section summarizes the information and analysis contained in Section 5.12, Hydrology and Water Quality, of the Sycamore Landfill Master Development Plan Revised Final EIR. An existing Class III landfill, which has been the subject of background technical study, is currently operating at the Sycamore Canyon Expansion Alternative site.

### 4.9.9.1 Affected Environment

#### Groundwater Availability

The Sycamore Canyon Expansion Alternative site is located in the San Diego Hydrologic Unit. The San Diego Hydrologic Unit is divided into a number of hydrologic areas and hydrologic subareas based on local drainage characteristics, with the site located in the Santee Hydrologic Subarea of the Lower San Diego Hydrologic Area.

No regional groundwater basins are mapped in the site or immediate vicinity, with the closest such basin located along the San Diego River Valley approximately one mile to the south (DWR, 2003). As mentioned above, extensive subsurface investigations have occurred at the site and vicinity in association with previous geotechnical analyses and prior/ongoing groundwater quality monitoring requirements. Data from these investigations indicate that two distinct groundwater systems are present locally, a deep bedrock aquifer and a locally interconnected shallow alluvial water-bearing zone.

Groundwater in the shallow zone is generally confined to alluvial deposits in the main channel of Little Sycamore Canyon, with recharge limited predominantly to infiltration from intermittent stream flows. Water levels in the alluvium rise and fall rapidly after larger storm events, with localized perched

groundwater zones sometimes occurring in the northern portion of the site where the deep aquifer is a significant distance below the base of the alluvial deposits. Perched groundwater generally consists of one or more unconfined aquifers supported by impermeable or semi-permeable strata, with such aquifers typically limited in volume and extent but variable with conditions including seasonal precipitation.

The vertical separation between the deep aquifer and the overlying alluvial groundwater-bearing deposits generally decreases from north to south along the main canyon axis. At the southern property boundary, the deep aquifer is near the surface and exhibits substantial seasonal variation due to its shallow depth and the relatively high permeability of the overlying alluvial deposits. During the rainy season, the deep aquifer in the southernmost portions of the site can intersect the alluvial deposits in Little Sycamore Canyon.

A series of four exploratory borings were conducted during geotechnical investigations on the site, with these borings located in the southern portion of the site near the proposed scale, maintenance, and administration facilities (south of the existing/proposed landfill operations). The four borings extended to depths of between 12 and 31 feet, with no groundwater encountered (Diaz-Yourman, 2003). Regular groundwater monitoring is conducted at the site pursuant to RWQCB Monitoring and Reporting Order No. 99-74. Based on monitoring data from 2005 and 2010, local water depths in monitored wells ranged from approximately 21.4 to 279.8 feet in the deep aquifer, and from 10.4 to 26.1 feet in the shallow alluvial water-bearing zone. From these data, groundwater levels in the monitored wells were generally consistent between the two noted dates, with the 2010/2011 and 2009/2010 Annual Monitoring Reports both concluding that "[g]roundwater elevations have remained relatively static since the wells were installed." (GLA 2011, 2010).

A survey of local drinking water wells was conducted as part of the landfill Solid Waste Assessment Test (SWAT) in 1992, and did not identify any groundwater aquifers or wells in the immediate site vicinity being used for drinking water (IT 1992). As part of the noted SWAT investigation, two water wells were identified within one mile of the site, although both of these wells are located hydraulically upgradient of the site (i.e., up the hydraulic slope of the water table relative to the site), and would thus not potentially intersect or encounter groundwater moving away from the landfill (i.e., local groundwater movement is hydraulically downslope and groundwater beneath the landfill would therefore move away from the noted wells).

Although alluvial groundwater is present at the Sycamore Canyon site, groundwater is not currently utilized in the construction, operation, or closure activities of the landfill. Rather, the Sycamore Canyon Landfill utilizes recycled water provided by the Padre Dam Municipal Water District (PDMWD) through a valve located in the landfill's entry area near Mast Boulevard.

### Groundwater Movement

With respect to groundwater movement, groundwater in the deep aquifer occurs mainly in the Stadium Conglomerate and Friars Formation, with groundwater movement generally downgradient (i.e., down the hydraulic slope of the water table) towards Little Sycamore Canyon and then south to the San Diego River. Local groundwater movements reflect associated geologic bedding and structure, and generally mimic surface topography. Natural groundwater flow conditions underlying the site and vicinity are characterized by slow movement, with a calculated flow rate of approximately 1.16 feet per year (GLA, 2011). Accordingly, groundwater movement within the site and vicinity would be approximately 116 feet over a 100-year period.

## Groundwater Quality

The site is subject to regular groundwater quality monitoring and assessment pursuant to requirements under the RWQCB Order No. 99-74 Monitoring and Reporting Program. Groundwater quality is currently monitored at the site from several wells located both upgradient and downgradient of the landfill operation. An existing upgradient well, SLMW-12, is located north of the existing landfill operations, and provides control (background) data for use in comparison with wells located downgradient from the landfill. Monitoring at Well SLMW-12 began in December 2006, with background groundwater quality data previously derived from Well ITSY-8, which was abandoned in August 2006. Detailed groundwater quality information for the site is documented in semiannual and annual Water Quality Monitoring Reports submitted to the RWQCB under Order No. 99-74, with data from the most currently available annual reports (April 2011 and April 2010) and other applicable sources summarized below.

Existing groundwater quality at the Sycamore Canyon site is generally similar to that of the Santee Hydrologic Subarea portion of the San Diego River Valley Basin, which has been historically characterized as containing relatively high concentrations of TDS, chloride, sulfate, and nitrate (USGS, 1985). TDS levels in samples from the current (SLMW-12) and previous (ITSY-8) background monitoring wells ranged from 1,540 to 2,030 mg/L during the period of May 1995 to January 2006 (Well ITSY-8), and from 1,800 to 2,260 mg/L during the period of December 2006 to December 2010 (Well SLMW-12). Background chloride, sulfate, and nitrate levels averaged approximately 653, 203, and 0.52 mg/L, respectively, in Well ITSY-8; and 534, 348, and 0.24 mg/L, respectively, in Well SLMW-12 for the same reporting periods as noted for TDS (GLA, 2011, 2010). As seen by comparing these data to groundwater quality objectives detailed in the RWWCB Basin Plan, existing (upgradient) groundwater quality currently exceeds the related Basin Plan objectives for TDS and chloride.

Groundwater from several landfill monitoring wells located both upgradient and downgradient from the site have also exceeded applicable or relevant and appropriate requirements (ARARs) and/or Basin Plan objectives for TDS, chloride, and/or nitrate since 1995 (i.e., during the previously described groundwater monitoring efforts at the landfill site). A number of wells continue to exceed these ARARs. The April 2011 Annual Report notes, however, that "[t]hese exceedances are generally consistent with the historical database for the Sycamore Canyon Landfill, including generally higher chloride and TDS concentrations in background well SLMW-12 compared to the downgradient site wells…" and "[e]levated constituent concentrations of chloride and TDS are believed to be the result of naturally occurring conditions in the vicinity of the Sycamore Landfill, since this trend is seen in both upgradient and downgradient wells." Based on this assessment, exceedances of TDS and chloride documented during historical and current landfill monitoring efforts are not believed to be associated with the landfill, but rather reflect existing groundwater quality conditions both upgradient and downgradient of the landfill site (GLA, 2011).

The ARAR for nitrate exceeded in well ITSY-10 is associated with the shallow alluvial waterbearing zone, with associated nitrate levels fluctuating substantially with seasonal precipitation/groundwater conditions (GLA 2011). Nitrate levels in the alluvial zone have generally increased, however, during more recent monitoring events conducted since construction of the nearby sedimentation basins. Based on the proximity of these basins to well ITSY-10 and the fact that the basins receive flows from much of the active landfill site, the source of increased nitrate levels in well ITSY-10 may be related to infiltration of flows from the sedimentation basins that contacted mulch and/or other nitrate-rich sources prior to entering the basins

(GLA, 2011). Accordingly, in the absence of significant volatile organic compound (VOC) levels in well ITSY-10, the observed nitrate levels do not suggest a release from the landfill (GLA, 2011).

The exceedances of secondary drinking water standards are not considered to pose any health risks, but rather would potentially result in adverse taste affects if the associated local groundwater aquifers were used as a source of drinking water. It should also be noted that TDS and chloride (and other pollutant) concentrations at wells ITSY-6/6R have varied widely at times since 1995, with these variations likely associated with the seasonal fluctuation of groundwater flows through the shallow alluvium as described above for nitrate levels in well ITSY-10 (GLA, 2011).

Review of the historical pH values in groundwater monitoring wells at the Sycamore Canyon Landfill indicates that pH values in samples from upgradient wells ITSY-8 and SLMW-12 average about 6.8 and 6.9, respectively. Observed pH values in samples from downgradient wells ITSY-6 and ITSY-7 are generally slightly lower (approximately pH 6.5 to 6.7), while the pH values in samples from the rest of the downgradient wells are generally slightly higher (approximately pH 7.0 to 7.3). A number of intra-well statistical anomalies were calculated for pH values and other analytes during a October 2010 to March 2011 monitoring period.

Based on data from these and previous monitoring efforts, the April 2011 Monitoring Report identifies a number of long-term (10-year) increasing and decreasing trends in on-site wells, although the report concludes, "Groundwater quality conditions beneath the Sycamore Canyon Landfill are generally similar to those observed historically … The results of the sampling completed for the current monitoring period are generally consistent with historical groundwater conditions" (GLA, 2011). The increasing trend for sulfate levels in well ITSY-7 is a more recent phenomenon (within the past several years), and while the specific source is unknown, the observed levels are within the historic sulfate concentrations documented in this well. Similar to the previous discussion of nitrate levels in levels in well ITSY-10, the historic consistency of sulfate levels, coupled with the absence of significant VOCs in well ITSY-7, suggest that the presence of sulfate is not associated with a release from the existing landfill (GLA, 2011).

Groundwater monitoring during the SWAT program conducted during 1990/1991 identified the presence of VOCs and elevated levels of certain inorganic compounds in monitoring wells ITSY-6 and ITSY-10 (shallow alluvial zone) at the southwestern corner of the active disposal area (IT 1992). An associated EMP was initiated following the SWAT investigation, and concluded that a release of VOCs may have occurred in the shallow groundwater zone near the noted wells in association with landfill gas. Based on the noted groundwater contamination, an associated interim DMP/CAP was initiated at the landfill site in 1996, with the DMP/CAP consisting of: (1) monitoring at several wells; (2) extraction of impacted groundwater from wells ITSY-6/6R; and (3) installation of a landfill gas removal system.

Data from the DMP/CAP efforts indicate that both the source and extent of VOC contamination is within the shallow alluvial zone. Specifically, only wells ITSY-6/6R and ITSY-10 have shown the presence of VOCs, while companion wells ITSY-5 and ITSY-11 (which extend below the alluvial zone) do not show any indication of VOC impacts from the landfill. The April 2011 Annual Report documents that nine VOCs were detected in CAP well ITSY-6R during the October 2010 to March 2011 monitoring period, including three measured above the laboratory practical quantification limit (PQL2, with no VOCs detected in other monitoring wells). Well ITSY-6R is currently used for groundwater extraction under the CAP (i.e., to remove contaminated

groundwater), with 101,055 gallons of groundwater (and 6.42 grams of VOCs) extracted during the October 2010 to March 2011 monitoring period. Because well ITSY-6R is a CAP well, it periodically contains VOCs exceeding associated established contamination limits. No long-term increasing trends and several decreasing trends have been identified for VOCs in on-site monitoring wells, however, with the April 2011 Annual Report concluding that these trends "[s]uggest…that the corrective action measures implemented have been effective at reducing VOCs in groundwater" (GLA, 2011).

In addition to the described historic occurrence of VOCs in wells ITSY-6/6R and ITSY-10, the December 2003 monitoring/analytical results from well ITSY-5 showed the presence of carbon disulfide at a concentration of 21.8 micrograms per liter (µg/L), which exceeds the laboratory PQL. No MCL has been established for carbon disulfide, although the recommended exposure limit (REL) is 3µg/L (time-weighted average) and the short-term exposure limit (STEL) is 30 µg/L.[48] As a result of the noted occurrence of carbon disulfide in well ITSY-5, associated monitoring was subsequently conducted for this compound, with no additional detection documented (GLA, 2011 and 2010). The cause of this contamination may have been related to a fumigant that was previously applied to straw wattles (fiber rolls) used at the landfill for erosion control.

In addition to surface and groundwater quality monitoring as described, leachate monitoring and reporting is also conducted at the landfill site via a LCRS, pursuant to requirements under RWQCB Order No. 99-74. Specifically, leachate from the LCRS is sampled and tested annually in October, with the results submitted to the RWQCB no later than January 31 of the following year (and confirmation retesting conducted annually in April). The monitoring results submitted to the RWQCB are required to identify any constituents that were detected but are not on the existing landfill COC list. Based on the results of the noted testing, a report is submitted to the RWQCB in August of each year to identify any constituents that are required to be added to the landfill COC list (i.e., if additional non-COC constituents were detected). Based on the April 2011 Annual and Semiannual Monitoring Report, the following results are provided for ongoing leachate monitoring: (1) sampling conducted in October 2010 identified 25 VOCs, all of which are already included on the landfill COC list; and (2) no semi-VOCs, pesticides, herbicides, or PCBs were detected during the October 2010 sampling efforts (GLA, 2011).

The RWQCB Basin Plan identifies the following existing and potential beneficial uses for groundwater in the Santee Hydrologic Subarea: (1) Municipal, listed as a potential beneficial use; and (2) agricultural supply, Industrial, and industrial process supply (PROC), all listed as existing beneficial uses. As previously discussed, no known use of groundwater for domestic (or other) purposes is occurring within the site vicinity, and no known downgradient potable water wells have been drilled or used within one mile of the Sycamore Canyon Landfill site since 1992.

### 4.9.9.2 Design Features

Although groundwater would not be used in landfill operations, with respect to groundwater quality, the Sycamore Canyon Expansion Alternative would continue to implement existing groundwater monitoring and remediation efforts, as well as design features to prevent groundwater contamination at the site. For instance, the landfill would continue to operate the DMP/CAP designed to treat groundwater contaminated with VOCs resulting from landfill gas migrating to groundwater flows from the landfill. Further, to prevent

[48] *Center for Disease Control and Prevention. Documentation for Immediately Dangerous To Life or Health Concentrations (IDLHs): Carbon disulfide. Available at: http://www.cdc.gov/niosh/idlh/75150.html. Accessed July 19, 2012.*

new groundwater contamination from occurring from the expansion of the Sycamore Canyon Landfill, the expansion would comply with applicable regulatory requirements, including a composite liner system, a LCRS, a landfill gas management program, landfill monitoring and reporting, and drainage controls.

Liner systems approved and installed at the Sycamore Landfill to date consist of a HDPE geomembrane in combination with a geosynthetic clay liner. Areas proposed for landfill operations under the MDP may use a similar liner system, or may employ an alternative design if approved by the RWQCB prior to construction. Construction operations are also subject to applicable CQA protocols implemented by a certified third-party engineer. The RWQCB would review and approve the final CQA report for each phase of construction before the commencement of associated waste disposal operations.

The LCRS under the Sycamore Canyon Expansion Alternative would be designed following preliminary design elements identified to meet or exceed the associated requirements identified in CCR Title 27 Section 20190 regulating performance under landfill closure. In addition, the alternative would have gas management systems that operate in concert with the landfill liner to prevent the migration of landfill gas into the soil or groundwater. Vertical and horizontal collection pipes or wells would be constructed in the waste fill, and would operate under a vacuum to withdraw the gas as it is generated by waste decomposition. The collection facilities are part of the overall gas management system, which would also include flares or energy recovery structures to control landfill gas air emissions.

With respect to groundwater monitoring, in conformance with state and federal requirements, an extensive program of groundwater sampling and laboratory analyses is currently implemented at the landfill site (and would continue under the alternative) to monitor up- and downgradient groundwater quality and identify potential landfill-related impacts. Samples would be collected, transported, and analyzed in conformance with applicable USEPA standards, with reporting to the RWQCB also required. As with the existing landfill operation, monitoring and reporting under the Sycamore Canyon Expansion Alternative would provide early identification of any landfill-related pollutant releases, allowing remedial measures to be implemented before contamination extends beyond the immediate area.

With respect to drainage controls, the landfill design includes a number of drainage facilities intended to divert surface flows away from active and covered landfill areas, and to prevent ponding, erosion and contact with waste (similar to the existing landfill operations). These facilities would also serve to minimize infiltration, thereby reducing the potential for leachate generation and related potential effects to groundwater.

### 4.9.9.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Sycamore HGEO-1: The Sycamore Canyon Expansion Alternative would not use groundwater and would not involve substantial new areas of impervious surfaces in the Santee Hydrologic Subarea. Therefore, no significant adverse effect on groundwater supplies or**

**groundwater recharge would occur with implementation of the Sycamore Canyon Expansion Alternative.**

Because the Sycamore Canyon Expansion Alternative would be supplied by municipal and recycled water sources, groundwater would not be used in the construction, operation, and closure of the Sycamore Canyon Expansion Alternative. As previously described, groundwater is currently extracted from well ITSY-6R in association with CAP requirements related to VOC remediation. This extraction would continue under the Sycamore Canyon Expansion Alternative. Specifically, total extraction is expected to be similar to that observed over the October 2010 through March 2011 period (approximately 101,000 gallons over the six-month period), with the extracted water appropriately stored/contained and used for on-site dust control (pursuant to applicable requirements in RWQCB Order No. 99-74). Although this extracted CAP groundwater would be used on the landfill site, it would be small in comparison to the daily water demand and minor in nature to underlying groundwater. As described above, shallow groundwater does not occur in on-site areas proposed for waste disposal, and is generally not expected to be encountered during grading and excavation in other areas. It is conceivable, however, that shallow (perched) groundwater could potentially occur seasonally in these other (non-waste disposal) areas and require temporary groundwater extraction to accommodate construction equipment/operations. The Sycamore Canyon Landfill Master Development Plan Revised Final EIR concludes that impacts to groundwater volumes and recharge capacity from the described proposed/potential groundwater withdrawals, however, would not be adversely affected based on the following considerations: (1) current/proposed CAP groundwater withdrawals are limited to the shallow alluvial water-bearing zone, which exhibits wide variations in groundwater volumes with precipitation events, and CAP withdrawals are relatively minor in nature; (2) groundwater elevations have remained relatively static since the monitoring/extraction wells were installed; (3) the alternative would not result in substantial new areas of impervious surfaces, with only minor reductions in local recharge capacity; (4) any groundwater extracted required during construction in non-waste disposal areas would be temporary in duration and likely limited to minor quantities (and would be subject to applicable requirements of the associated NPDES Groundwater Permit); and (5) no active groundwater wells are known to occur in the vicinity.

The Revised Final EIR also concludes that no significant adverse effects to groundwater volumes or recharge capacity would result from the landfill expansion and related facilities/activities, based on the following considerations: (1) the alternative would not entail direct groundwater withdrawals for landfill operations or support efforts; (2) groundwater extracted in association with CAP requirements is limited to the shallow alluvial water-bearing zone, which exhibits wide variations in groundwater volumes, and CAP withdrawals are relatively minor in nature; (3) groundwater elevations have remained generally static since the monitoring/extraction wells were installed; (4) no substantial new areas of impervious surfaces would be constructed; (5) any groundwater extracted during construction in non-waste disposal areas would be temporary in duration and likely limited to minor quantities; and (6) no active groundwater wells are known to occur in the site vicinity. Therefore, the alternative would not result in significant adverse effects with respect to the depletion of groundwater supplies or groundwater recharge in the Santee Hydrologic Subarea.

### Mitigation Measures

The Sycamore Canyon Expansion Alternative would not result in significant adverse effects with respect to groundwater supplies and groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to hydrogeology if it would violate any federal, state, or local groundwater quality standard or waste discharge requirements.*

**Impact Statement Sycamore HGEO-2: Since the Sycamore Canyon Expansion Alternative would be developed in accordance with applicable regulations and design features to prevent groundwater contamination, no significant adverse effect would occur with regard to groundwater quality.**

### Short-Term (Expansion) Impacts

The expansion of the existing Sycamore Canyon Landfill would occur in accordance with federal, state, and local regulations, including the implementation of the existing SWPPP during expansion activities. The SWPPP contains a series of existing and proposed site-specific BMPs, as well as monitoring and reporting efforts to prevent pollutants from entering groundwater in conformance with applicable regulatory requirements. Additionally, surface flows within the landfill site during project-related construction would be carefully managed and monitored in conformance with associated regulatory and permit requirements. Specifically, this would include a number of grading efforts and a system of short-term drainage facilities to convey surface flows away from landfill use areas and into designated drainage/water quality features such as detention basins. These efforts would be intentionally designed to (among other criteria) prevent surface ponding and associated potential infiltration into local groundwater basins. With the implementation of BMPs, construction monitoring, and surface water diversion features, expansion of the existing landfill would not result in the exceedance of water quality standards or waste discharge requirements, and would not result in a significant adverse effect on groundwater quality.

### Long-Term (Operation) Impacts

The Sycamore Canyon Expansion Alternative could potentially result in groundwater quality impacts from sources including the generation of leachate and landfill gas, as well as the infiltration of contaminated surface water.[49] As described above, existing and historical groundwater contamination has occurred in association with landfill operations, with related pollutants consisting of a number of VOCs observed within (and limited to) the shallow alluvial water-bearing zone. Based on the original observation of landfill-related groundwater contamination in 1990/1991, an EMP concluded that the occurrence of VOCs was related to landfill gas, and a related DMP/CAP was initiated in 1996. The DMP/CAP has continued to be implemented up to the present, and involves operation of a landfill gas removal system, detailed monitoring/reporting, and remediation in the form of extraction/disposal of impacted groundwater. While VOCs are regularly observed in the alluvial water-bearing zone during the noted groundwater monitoring, observed long-term (10-year) decreasing trends for VOCs in the CAP wells (ITSY-6/6R and ITSY-10) indicate that "[c]orrective action measures implemented have been effective at reducing VOCs in groundwater" (GLA, 2011 and 2010). Based on these considerations, the August 2012 Revised Final EIR concludes that mitigation in the form of the described EMP and DMP/CAP has effectively reduced existing landfill-related impacts to groundwater quality below a level of significance. This conclusion also considers the fact that landfill operations are subject to rigorous regulatory oversight and design/operating requirements, with no associated notices of violation or additional remediation requirements issued by the RWQCB during the ongoing DMP/CAP (i.e., beyond the types of additional monitoring/testing conditions built into the DMP/CAP system, such as procedures to include additional monitoring and extraction if applicable).

[49] *Revised Final EIR, Sycamore Landfill Master Development Plan, August 2012.*

Specific regulatory requirements to prevent contamination of groundwater include measures related to the landfill gas removal system, LCRS, landfill liner, and groundwater monitoring/reporting and remediation efforts. These same requirements and related monitoring/reporting, design/operation, and (if applicable) remedial measures would be continued for the landfill expansion and related facilities/activities, with appropriate additions/modifications to reflect project-specific conditions. The design of the Sycamore Canyon Expansion Alternative includes a number of facilities and operations to address associated regulatory concerns/requirements, including the landfill liner, LCRS, landfill gas management system, landfill monitoring/reporting, waste screening/management, drainage controls, landfill covers, and ultimately, landfill closure. These facilities and operations, used in combination, provide redundancy for the protection of groundwater quality, pursuant to the intent of associated regulatory requirements. The principal features of the landfill facilities and operations related to the protection of groundwater quality are described in subsection 4.9.7.3 above.

With implementation of these design features, the Sycamore Canyon Expansion Alternative would not result in significant adverse effects to groundwater quality based on the following summary considerations:[50]

- Potential impacts to surface water (and related potential groundwater effects from infiltration) would be reduced below a level of significance through design and operational procedures, as part of, and in conformance with, applicable regulatory requirements.
- The ongoing DMP/CAP has effectively reduced existing landfill-related impacts to groundwater quality below a level of significance. The DMP/CAP, including monitoring/reporting and, if applicable, remedial measures, would continue to be implemented for the landfill expansion and related facilities/activities, with appropriate additions/modifications to reflect landfill-specific conditions (pursuant to regulatory direction/approval).
- The design includes a number of facilities and operations to address potential impacts and associated regulatory requirements related to groundwater quality, including the landfill liner, LCRS, landfill gas management system, landfill monitoring/reporting, drainage controls, landfill covers, and landfill closure criteria.
- Existing unlined portions of the landfill (including areas proposed to receive additional waste) would also include a number of design and operational elements to address potential impacts to groundwater quality, including continued implementation of the previously described DMP/CAP, as well as the existing/proposed landfill gas management system, drainage controls, landfill covers, and landfill closure criteria.
- In the event that a release of landfill-related pollutants that could significantly impact groundwater resources were to occur, adequate time would be available to remediate the impacts before the release could migrate a significant distance. Specifically, this conclusion is based on the following considerations: (1) the built-in redundancy of project design/operational features (in conformance with related regulatory requirements) to provide overlapping protection, containment and detection capabilities; (2) the proposed continuation of existing and/or modified monitoring/reporting; (3) the generally arid climate in the project vicinity; (4) the slow rate of local groundwater movement (approximately 120 feet per century); and (5) the rapid regulatory response requirements mandated in the project WDRs for identified landfill pollutant releases (as outlined in Sections C through E of the Monitoring and Reporting Program attached to the site WDRs ([RWQCB Order No. 99-74]).

[50] *Revised Final EIR, Sycamore Landfill Master Development Plan, August 2012.*

### Summary

The landfill expansion and related facilities/activities would potentially result in groundwater quality impacts from sources including the generation of leachate and landfill gas. These impacts would not result in significant adverse effects, however, based on the following considerations: (1) the use of appropriate design and operational methods, as well as the ongoing DMP/CAP efforts, have effectively mitigated landfill-related impacts to groundwater quality associated with the existing landfill operations; (2) similar DMP and (if applicable) CAP efforts would be conducted for the landfill expansion and related facilities/activities (with project-specific modifications as applicable), including detailed monitoring and reporting per the site WDRs (RWQCB Order No. 99-74); (3) in addition to monitoring/reporting requirements as noted, the project design includes a number of facilities and operations to address associated regulatory concerns/requirements, including the proposed landfill liner, LCRS, landfill gas management system, waste screening/management, drainage controls, landfill covers, and/or landfill closure criteria; and (4) if a release of landfill-related pollutants were to occur, adequate time would be available to remediate the impacts before the release could migrate a significant distance (i.e., due to factors including the built-in redundancy of project design/operational features, the proposed continuation of existing and/or modified monitoring/reporting, the generally arid climate in the project vicinity, the slow rate of local groundwater movement, and the rapid regulatory response requirements mandated in the project WDRs). Therefore, the Sycamore Canyon Expansion Alternative would not result in a significantly adverse effect with respect to groundwater quality and would not violate any federal, state, or local groundwater quality standard or waste discharge requirements.

#### Mitigation Measures

With implementation of the design features and federal, state, and RWQCB requirements, including the implementation of environmental control systems, the Sycamore Canyon Expansion Alternative would not result in significant adverse effects to groundwater quality. No mitigation measures are proposed.

# 4.10 LAND USE AND PLANNING

## INTRODUCTION

This section addresses potential land use impacts associated with implementation of the alternatives. With the exception of the Sycamore Canyon Expansion Alternative, all alternatives are located within unincorporated San Diego County. For alternatives located in unincorporated San Diego County, land use and planning issues include consistency of the alternatives with applicable plans and policies, including the San Diego County General Plan, community plans, regional plans, and resource conservation policies. The discussion of the County General Plan in this EIS section is a summary of a detailed analysis of all applicable goals and policies of the San Diego County General Plan (adopted August 3, 2011) contained in Appendix J of this EIS. Relative to the Gregory Canyon site there are no known land use plans for the Pala Reservation, which is located immediately east of the site.[1] The effects of the Applicant's Proposed Alternative as they relate to cultural practices are addressed in Section 4.5.2, Traditional Cultural Properties, of this EIS. The evaluation of the Sycamore Canyon Expansion Alternative is based on the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012), which includes an analysis of the consistency of the alternative with the City of San Diego General Plan and respective community plans. A detailed evaluation from the EIR, which compares this alternative to the City's General Plan is contained in Appendix J of this EIS.

## 4.10.1 REGULATORY FRAMEWORK

The regulatory framework addresses state, regional, and local plans that are applicable to the operation, siting, or effects of solid waste management.

### 4.10.1.1 State

The California Integrated Waste Management Act of 1989 (IWMA), as amended, established an integrated system of solid waste management in the state. The IWMA requires that each County prepare an Integrated Waste Management Plan and a Siting Element. The purpose of a Siting Element is to assist local governments and private industry in planning for integrated waste management and the siting of solid waste disposal facilities. A Siting Element must demonstrate that 15 years of countywide or regional solid waste disposal capacity can be achieved based upon the requirements of state solid waste law as provided in Public Resources Code Section 41701.

California Code of Regulations (CCR), Title 14, Division 7, Chapter 9, Article 6.5, Section 18756 requires that county and regional agencies describe the criteria to be used in the siting process for a new solid waste disposal facility, or to expand an existing solid waste disposal facility. CCR Section 18756 indicates that the criteria shall include, but not be limited to, a description of the major categories of environmental considerations, environmental impacts, socioeconomic considerations, legal considerations, and additional criteria as developed by the county, cities, regional agency and member agencies.

[1] *The Draft Environmental Assessment (April 2000) for the casino on the Pala Reservation states that "The Tribe has not adopted a land use plan or zoning ordinance, but rather, relies upon the Tribal Council, the governing body for the Tribe, to guide and regulate land use." The USACE consulted with the Tribe during the preparation of this EIS and was advised that no land use plan is available.*

## 4.10.1.2 Regional Plans

### County of San Diego Integrated Waste Management Plan

The County of San Diego Integrated Waste Management Plan incorporates several associated plans, including the San Diego County Siting Element (2005), the San Diego County Summary Plan, and the Unincorporated Non-Disposal Facility Element. The Countywide Siting Element serves as a general guide and description of landfill use and capacity. It provides a description of the landfills and a combination of strategies that will provide 15 years solid waste disposal capacity for all the jurisdictions within the county. The San Diego County Siting Element, which is the primary component of the Integrated Waste Management Plan, describes existing landfills in the county, estimated landfill capacity, and lists several potential or expanded sites, including Gregory Canyon, Sycamore Canyon, and Otay. According to the Siting Element, inclusion of proposed or tentatively reserved landfill sites does not advocate or in any way guarantee approval of sites by any agency or jurisdiction. The Siting Element states, "All proposals for new landfills or expansions require extensive permits, which include but are not limited to, local land use approval, environmental review, and State solid waste facility permitting procedures. Review and adoption of this Siting Element Amendment does not limit any jurisdiction's or interested party's right to conduct a more in-depth review of each proposal." The Siting Element was most recently updated in 2005. In 2011, San Diego County completed a Five-Year CIWMP/RAIWMP Review Report, which constitutes the required five-year update of the 2005 Siting Element.[2] Further discussion of the Siting Element is provided in Section 2, Purpose and Need, of this EIS.

### Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP), updated in July 2004, serves as the long-term planning framework for the San Diego region and provides a broad context in which local and regional decisions are made that move the region toward a sustainable future. The RCP integrates local land use and transportation decisions, and contains an incentive-based approach to encourage and channel growth into existing and future urban areas and smart growth communities. With respect to the County's public facilities, specifically, waste management, a recommended action of the RCP is to "use the Siting Element of the Countywide Integrated Waste Management Plan as a guide to locate facilities to meet the region's future disposal needs" (RCP, page 229). In 2006, SANDAG released the Regional Comprehensive Plan: Establishing a Baseline for Monitoring Performance, to be used to benchmark progress on an annual basis. The 2008 Regional Comprehensive Plan Annual Performance Monitoring Report (Monitoring Report) is the second since the Baseline Report was accepted by the Board in October 2006.

The 2008 Monitoring Report includes the most recent data available for each indicator, typically from 2007. Under "Areas of Improvement" (Monitoring Report, page 3), the Monitoring Report estimates that the region will reach physical landfill capacity in 2016, but unless proposed permit changes are implemented, permitted capacity could be reached prior to 2016. According to the report, the County and City of San Diego are working actively on a number of options to expand physical landfill capacity. The Monitoring Report explains that the Gregory Canyon Landfill has not received final permits, but that if the Sycamore Canyon landfill expansion and the proposed Gregory Canyon landfill (which are cited as components of the 2005 Countywide Siting Element) are not approved for increasing daily permitted disposal, the County would have

[2] *San Diego County Five-Year Review Report of the County Integrated Waste Management Plan for the County of San Diego, March 23, 2011.*

to export a higher percent of anticipated waste to meet the region's disposal needs (Monitoring Report, page 33).

### Regional Growth Management Strategies

Regional growth strategies in San Diego County are set forth by the San Diego Associations of Governments (SANDAG) and are generally based on the Sustainable Communities Strategy (SCS) of the 2050 Regional Transportation Plan (RTP). The SCS lays out how the region will meet greenhouse gas (GHG) reduction targets set by the California Air Resources Board (CARB). CARB's targets call for the region to reduce per capita emissions seven percent by 2020 and 13 percent by 2035 from a 2005 baseline. There are no mandated targets beyond 2035. If a planning area cannot meet the targets through a SCS, then the region is required to develop an alternative planning strategy that demonstrates how targets could be achieved. The reduction of greenhouse gases air emissions, which is the purpose of SANDAG's growth management strategy, is discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS.

### Regional Air Quality Strategy

The purpose of the San Diego Air Pollution Control District's Regional Air Quality Strategy (RAQS) is to identify feasible emission control measures and provide expeditious progress toward attaining California ozone standards. The two pollutants addressed in the RAQS are volatile organic compounds (VOC) and oxides of nitrogen ($NO_x$), which are precursors to the formation of ozone. The RAQS describes established statutory requirements for air quality improvement, countywide emission reduction rates, control measures, and emission offsets. The RAQS also provides a process for the review of control measures and adopted rules in other regions, consultation with affected parties, development of draft rules, workshops with affected and interested parties, development of technical support documentation, and rule consideration and adoption by the Board at a public hearing. In addition, the RAQS acknowledges that new information may become available regarding the availability of control technologies, emission reduction potential, costs of measures, and other factors. Section 4.3, Air Quality and Greenhouse Gases, of this EIS evaluates the emission of VOC and $NO_x$.

### Water Quality Control Plan for the San Diego Basin

The San Diego Region Water Quality Control Board (RWQCB)'s Water Quality Control Plan for the San Diego Basin (Basin Plan) designates beneficial uses for water bodies in the San Diego region, and establishes water quality objectives and implementation plans to protect those beneficial uses. The purpose of the plan is to: (1) designate beneficial uses of the region's surface and ground waters; (2) designate water quality objectives for the reasonable protection of those uses; and (3) establish an implementation plan to achieve the objectives. A focus of the Basin Plan is to address surface water bottom sediment contamination, ground water contamination, and nonpoint sources of pollution, which are considered the greatest remaining threats to water quality. To address these challenges, the Basin Plan emphasizes prevention and the cumulative effects of pollution on entire watersheds. Specifically, the Basin Plan designates the beneficial uses of surface and ground waters to be protected; designates the water quality objectives necessary to ensure the reasonable protection of the beneficial uses; describes the implementation plan for achieving and maintaining the beneficial uses and water quality objectives, and provides a summary description of the RWQCB's monitoring and surveillance program. Sections 4.9, Hydrogeology and 4.14, Surface Hydrology of this EIS evaluate impacts to groundwater and surface water, respectively.

### Regional Transportation Plan

SANDAG's Regional Transportation Plan (RTP), called "Mobility 2050," which serves as a blueprint for an integrated regional transportation network throughout the County, was approved by SANDAG directors in October 2011. In conjunction with the manner in which local jurisdictions develop land, the proposed network would provide additional opportunities for walking, biking, getting to school and work and other activities. The 2050 RTP outlines projects for transit, rail and bus services, express or managed lanes, highways, local streets, bicycling, and walking. The 2050 RTP also incorporates the SCS. The result is expected to be an integrated multimodal transportation system by mid-century that creates communities that are more sustainable, transit oriented, and compact.

The RTP responds to Assembly Bill 32, which requires the lowering of statewide GHG emissions and to SB 375, which establishes regional targets for reducing GHGs emissions by 2020 and 2035. The SCS, which must show how the region will meet its goals in reducing GHG emissions from automobiles and light trucks, is also required under SB 375. The 2050 RTP demonstrates means by which the San Diego region would meet these targets by using land in ways that make developments more compact, conserving open space, and investing in a transportation network that gives residents alternatives to driving alone. The vision for the 2050 RTP describes a transportation system that:

- Supports a prosperous economy; promotes a healthy and safe environment, including climate change protection; and provides a higher quality of life for all San Diego County residents.
- Better links jobs, homes, and major activity centers by enabling more people to use transit and to walk and bike; efficiently transports goods; and provides fast, convenient, and effective transportation options for all people.

Although SB 375 went into effect only recently, the building blocks of the SCS have long formed the foundation of transportation planning in the San Diego region; however, the planning effort of the RTP and SCS is now focused on promoting sustainability. The building blocks of the SCS include:

- A land use pattern that accommodates the region's future employment and housing needs, and protects sensitive habitats and resource areas;
- A transportation network of public transit, managed lanes and highways, local streets, and bikeways and walkways built and maintained with reasonably expected funding;
- Managing demands on the transportation system (also known as Transportation Demand Management, or TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand;
- Managing the transportation system (also known as Transportation System Management, or TSM) through measures that maximize the efficiency of the transportation network; and
- Innovative pricing policies and other measures designed to reduce vehicle miles traveled and traffic congestion during peak periods of demand.

Land use implications with respect to transportation are described in the comparison of the alternatives to transportation policies of the General Plan (see Appendix J). Emissions and traffic related to the concerns of

the objectives of the RTP are addressed in Sections 4.3, Air Quality and Greenhouse Gas, and 4.15, Transportation, of this EIS.

### Multiple Species Conservation Plan

San Diego County Multiple Species Conservation Plan (MSCP) consists of three subarea plans, including the North County MSCP, the South County MSCP, and the East County MSCP. The purpose of the MSCP is to preserve San Diego's native habitats and wildlife and to ensure compliance with the federal and state Endangered Species Act and the state Natural Communities Conservation Planning Act. The associated Implementing Agreement is a contract between the County and Wildlife Agencies, which establishes the conditions under which the County will receive from the U.S. Fish and Wildlife Service and California Department of Fish and Game certain long-term Take Authorizations. The purpose of the plan is to benefit the County, public and private land owners and other land development project proponents within its Subarea boundaries. The Implementing Agreement is an acknowledgment that the MSCP satisfies conditions established in the Section 4(d) Special Rule for the coastal California gnatcatcher that will allow the taking of certain Covered Species incidental to land development and other lawful land uses which are authorized by the County. MSCP areas in which authorizations for take of covered species (CS) have not been determined are referred to as major or minor amendment areas. In these areas, the take of CS and their habitats may only be authorized through the appropriate amendment process. The amendment process involves wildlife agency approval for minor amendment areas, and issuance of a Take Authorization permit amendment for major amendment areas. The USACE requires completion of a Section 7 consultation with USFWS for projects within MSCP boundaries that propose impacts to listed species and their habitats, if there is a federal nexus with the project. For projects with an approved MSCP this process includes determination of compliance with the MSCP through issuance of a Consistency Determination.

The boundaries of the City of San Diego comprise a separate MSCP, consistent with the City of San Diego Biology Guidelines. These require that development avoid impacts to certain sensitive biological resources to the greatest extent feasible. Additional information regarding the County of San Diego and City of San Diego MSCPs is contained in Section 4.4, Biological Resources, of this EIS.

## 4.10.1.3 San Diego County General Plan

The San Diego County General Plan (adopted August 2011) serves as a framework for future growth and development of the unincorporated areas of the County and is based on guiding principles designed to protect the County's unique and diverse natural resources and to maintain the character of its rural and semi-rural communities. The General Plan provides a framework for land use and development decisions consistent with an established community vision. As the equivalent of a local "constitution" for land use and development, the General Plan's policies form the basis for the County's zoning, subdivision, and infrastructure decisions. Applicable elements of the General Plan include Chapter 3, Land Use Element; Chapter 4, Mobility Element; Chapter 5, Conservation and Open Space Element; Chapter 7, Safety Element; and Chapter 8, Noise Element. As discussed in the General Plan, the policies are intended to be a clear statement of policy but also to allow flexibility when it comes to implementation. "Implementation of the policies must be balanced with one another and will address details such as how and when the policy is applied and any relevant exceptions. The General Plan states as an example that "policy to conserve open space is not a mandate for preservation of 100 percent of the existing undeveloped land in the County. It

must be balanced with other policies that allow development and other uses of the land."[3] A complete analysis of the goals and policies in the General Plan is contained in the General Plan Consistency Analysis (Appendix J) of this EIS.

### 4.10.1.4 San Luis Rey River Park Master Plan

The San Luis Rey River Park Master Plan (2005) provides long-term planning for an area along the San Luis Rey River. The area runs from the vicinity of the I-15/SR 76 interchange to approximately 8.5 miles to the west. The San Luis River Park Master Plan identifies active recreation nodes and biological and cultural resources preservation/restoration/ interpretation in the park area, as well as a trail network that will serve as the essential armature of the San Luis Rey River Park; connecting the diverse park amenities, with surrounding neighborhoods, activity nodes, and regional trails. The park's trail system is intended to institutionalize year-round public access and continuous circulation from north of I-15 to the area south of the old Bonsall Bridge, within the riparian zone and adjacent upland areas. Although the entire San Luis Rey River watershed encompasses a broad area, extending to the east of the park to the west edge of the Anza Borrego desert, the San Luis Rey River Master Plan, which is specific to the area primarily west of I-15, does not apply to any of the alternative sites.

### 4.10.1.5 Community Plans

Community Plans are components of the San Diego County General Plan and are created to address the specific issues, characteristics, and visions of individual areas. Generally, Community Plans provide a framework for addressing certain critical issues within individual communities and provide guidance as to character, land uses, and densities within each community. Goals and policies of Community Plans can be more limiting and restrictive than broader policies of the General Plan. Because Community Plans are adopted as integral to the General Plan, applicable policies are evaluated in Appendix J of this EIS.

### 4.10.1.6 Propositions to Allow Landfill Uses

#### Proposition C

San Diego voters approved Proposition C, the Gregory Canyon Landfill and Recycling Collection Center Ordinance, in November 1994, which provides for the construction and operation of a Class III landfill and recycling collection on the Gregory Canyon site. (A copy of the Proposition C initiative is included in Appendix A of this EIS.) The intent of Proposition C, is: "A. To provide for the siting of a new recycling collection center and class III solid waste landfill to allow the residents and businesses in north San Diego County to dispose of their solid waste in an environmentally sound and economically competitive manner; B. To ensure that the recycling and collection center and landfill are designed, constructed, and operated in a safe and efficient manner by requiring that they full comply with all environmental laws and regulations; and C. To amend the General Plan, Zoning Ordinance and other ordinances and policies of the County of San Diego to allow the construction of a recycling center and class III solid waste landfill on approximately 270 acres within the 1,683-acre Gregory Canyon site." Section 3 of Proposition C contains a general description of the project land use parameters for the use of the site and requires that a future landfill must incorporate a minimum of 1,313 acres of open space to be dedicated for long-term preservation of sensitive habitat and species. Proposition C includes transportation improvements, which require the widening and realignment

[3] *San Diego County General Plan, page 1-5.*

of SR 76 on either side of the access road to the landfill for acceleration and deceleration lanes. The Proposition also includes the relocation of the San Diego Gas & Electric (SDG&E) power lines and engineered protection for the existing First San Diego Aqueduct.

Section 5 of Proposition C sets forth mitigation measures to address operational components such as days and hours of operation; environmental control mechanisms, such as a liner and a leachate collection system, gas system, noise abatement plan, an odor and dust control plan; hazardous waste exclusion program; traffic impacts; earthquakes; biological impacts; visual impacts; cultural impacts; and the establishment of a Citizen Environmental Review Board.

#### Proposition A

On June 8, 2010, the voters of San Diego County approved initiative Proposition A. Proposition A amended the County General Plan, Zoning Ordinance, and other ordinances and policies of the County of San Diego to allow for the construction and operation of a recycling collection center and Class III solid waste landfill on the East Otay Mesa site. The intent of Proposition A is: "A. To provide for the siting of a new recycling collection center and class III solid waste landfill to allow the residents and businesses in San Diego County to recycle and dispose of their solid waste in an environmentally sound and economically competitive manner; B. To ensure that the recycling collection center and landfill are designed, constructed, and operated in a safe and efficient manner by requiring full compliance with all environmental laws and regulations. The Project will be monitored during its life on a regular basis by regulatory agencies including, but not limited to, the Integrated Waste Management Board, the San Diego County Air Pollution Control District and the Regional Water Quality Control Board; C. To amend the General Plan, Zoning Ordinance and other ordinances and policies of the County of San Diego to allow the construction and operation of a recycling collection center and class III solid waste landfill on approximately 450 acres of land within the East Otay." Section 3 of Proposition A contains a general description of the parameters for the use of the site in which the recycling center and landfill would occupy approximately 340 acres, with approximately 110 acres of open space. Section 5 sets forth general measures with respect to the provision of a landfill gas system and mitigation measures to address water quality, earthquakes, air quality, noise abatement, odor and dust control, and protection of biological, visual, and cultural resources.

### 4.10.1.7 San Diego County Ordinances

#### San Diego County Zoning Ordinance

The San Diego County Zoning Ordinance was adopted by the Board of Supervisors to implement the General Plan and to regulate land uses in the unincorporated portions of the County. The unincorporated area is divided into zones according to the present and potential uses of the land. Zoning ensures that new growth and development would take place according to the General Plan.

#### San Diego County Resource Protection Ordinance

The County's Resource Protection Ordinance (RPO) (Zoning Code, Part 5, Sections 5000-5964) is intended to protect sensitive lands and prevent their degradation and loss by establishing special controls on development within wetlands, floodplains, steep slopes, sensitive biological habitats and prehistoric and historic sites. Article III of the Ordinance indicates that the Ordinance applies to "…any applications filed on or after August 10, 1988 for Tentative Map, Tentative Parcel Map, Revised Tentative Map and Revised

Tentative Parcel Map, Rezone, Major Use Permit, Major Use Permit Modification, and Site Plan. In addition, this Ordinance shall apply to any application for Vacation of Open Space Easement filed on or after March 24, 1989; and to any application for an Expired Map, Certificate of Compliance, or Administrative Permit filed on or after June 30, 1989." The RPO establishes procedures and requirements for such applications, including the requirement of a Resource Protection Study, defined uses that are permitted sensitive areas, and criteria that must be applied to development within sensitive areas. These criteria are generally similar to the site-specific mitigation measures required by the County for projects to which the state environmental review process would be applicable.

The RPO regulates the use and development of areas of special interest or unusual value. Under the Ordinance, Sensitive Resource Area Regulations (County Code Section 5300-5369), are designated as special use areas to increase the protection and preservation of the County's unique topography, ecosystems, and natural beauty, diversity, and environmentally sensitive lands and natural resources, including wetlands, floodplains, prehistoric and historic sites and sensitive habitat lands. The Sensitive Resource Area designator is applied based upon the presence of one or more of the following resources on the property: wetlands, wetland buffers, floodplains, significant habitat lands, prehistoric and historic sites, and steep slopes.

Exemptions to the requirement are provided for any essential public facility or project, with the following findings:

1. The facility or project is consistent with adopted community or subregional plans;
2. All possible mitigation measures have been incorporated into the facility or project, and there are no feasible, less environmentally damaging, location, alignment or non-structural alternatives that would meet project objectives;
3. Where the facility or project encroaches into a wetland or floodplain, mitigation measures are required that result in any net gain in wetland and/or riparian habitat;
4. Where the facility or project encroaches into steep slopes, native vegetation will be used to revegetate and landscape cut and fill areas; and
5. No mature riparian woodland is destroyed or reduced in size.

The Ordinance requires a project to conform with the General Plan; to identify all natural features, topography, and development details; determine the minimum disturbance of environmentally sensitive lands; and to comply with all environmental regulations related to slopes, wetlands, floodplains, historic and prehistoric resources, and biotic resources.

### San Diego County Watershed Protection Ordinance

The purpose of the San Diego County Watershed Protection Ordinance (2010) is to protect water resources and to improve water quality by controlling stormwater conveyance systems and receiving waters. The Ordinance, which was developed in accordance with the California Regional Water Control Board Order R9-2007-0001, NPDES No. CAS0108758, requires management practices that will reduce the adverse effects of polluted runoff discharges on waters of the state, to secure benefits from the use of stormwater as a

resource, and to ensure the County is compliant with applicable state and federal law. The Ordinance establishes management standards and policies for Stormwater Pollution Prevention Plans (SWPPP) and Standard Urban Stormwater Mitigation Plans (SUSMP) for development sites. A discussion of water quality management practices is contained in in Sections 4.9, Hydrogeology, and 4.14, Surface Hydrology, of this EIS.

#### San Diego County Noise Ordinance

Fixed and operational noise is governed by Section 36.404 of the San Diego County Code, the Noise Ordinance, which establishes noise levels at the property line by land use zones and time of day. Acceptable daytime noise levels are up to 50 dBA Leq in residential areas and 75 dBA Leq in industrial zones. In residential zones adjoining commercial and industrial zones, acceptable daytime noise levels are the arithmetic mean of 62.5 dBA Leq (Segal, 1998). The County Noise Ordinance is discussed in greater detail in Section 4.11, Noise and Vibration, of this EIS.

#### San Diego County Light Pollution Ordinance

San Diego County has a "dark skies" policy that restricts outdoor light fixtures that may have a detrimental effect on astronomical research. The County's Light Pollution Code restricts outdoor lighting to low pressure sodium lamps, establishes lamp and shielding requirements and hours of operation standards that have been determined to effectively reduce impacts on dark skies to limit interference with the observatory at Mount Palomar. The Code was written specifically to ensure that new outdoor lighting would have minimal impacts on astronomical observatories. A discussion of the Light Pollution Ordinance is provided in Section 4.1, Aesthetics, of this EIS.

### 4.10.1.8 City of San Diego General Plan

The City of San Diego General Plan is a comprehensive, long-term document that sets out a long-range vision and policy framework for how the City could grow and develop, providing guidance on the need for future public services. It provides policy guidance to balance the needs of the growing city while enhancing quality of life for current and future residents. The General Plan is comprised of a Strategic Framework section and ten elements including: Land Use and Community Planning; Economic Prosperity; Mobility; Urban Design; Public Facilities, Services and Safety; Recreation; Conservation; Historic Preservation; Noise; and Housing.

The Land Use and Community Planning Element is intended to guide future growth and development into a sustainable citywide development pattern, while maintaining or enhancing the City's quality of life. It addresses land use issues that apply to the City as a whole, and identifies the community planning program as the mechanism to designate land uses, identify site-specific recommendations, and refine citywide policies, as needed.

The Land Use Element also includes policies that govern the preparation of community plans. The community plans provide more detailed land use designations and site-specific policy recommendations than is practical at the citywide level. Community plans typically address community issues such as: the local street and transit network; distinctive environmental characteristics; community landmarks; location, prioritization and provision of public facilities; community urban design guidelines; and identification of gateways. The City has 50 designated Community Planning Areas.

The Housing Element of the General Plan is printed under separate cover, and serves as a policy guide to address the comprehensive housing needs of the City. It is prepared pursuant to state laws that require local jurisdictions to address the housing needs of their community, the barriers or constraints to providing that housing, and actions proposed to address these concerns over an eight-year period. It based on the housing needs identified in the Regional Housing Needs Assessment (RHNA) prepared by SANDAG.

## 4.10.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on land use and planning.

### 4.10.2.1 Criteria for Assessing Effects

In the absence of federal standards to determine adverse effects, criteria for assessing adverse effects rely on state and local thresholds for guidance. Therefore, the alternative would result in a significant adverse effect if:

- the alternative would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the alternative (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for purpose of avoiding or mitigating an environmental effect; or
- the alternative would conflict with any applicable habitat conservation plan or natural community conservation plan.

The land use analysis determines consistency with adopted land use and conservation plans. Inconsistency between a project and a plan is a policy or legal determination rather than a physical impact on the environment. In this regard, a policy may be changed (e.g., through the adoption of a General Plan Amendment) to adapt a plan to a desired land use or evolving community or regional needs. However, when the inconsistency with a current plan would result in a physical impact to the environment (e.g., the General Plan Amendment would result in an adverse aesthetic, traffic, or other adverse effect), the inconsistency would be considered adverse for the purpose of this analysis.

### 4.10.2.2 Methodology

The land use analysis is based on the following:

- Review of applicable plans and policies;
- Review of aerial photographs, land use maps, and visits to areas surrounding alternative sites to determine current and designated land uses within an area; and
- Determination as to whether the alternatives are consistent with applicable plans and policies.

With the exception of the Sycamore Canyon Expansion Alternative, all alternatives are located in unincorporated San Diego County. The Sycamore Canyon Expansion Alternative is located within the City of San Diego. The land use analysis for alternative sites in unincorporated San Diego County is based on a detailed analysis of the County's General Plan, which is contained in Appendix J of this EIS. The summaries of the consistency of the alternatives with respective community plans, which are elements of the General Plan,

are also based on a more detailed analysis in Tables 1 through 3 in Appendix J. Each alternative is compared to the applicable policies of the community plan areas in which the alternative is located. Community plans also identify Resource Conservation Areas (RCAs), which are applicable to two of the alternatives (a portion of the Applicant's Proposed Alternative site and all of the Merriam Mountain Alternative site). The evaluation of RCAs compares the consistency of the alternative with the habitat conservation plan/natural community conservation plan criterion. The land use analysis for the Sycamore Canyon Expansion Alternative is based on the land use analysis contained in the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012). A comparison of the Sycamore Canyon Expansion Landfill Alternative to applicable City of San Diego General Plan and East Elliott Community Plan policies is based on Table 5.1-1, City of San Diego Land Use Goals, Objectives, and Policies Consistency Analysis, in the Sycamore Landfill Master Development Plan EIR, which is replicated as Table 4 in Appendix J of this EIS.

## 4.10.3 APPLICANT'S PROPOSED ALTERNATIVE

### 4.10.3.1 Affected Environment

The Applicant's Proposed Alternative site is generally vacant, although a temporary storage yard is located south of SR 76 on the eastern portion of the site. Historically, the site was occupied by two dairies, the Lucio and Verboom Dairies, located in proximity to the San Luis River floodplain. The Lucio Dairy closed in 1986. The majority of the residences located on the site have been vacated and boarded up. Three large, regional easements cross the site, including SR 76, an SDG&E transmission corridor, and San Diego Pipelines Nos. 1 and 2 (First San Diego Aqueduct). An SDG&E gas line has been installed through the site in an easement that runs parallel to SR 76 (see Figure 3-2). The SR 76 right-of-way occupies approximately 16.5 acres through the site. The Escondido and Talega electrical transmission network, which contains a 230 kilovolt (kV) and the Pala-Lilac 69 kV electrical transmission lines, are located on common structures within a 300-foot wide easement, which crosses the site in a north-south direction along the lower slopes of Gregory Mountain. The transmission lines are owned and maintained by SDG&E along unimproved dirt roads within the easement.

The Applicant's Proposed Alternative site is designated Public/Semi-Public Lands and zoned Solid Waste Facility (SWF). Surrounding lands include farming operations to the west and north. This area is designated as Rural Lands in the RL-40 zone (corresponding to one dwelling unit per 40 acres). Much of the RL-40 zoned area due north of the Applicant's Proposed Alternative site is undeveloped open space. An existing, privately-owned power generating facility in the Public/Semi Public Facilities designation is located on the north side of SR 76, just to the north of the site. Also, north of the Applicant's Proposed Alternative site on the south side of SR 76 is a former sand and gravel mining operation in an area designated as Rural Lands (RL-40). The former mining site is distinguished by several ponds visible from throughout the Applicant's Proposed Alternative site and from along SR 76. The Pala Reservation and Casino is located to the east of the Applicant's Proposed Alternative site, in an area designated as Public Agency Lands. The reservation lands are located to the east of the crest of Gregory Mountain and the site of the Applicant's Proposed Alternative (landfill, facilities, and borrow/stockpiles) is not visible from the Pala community. Orchards and residences in a hilly area adjoin the site to the south. A portion of this area nearer Couser Canyon Road is designated as Rural Lands in the RL-20 zone (corresponding to one dwelling unit per 20 acres). To the east of this section is an orchard area designated as Semi-Rural Lands in the SR-4 zone (corresponding to one dwelling unit per 20 acres). The surrounding Rural Lands and Semi-Rural Lands designations allow dual agricultural and residential uses at the indicated densities. The land use designations and zoning are illustrated in Figure 4.2-2, Gregory Canyon Area - General Plan Designated Land Uses, in Section 4.2, Agriculture, of this EIS.

Under Appendix A of the Pala/Pauma Subregional Plan, Gregory Mountain is designated as a Resource Conservation Area (RCA # 15: Mount Gregory). Resources in this steep rocky area include large old growth mixed chaparral which serves as wildlife habitat and oak woodlands in canyon bottoms, and north facing slopes.

### 4.10.3.2 Design Features from the Gregory Canyon EIR

The following summarizes mitigation measures related to land use that would be required under CEQA with implementation of the Gregory Canyon Landfill project pursuant to a Mitigation Monitoring and Reporting Program (MMRP) adopted by the San Diego DEH on May 13, 2011. As these measures would be required as part of the project, they are referred to and considered as design features in this EIS. The MMRP with the full text of the measures is included in Appendix A of this EIS.

- **DF 4.1-1. Citizen Environmental Review Board.** The Citizen Environmental Review Board, which shall provide oversight of the landfill operation, shall be established after at least five public agencies have executed waste supply agreements with the operator.[4]
- **DF 4.1-2. Open Space Dedication.** Dedication of 1,313 acres of permanent open space or the creation of an easement for long-term preservation of sensitive habitat and species.
- **DF 4.1-3. Pipeline Relocation Agreement.** An executed agreement between Gregory Canyon, Ltd. and the San Diego County Water Authority providing for relocation and protection of the San Diego Aqueduct Pipelines.

### 4.10.3.3 Environmental Consequences and Mitigation Measures

#### Consistency with General Plan and other Land Use Plans

*Criterion: A significant adverse effect would occur if the alternative would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for purpose of avoiding or mitigating an environmental effect.*

**Impact Statement Gregory LU-1: The Applicant's Proposed Alternative would be substantially consistent with applicable policies of the General Plan, Pala/Pauma Subregional Plan, and other County and Regional plans. Therefore, this alternative would not have a significant adverse effect with respect to this criterion.**

#### San Diego County General Plan

The Applicant's Proposed Alternative would be consistent with the land use designation of Public/Semi-Public (Solid Waste Facility) and SWF zoning on the site (Policy LU-1). The Applicant's Proposed Alternative

[4] *In addition, Condition 17.h) of the SWFP requires that "Prior to commencement of operation, the owner/operator shall establish an Interim Citizen Environmental Review Panel (Panel). The Panel shall not be conditioned by the execution of waste supply agreements as set forth in Proposition C (November, 2004). Participation on the Panel shall be open to any city or other governmental entity that notifies the owner/operator of its desire to participate, and each participating entity shall appoint its representative to the Panel. The Panel will meet at least annually, and more often as determined necessary by the Panel. The owner/operator shall provide qualified personnel to attend the Panel meetings, and shall provide accommodations for the Panel meetings. When two or more cities or other governmental entities agree to supply waste to the project, the Panel shall cease to exist and shall be replaced by a Citizen Environmental Review Board as required by and as set forth in Proposition C and in MM4.1.C5Q."*

would also be substantially consistent with the applicable goals and policies of the General Plan's Land Use, Mobility, Conservation and Open Space, Safety, and Noise Elements. The consistency of the alternative with the goals and policies of the General Plan is described in detail in Appendix J of this EIS.

One of the purposes of the General Plan is to maintain the County's rural character, as expressed in GOAL LU-2: "Maintenance of the County's Rural Character. Conservation and enhancement of the unincorporated County's varied communities, rural setting, and character." The General Plan implemented this policy through the updating of the General Plan in 2011, at which time overall housing capacity was reduced by 15 percent and 20 percent of future growth from the eastern backcountry was shifted to western communities, compared to the 1978 General Plan. As a special purpose designation, a landfill is considered neither urban nor rural, but rather an infrastructure element similar to roads or utilities, such as water and sewer. Landfills are necessary as final disposal sites for waste generated in developed or developing urban, suburban and rural areas. The site's Public/Semi-Public Lands with a Solid Waste Facility designator is intended to protect waste facility sites from encroachment by development of incompatible uses.

Existing land uses in the area include a mix of agricultural, residential, extractive, commercial, industrial, and infrastructure uses. The area is generally rural in character with pockets of intensive extractive, commercial, and infrastructure uses. The area west and south of the site consists of agricultural estate-density residential development, with single-family residences on parcels ranging from four to twenty acres. Many of the parcels contain active agricultural orchards. The steep undeveloped slopes of Gregory Mountain abut the site to the east. Visually prominent rock outcrops exist on the higher slopes of Gregory Mountain and throughout the area. The residential community of Pala is located about 2.5 miles northeast of the site.

Interspersed with the rural agriculture and residential uses are areas of intense extractive, commercial and infrastructure development. Directly north of the site (to the south of SR 76) is the former H. G. Fenton Materials, Inc. sand and gravel mining operation, with water-filled gravel ponds visible from SR 76 and the site. Rosemary's Mountain quarry, which opened in 2008, is located just to the west of Rice Canyon Road approximately 1.75 miles west of the site. The mining operation includes asphalt and concrete processing plants. The quarry contains facilities for temporary rock crushing, and a permanent, enclosed crushing facility is proposed. Heavy trucks carrying rock products frequently travel along SR 76 between these facilities and I-15. High intensity infrastructure uses in the area also include the SDG&E 230- kilovolt and 69-kilovolt transmission lines which traverse the site and neighboring properties in a north-south direction along the eastern wall of Gregory Canyon.

The primary commercial use in the area is the Pala Resort and Casino, which includes an approximately 187,000 square-foot casino, 10 restaurants, a spa, and a 507-room hotel. This use is located on the Pala Reservation immediately east of the Gregory Canyon site. Land uses to the west and south are primarily agricultural. A broad area surrounding the site, particularly to the north of the site and north of SR 76, is undeveloped open space. The Applicant's Proposed Alternative would provide a minimum of 1,313 acres of permanent open space, which would be consistent with and contiguous to the open space that occurs in the area. Upon closure, the entire site (approximately 1,770 acres) would be maintained as permanent open space. With the implementation of design features, the Applicant's Proposed Alternative is not expected to adversely impact the character or rural lifestyle that exists in the area and, therefore, would be consistent with GOAL LU-2 of the County's General Plan.

The alternative would be consistent with GOAL LU-6 and the primary goals of the Conservation and Open Space Element to maintain environmental balance with respect to biological resources and sensitive plant and animal species, wetlands, cultural resources, aesthetic resources, geologic hazards, groundwater supplies and water quality, and surface water runoff through the incorporation of design features to the extent feasible. The alternative would be consistent with GOAL LU-16 regarding appropriately sited waste management facilities in that it would be accessible to the North County's population centers and within close proximity to regional roadways (I-15). The alternative would protect potential water resources through the installation of a double liner, water quality monitoring, collection and diversion of runoff, desiltation, implementation of the HRRMP, and other design features.

In accordance with GOAL N-1 of the Noise Element to provide an acceptable noise environment through land use compatibility and separation between designated industrial areas and designated residential areas, the alternative would incorporate design features, including measures from the adopted Gregory Canyon Landfill MMRP, to reduce noise levels and vibration, and to improve compatibility with surrounding residential uses. However, the cumulative traffic (the alternative's maximum of 673 waste trucks a day combined with related project traffic, recreational traffic, and other regional growth alternative) could result in noise levels above CNEL 60 at some existing residences along SR 76. Although this could be remedied by sound walls for residences in the proximity of Rice Canyon, such features may not be acceptable to Caltrans or to affected residents. However, because the intent of GOAL N-1 is to separate industrial areas from adjacent sensitive areas and to maintain acceptable noise levels at the industrial source, the alternative would be consistent with this goal.

Mobility Element GOAL M-2 requires the development of a road network that provides adequate capacity to reasonably accommodate both planned land uses and regional traffic patterns, while supporting other General Plan goals such as providing environmental protections and enhancing community character. Policy M-2.1 requires development projects to provide associated road improvements necessary to achieve a level of service of "D" or better on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to certain criteria (criteria for accepting a road classification with level of service E/F). When development is proposed on roads where a failing level of service has been accepted, the policy is to require feasible mitigation in the form of road improvements or a fair share contribution to a road improvement program, consistent with the Mobility Element road network. Improvements to SR 76 at the access road would provide adequate width for the eastbound deceleration lane, westbound deceleration lane and to improve sight distance. Improvements, which are 1,700 linear feet, would widen SR 76 roadway from 52 to 64 feet. Widening and other design features, including payment for roadway improvements (if timing of improvements correspond to traffic demand) and a traffic signal at the SR 76/access road intersection would maintain acceptable service levels along SR 76 and at intersections. The incorporation of the alternative's design features would reduce impacts associated with improvements and, as such the alternative would be consistent with this policy of the General Plan.

The operation of the landfill would take place during daytime hours and would not be a substantial source of light, and construction and operation activities would comply with San Diego County Light Pollution Code (Sections 59.108–59.110). Therefore, the alternative would be consistent with GOAL COS-13 regarding the preservation of dark skies that contribute to character and night sky visibility for local observatories.

Although the Applicant's Proposed Alternative would result in physical impacts that would not be reduced to below and the criteria, therefore would not meet the objectives of certain policies regarding protection of hillsides (COS-12), with the incorporation of design features, the alternative would be substantially consistent with the General Plan and would not impede the objectives of the General Plan to frame future growth and development in unincorporated areas, to protect the County's unique and diverse natural resources, or to maintain the character of its rural and semi-rural communities.

### Pala/Pauma Subregional Plan

The Applicant's Proposed Alternative, which would be consistent with the SWF designation, would be consistent with the Pala/Pauma Subregional Plan Land Use Policy B.2, which is to implement the land use categories and designations contained in the County General Plan Land Use Element.

Land Use Policy B.4 is the protection of sensitive biological resources through the RCA designation. The RCA designation requires low density General Plan designations and zoning in RCA areas. A portion of the site is located within the RCA area and the relationship of this designation to the alternative is described in detail under Consistency with Resource Conservation Designation, below. With respect to zoning, the SWF indicates a low density zone that would not allow other development. Under the existing designation and requirements of Proposition C, the majority of the site (approximately 75 percent) would be maintained as permanent open space and following closure, all of the site would be maintained as permanent open space. Therefore, the alternative would be consistent with the low density constraints of the RCA designation. Conservation Policy A, which is similar to Land Use Policy B.4, states that it is necessary to protect the environmental resources designated as "Resource Conservation Areas." This issue is discussed in detail under Consistency with Resource Conservation Designation, below.

Mobility Policy A requires the orderly development of a highway and street network that is adequate to handle subregional traffic at acceptable service levels and capable of accommodating automobile and truck traffic as well as public modes of travel in the subregion. The alternative would increase truck traffic on SR 76 by up to 673 trucks per day. With the implementation of design features and other improvements under the alternative, which include specific widening improvements to SR 76 (refer to Section 4.15, Transportation, of this EIS), traffic impacts would not be adverse. As such, the alternative would be consistent with this policy.

Mobility Policy B states that the General Plan's Mobility Element road classifications are to be applied according to a roadway's carrying capacity, which are based on traffic forecasts and public road standards. According to the policy this would not apply to locations where a failing level of service is deemed acceptable by the County when any criteria specifically identified in the General Plan Mobility Element Table M-3 is met. The Community Plan recognizes the following: "the use of SR 76 for recreational-oriented travelers will continue to impact the local and regional road and highway network."[5] The cumulative traffic impact analysis for the alternative takes into consideration future growth in the area and related projects. With the implementation of recommended roadway improvements under the alternative and the payment of a Transportation Impact Fee (TIF), cumulative impacts at buildout are determined to not be adverse. However, if the timing of the implementation of improvements were not consistent with the timing of cumulative traffic growth, significant adverse cumulative traffic impacts could occur. Nevertheless, because

[5] *Pala/Pauma Subregional Plan, page 8.*

the alternative would meet the requirements of General Plan Policy M.2-1 in providing for mitigation to the extent feasible,[6] the alternative would be consistent with the mobility goals of the Community Plan, the purpose of which are to maintain acceptable carrying capacity of the street network.

With the implementation of design features, the Applicant's Proposed Alternative would be substantially consistent with the Pala/Pauma Subregional Plan and would not impede the objectives of the Subregional Plan to implement General Plan policies at a local level. Therefore, the alternative would not have a significant adverse effect with respect to this criterion.

### Fallbrook Community Plan

A small area along the west edge of the site, beginning to the south of SR 76 in the river basin and extending primarily north of SR 76, is located within the Fallbrook Community Plan area. This portion of the site would be maintained as permanent open space. Because no change would occur in this area, the alternative would have no effects regarding the policies of the Fallbrook Community Plan.

### Regional Plans

The Applicant's Proposed Alternative would be consistent with the goals of the County's Integrated Waste Management Plan in that it would provide for the construction and operation of a landfill in the northern San Diego County area on a site identified as a landfill site in the County of San Diego Siting Element and Five-Year CIWMP Review Report (March 2011). Under the Five-Year Review of the Siting Element (an element of the Integrated Waste Management Plan), the Gregory Canyon site is identified as an integral component of the County's projected landfill capacity.

The Applicant's Proposed Alternative would also meet the objectives of the RCP to provide Countywide waste management facilities and to use the Siting Element of the Countywide Integrated Waste Management Plan, which recognizes the Gregory Canyon site as a future landfill site, as a guide to locate facilities to meet the region's future disposal needs.

Because the purpose of the alternative is to provide non-hazardous solid waste disposal capacity to service waste generated in or near North County, it is likely that the alternative would receive waste generated by North County jurisdictions. With location of the alternative in the North County, the alternative is expected to reduce emissions that would, otherwise, be created by the export of the North County's solid waste out of the County or transport of solid waste to areas in the County farther from the source. Therefore, the alternative would be consistent with SANDAG's Growth Management Strategy and the Regional Air Quality Plan, the purposes of which are to reduce vehicle traffic and air emissions. The vehicle emissions and relationship of the alternative to the objectives of the Regional Air Quality Plan are discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS.

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[6] *General Plan Policy M.2-1 requires development projects to provide associated road improvements necessary to achieve a level of service of "D" or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the criteria specifically identified in an accompanying text box (Criteria for Accepting a Road Classification with Level of Service E/F). When development is proposed on roads where a failing level of service has been accepted, the General Policy requires feasible mitigation in the form of road improvements or a fair share contribution to a road improvement program, consistent with the Mobility Element road network.*

Mitigation Measures

No significant adverse effects would result from the Applicant's Proposed Alternative with respect to the General Plan, Pala/Pauma Subregional Plan, Fallbrook Community Plan, and regional plans. No mitigation measures are proposed.

### Consistency with Resource Conservation Area Designation

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable habitat conservation plan or natural community conservation plan.*

**Impact Statement Gregory LU-2: The Applicant's Proposed Alternative's landfill prism would maintain an approximate 700-foot separation between the crest of Gregory Mountain and the top of the landfill. The landfill would cause the loss of oak woodlands and other habitat in the RCA-designated area (the east side of Gregory Canyon). Impacts to biological resources would be mitigated through design features, including the HRRMP, to preserve and restore habitat. With the implementation of aesthetic and biological resources design features, the Applicant's Proposed Alternative would be consistent with the intent of the RCA to protect Gregory Mountain. No significant adverse environmental effects with respect to the conservation area designation would occur.**

As identified in Appendix A of the Pala/Pauma Subregional Plan, Gregory Mountain, the area beginning at the bottom of the Gregory Canyon drainage and extending up the west side of Gregory Mountain, encompassing the crest of the mountain and its east slope, is designated as RCA #15. The location of RCA #15 is illustrated in Figure 4.10-1, *Pala/Pauma Subregional Plan Resource Conservation Area Map*, below. As stated in the Pala/Pauma Subregional Plan's description of RCA #15, "resources in this steep rocky area include large old growth mixed chaparral which serves as wildlife habitat and oak woodlands in canyon bottoms, and north facing slopes." Under the Applicant's Proposed Alternative, the landfill prism would rise to an elevation of approximately 1,100 feet amsl along the westerly flank of Gregory Mountain, beginning at the existing lowest ground elevation of approximately 380 feet amsl in the north portion of the landfill and approximately 925 amsl at south portion. Beginning at ground level, the landfill prism would range from 175 feet to 862 feet in height along the westerly flank of Gregory Mountain. The landfill would be maintained at no higher than 1,100 feet amsl, which would leave a minimum separation of approximately 700 feet between the top of the landfill and the top of Gregory Mountain. Although the landfill mass would noticeably change the landform character of the westerly flank of the mountain, it would not encroach on the crest of the mountain, affect the character or views of the ridgeline, or affect habitat or the character of Gregory Mountain above the height of the landfill or along the easterly flank interfacing the Pala Reservation.

While the landfill would impact wildlife habitat, and oak woodlands in the canyon and riparian habitat in the river basin, an HRRMP would be implemented which would create new upland/transitional habitat, including oak woodlands, and create and restore riparian habitat areas. Under the proposed HRRMP, coast live oak woodland would be mitigated at a 2:1 ratio. The HRRMP would also result in more riparian habitat/wetland than under existing conditions (see Section 4.4, Biological Resources, of this EIS). Upon closure, the disturbed areas would be revegetated with native plant species and maintained as permanent open space.

Although the impact of the Applicant's Proposed Alternative could adversely affect a portion of Gregory Mountain, with the creation of new upland/transitional habit and creation and restoration of riparian habitat under the proposed HRRMP, and revegetation design features, impacts to habitat would be reduced and the alternative would be consistent with the intent of the RCA land use classification to conserve sensitive habitat. Therefore, the alternative would not have a significant adverse effect.

Mitigation Measures

No significant adverse effects regarding the RCA designation of Gregory Mountain would occur. No mitigation measures in addition to those proposed in Section 4.4, Biological Resources, of this EIS are proposed.

## 4.10.4 NO FEDERAL ACTION ALTERNATIVE

### 4.10.4.1 Affected Environment

The affected environment is the same as the existing environment of the Gregory Canyon site described above. Although some areas within the Gregory Canyon site have been degraded by former agricultural operations, a large portion of the site supports native plant species including oak trees, riparian vegetation, and other native vegetation. Gregory Mountain, which forms the easterly backdrop of the site, is characterized by a broad variety of rock outcrops and sparser native vegetation, typical of northern San Diego County. Three large, regional easements cross the site, including SR 76, a SDG&E transmission corridor, and San Diego Pipelines Nos. 1 and 2 (First San Diego Aqueduct), as well as an underground SDG&E gas line.

### 4.10.4.2 Design Features

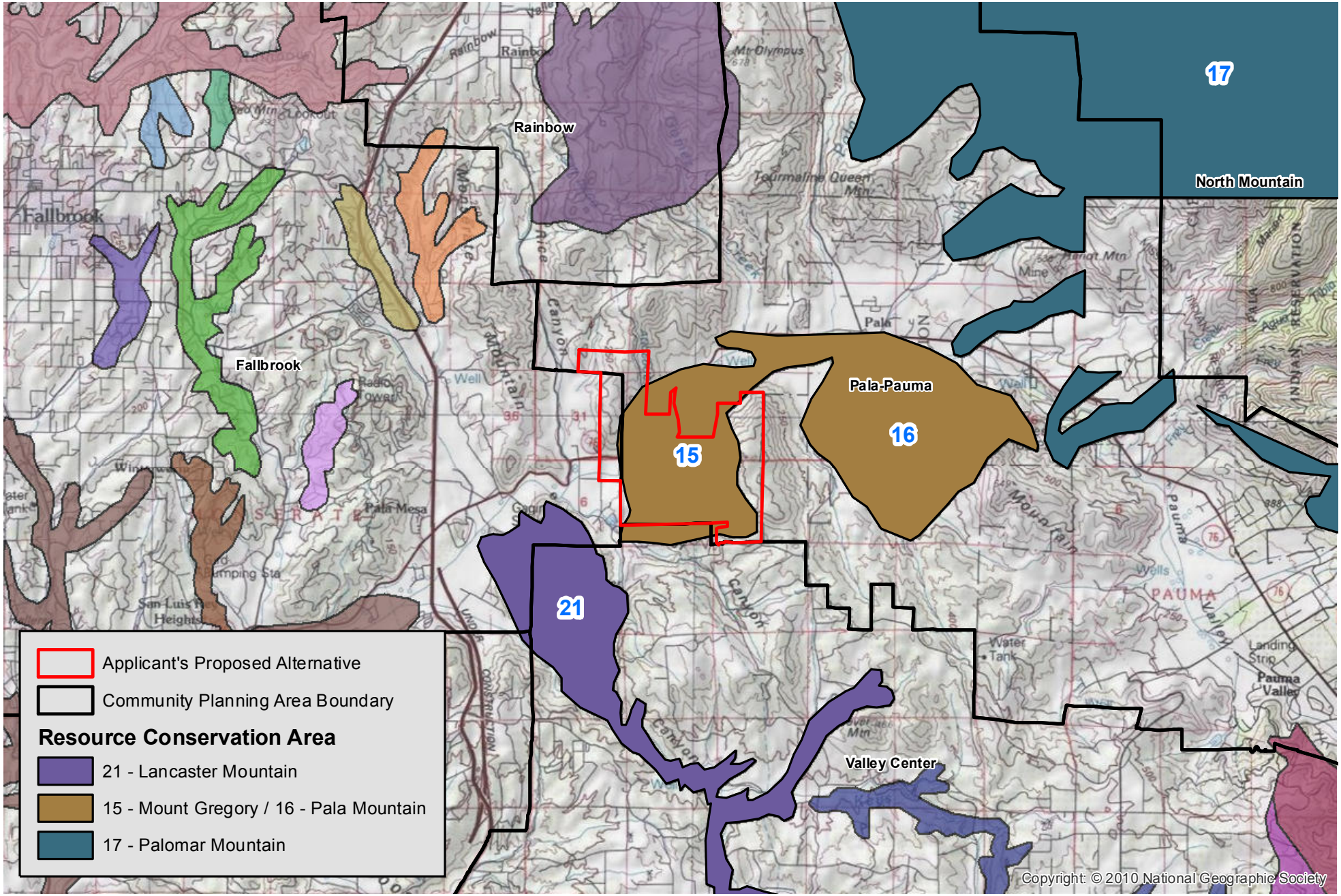
The Gregory Canyon site would be preserved as permanent open space. Existing boarded up structures would be removed.

### 4.10.4.3 Environmental Consequences

#### Consistency with General Plan and other Land Use Plans

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for purpose of avoiding or mitigating an environmental effect.*

**Impact Statement No Federal Action LU-1: The No Federal Action Alternative would not meet the goal of the General Plan and the County's Integrated Waste Management Plan to provide infrastructure concurrent with growth and development and sited to minimize environmental impacts. Therefore, this alternative would have a significantly adverse effect with respect to consistency with goals of the General Plan and regional plans.**




N

0 1.5 3 Miles

**Pala/Pauma Subregional Plan Resource Conservation Area Map**

Gregory Canyon

Source: SANDAG, 2012; PCR Services Corporation, 2012.

FIGURE

**4.10-1**

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### San Diego County General Plan, Pala/Pauma Subregional Plan, and Fallbrook Community Plan

The No Federal Action Alternative would result in the creation of a conservation bank on the site. Because this alternative would not meet the County's landfill need for additional capacity, this alternative would not be consistent with GOAL LU-12 of the General Plan to provide infrastructure and supporting public services that meet community needs concurrent with growth and development. Without new sources of solid waste capacity in San Diego County, it is expected that by 2024/25, County waste would need to be transported to El Sobrante Landfill in Riverside County. The El Sobrante Landfill is located approximately 50 miles to the north of the No Federal Action Alternative site. Increased haul miles would create additional emissions, which would be inconsistent with GOAL LU-16 to appropriately locate solid waste management facilities in a manner that minimizes environmental impacts. Although the No Federal Action Alternative would not impede the County's efforts to find other solid waste sites, the No Federal Action Alternative would not be consistent with specific goals of the General Plan and, therefore, would be considered to have a significant adverse effect with respect to the General Plan.

### Regional Plans

The No Federal Action Alternative would not be consistent with the goals of the County's Integrated Waste Management Plan in that it would not provide for the construction and operation of a landfill in the northern San Diego County area on a site identified as a landfill site in the County of San Diego Five-Year CIWMP Review Report. Under the Five-Year Review of the Siting Element, the Gregory Canyon Landfill site is included as a component of the County's projected landfill capacity. The No Federal Action Alternative would not meet the objectives of the RCP to use the Siting Element of the Countywide Integrated Waste Management Plan as a guide to locate facilities to meet the region's future disposal needs. The Siting Element recognizes the regional need for a landfill. It is expected that, without new solid waste facilities, waste from San Diego County would need to be hauled to El Sobrante Landfill in Riverside County. The El Sobrante Landfill is located approximately 50 miles to the north of the No Federal Action Alternative site. Therefore, the No Federal Action Alternative would have an adverse effect with respect to SANDAG's Regional Air Quality Plan, which is to provide development in because it would indirectly cause an increase in vehicle emissions associated with hauling. Therefore, the No Federal Action Alternative would be considered to have a significant adverse effect with respect to regional plans.

#### Mitigation Measures

No feasible mitigation measures are available to reduce adverse effects with respect to the General Plan and regional plans. No mitigation measures are proposed.

### Consistency with Resource Conservation Area Designation

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable habitat conservation plan or natural community conservation plan.*

**Impact Statement No Federal Action LU-2: No changes would occur under the No Federal Action Alternative with respect to Gregory Mountain; therefore, no potential inconsistencies regarding the protection of Gregory Mountain would occur. There would be no adverse effects related to the Pala/Pauma Subregional Plan's RCA designation for Gregory Mountain.**

The entire site would be maintained as permanent open space and a conservation bank would be implemented on a portion of the site. No changes would occur along the flank of Gregory Mountain or to habitat and oak woodlands in the canyon. Therefore, there would be no adverse effects with respect to the objectives and policies of the Pala/Pauma Subregional Plan or the RCA designation for Gregory Mountain under the No Federal Action Alternative.

Mitigation Measures

The No Federal Action Alternative would not result in any adverse effects with respect to the Gregory Mountain RCA. No mitigation measures are proposed.

## 4.10.5 ASPEN ROAD ALTERNATIVE

### 4.10.5.1 Affected Environment

The Aspen Road site is primarily vacant and undeveloped. A few buildings/trailers and some areas are currently or have been used for avocado production. Rural residential development in the surrounding area is located primarily to the southwest of the site and an area of semi-rural development is located between the site and I-15. Agricultural uses are also located on the eastern and western portions of site. A large part of the site has been retained in a natural state.

Lands to the north of the site are undeveloped. Lands to the east, west, and south are generally rural residential, with agricultural uses including nurseries and avocado and citrus groves, and vacant, undeveloped land. The Roadrunner Ridge Winery is located north of the site.

The Aspen Road site is primarily designated Rural Lands (RL-20) in the County's General Plan. However, a small area on the eastern portion of the alternative site is designated Semi-Rural Residential (SR-10) and two small areas on the northern portion of the alternative site are designated Rural Lands (RL-40). The Rural and Semi-Rural Residential zoning designation allows agricultural uses as well as low density residential uses. A corridor running through the southern portion of the site is designated Public/Semi-Public Facilities. This corridor aligns with the Metropolitan Water District Easement in which existing Metropolitan San Diego Pipelines No. 4 and 5 cross underneath the site along the eastern site boundary. Land use designations and zoning on the site and surrounding area are illustrated in Figure 4.2-4, Aspen Road Alternative Area – General Plan Designated Land Uses, in Section 4.2, Agricultural Resources, of this EIS.

### 4.10.5.2 Design Features

Consistency with land use plans is related to the physical effects of a development and the degree to which a development affects resources that land use plans intend to protect, such as land, water, air quality, noise environment, mobility, cultural resources, aesthetic resources, public services, utilities, and other resources. Design features listed in subsection 4.10.3.2 for the Applicant's Proposed Alternative are from Proposition C and are, thus, specific to the Applicant's Proposed Alternative site. However, design features and mitigation measures with respect to the physical effects of the Aspen Road Alternative are addressed in respective sections of the EIS.

## 4.10.5.3 Environmental Consequences

### Consistency with General Plan and other Land Use Plans

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for purpose of avoiding or mitigating an environmental effect.*

**Impact Statement Aspen LU-1: The Aspen Road Alternative would impede several policies and goals of the General Plan and Fallbrook Community Plan regarding land use designation, rural character, agricultural resources, and ridgeline disruption. Therefore, a significant adverse effects with respect to general plans and other land use plans would occur.**

#### San Diego County General Plan

The Aspen Road Alternative has been analyzed for consistency with the goals and policies of the General Plan, which dictate future development in the area and, therefore, the intended community character of the site (see Appendix J of this EIS). A landfill would not be consistent with the Rural Lands (RL20), Rural Lands (RL-40) and Semi-Rural Lands (SR-2) designations on the Aspen Road Alternative site. Therefore, the alternative would not be consistent General Plan Policy LU-1, which establishes the land use designator for the site. A General Plan Amendment and rezoning of the site from rural and semi-rural uses to SWF would be required.

One of the purposes of the General Plan is to maintain the County's rural character, as expressed in General Plan GOAL LU-2. The Aspen Road Alternative site and the surrounding area are predominantly rural. Landfills are a special purpose use and necessary as final disposal sites for waste generated in developed or developing urban, suburban and rural areas. The siting of a landfill does not attract development of either urban or rural character within close proximity to the landfill. Policy LU-2.4, which addresses the relationship of land uses to community character is intended to ensure that the land uses and densities depicted on the Land Use Map reflect the unique issues, character, and development objectives for a Community Plan area. LU-2.6 requires that development near neighboring jurisdictions retain the character of the unincorporated community and use techniques to improve compatibility between jurisdictions. The alternative would not be consistent with the underlying zoning on a site that is predominantly zoned as a rural use (RL-40) and would be located in an area that is predominantly rural. The alternative would change the character of the area by converting predominantly open space to a landfill with a high level of activity, in an area that is predominantly rural with no expectation of such activity. In addition, the alternative would be located in close proximity to a predominantly rural area of Riverside County (less than one mile to the north). Because the rural zoning of the site and surrounding area anticipates a low level of activity, the Aspen Road Alternative is considered to be inconsistent with GOAL LU-2 of the General Plan.

The alternative would not be consistent with Policy LU-5.3 to ensure the preservation of existing open space and rural areas within the site's Rural and Semi-Rural Land Use Designations (as specified under Policy LU-5.3). The landfill would be located in the center of the site, and the area around the landfill circumference would not be adequate to allow the preservation of substantive areas of open space. In addition, the landfill would abut or occur within an area currently designated as an agricultural conservation area, which would not be consistent with GOAL LU-7 regarding retaining and protecting agriculture as a beneficial resource that

contributes to the County's rural character. The alternative would not be consistent with GOAL COS-12 for the preservation of ridgelines and hillsides because the landfill prism would rise over and dominate the natural ridgeline as viewed from the area north of the Santa Margarita River and other viewpoints in the surrounding area and adjacent Riverside County.

However, the alternative would be consistent with GOAL LU-6 and the primary goals of the Conservation and Open Space Element to maintain environmental balance with respect to biological resources and sensitive plant and animal species; wetlands; cultural resources, including Native American resources; aesthetic resources; geologic hazards; groundwater quality and supply, wetlands protection, and surface water runoff as it would incorporate design features and mitigation measures related to these issues to the extent feasible.

The operation of the landfill would take place during daytime hours and would not be a substantial source of light, and construction and operation activities would comply with San Diego County Light Pollution Code (Sections 59.108–59.110). Therefore, it would be consistent with GOAL COS-13 regarding the preservation of dark skies that contribute to character and night sky visibility for local observatories.

Because the alternative would not be consistent with the land use designations on the site and several important goals and policies of the General Plan regarding rural character, agriculture, ridgeline protection, and fire safety, the alternative would impede these goals and policies of the County's General Plan.

### Fallbrook Community Plan

The following summarizes the relationship of the alternative to applicable policies of the Fallbrook Community Plan, which are discussed in detail in the General Plan Consistency Analysis contained in Appendix J of this EIS. The alternative would not be consistent with policies of the Community plan to perpetuate the existing rural charm and village atmosphere of the community. The Aspen Road Alternative would introduce elements that are not rural in character, including truck traffic, noise, and activity that would not be consistent with the local roadways and rural character of the site and the surrounding area. The alternative would not be consistent with Chapter 2 (Circulation and Mobility – Bicycle and Trails), GOAL CM 6.1, to provide a system of trails and pathways for non-motorized travel because the landfill footprint would conflict with the location of the proposed Fallbrook Red Mountain Tierra Nuevo Trail in the north portion of the site, with the proposed alignment of the Fallbrook Red Mountain Trail in the west portion of the site, and with the proposed Fallbrook Red Mountain Aspen Drive Trail, which crosses the central portion of the site along Aspen Road (see Section 4.12.4, Recreation, of this EIS).

In addition, the Aspen Road Alternative would impact areas designated as unique farmland and an existing agricultural conservation tract, and would not be consistent with Chapter 3 (Conservation and Open Space – Agricultural Soils and Production) GOAL COS 1.1 to promote agriculture as an important component in the economic base of Fallbrook (see Section 4.2, , Agricultural Resources, of this EIS).

Regarding Chapter 3 (Conservation and Open Space) GOAL COS 1.2 for the preservation and enhancement of urban and rural trees, the alternative would provide for the replacement of trees and other vegetation removed for the development of the landfill through a revegetation program. The revegetation program requires the replacement of native plant species and the planting or maintenance of groups of mature trees. The alternative would also be consistent with Chapter 3 to preserve viable streams, wetlands, and

floodplains and to support the natural environment, in that it would implement water quality control measures through incorporated design features that include the implementation of the minimum required five-foot separation between groundwater and waste, install a leachate collection and removal system (LCRS), install a 60-foot high engineered fill berm at the lower end of the landfill prism to increase stability and to reduce earthwork activities in the blue line drainage, and other measures to protect water resources. However, because the alternative would not be consistent with policies that have adverse land use effects on the character of the surrounding community, it would be considered to impede goals and policies of the Fallbrook Community Plan and, as such, would be significant adverse with respect to this criterion.

### Regional Plans

The Aspen Road Alternative would meet the objectives of the RCP to provide solid waste facilities to meet the region's future disposal needs. However, the Aspen Road Alternative is not identified in the Siting Element of the Countywide Integrated Waste Management Plan and, thus would not be consistent with the objective of the RCP to use the Siting Element as a guide to locate facilities. Although the Aspen Road site was one of three landfill sites evaluated in the 1990 Draft EIS/EIR for the North County Class III Landfill (BRG, 1990) and designated as a tentative Class III landfill site in the County's Integrated Waste Management Plan (1996), it was removed from the Siting Element in the County's 2005 Update of the Siting Element since the General Plan and zoning for the site had not been amended to allow the development of a landfill. In order to allow the development of a landfill at this site, an amendment of the Siting Element would be required. However, because the purpose of the alternative is to provide non-hazardous solid waste disposal capacity to dispose of waste generated in or near North County, it is likely that the alternative would receive waste from North County generators. Therefore, with location of the alternative in the North County, the alternative is expected to reduce emissions that would otherwise, be created by the export of the North County's solid waste out of the County or transport of solid waste to areas in the County farther from the source. Therefore, the alternative would be consistent with SANDAG's Growth Management Strategy and the Regional Air Quality Plan, the purposes of which are to reduce vehicle and air emissions. Vehicle emissions and the relationship of the alternative to the objectives of the Regional Air Quality Plan are discussed in Section 4.3, Air Quality and Greenhouse Gas, of this EIS.

#### Mitigation Measures

The Aspen Road Alternative would result in significant adverse effects with respect to consistency with the General Plan, Fallbrook Community Plan, and Siting Element of the RCP. In order bring the alternative into consistency with the land use designation (GOAL LU-1) of the General Plan and RCP, the following mitigation measures are proposed:

**MM Aspen LU- 1. General Plan Amendment/Zone Change.** A General Plan Amendment and zone change shall be required prior to any approvals of a landfill on the Aspen Road Alternative site.

**MM Aspen LU-2. Siting Element of the Countywide Integrated Waste Management Plan Amendment**. An amendment of the Siting Element shall be required prior to approval of the alternative site.

### Consistency with Resource Conservation Area Designation

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable habitat conservation plan or natural community conservation plan.*

**Impact Statement Aspen LU-2: The Aspen Road Alternative would conflict with a regional wildlife corridor. Therefore, the alternative would have a significant adverse effect with respect to this criterion.**

A large area comprising the central, south and east portion of the Aspen Road Alternative site are located within the Santa Margarita River RCA (RCA #3). The Santa Margarita River RCA is illustrated in Figure 4.10-2, *Fallbrook Community Plan Resource Conservation Area Map.* The purpose of the RCA is to protect wildlife and native vegetation and scenic mountainous backdrop to development within the community.[7] Since the Aspen Road Alternative is determined to have an adverse effect with respect to visual quality because it would block or reduce view corridors of high value mountains (see Section 4.1, Aesthetics, of this EIS), it would not be consistent with the objective of the RCA. With the exception of effects on north-south wildlife corridors, impacts to biological resources would be reduced through the implementation of mitigation measures. However, the impact to wildlife corridors would remain adverse since mitigation would not be feasible (see Section 4.4, Biological Resources, of this EIS). Therefore, the Aspen Road Alternative would not be consistent with the conservation policies of the Fallbrook Community Plan, as expressed in the RCA. As such, the alternative would have a significant adverse effect with respect to this criterion.

Mitigation Measures

The Aspen Road Alternative would result in significant adverse effects with respect to consistency with the Santa Margarita River RCA. No feasible mitigation measures are available to reduce adverse effects to the north-south wildlife corridor and adverse impacts with respect to visual quality.

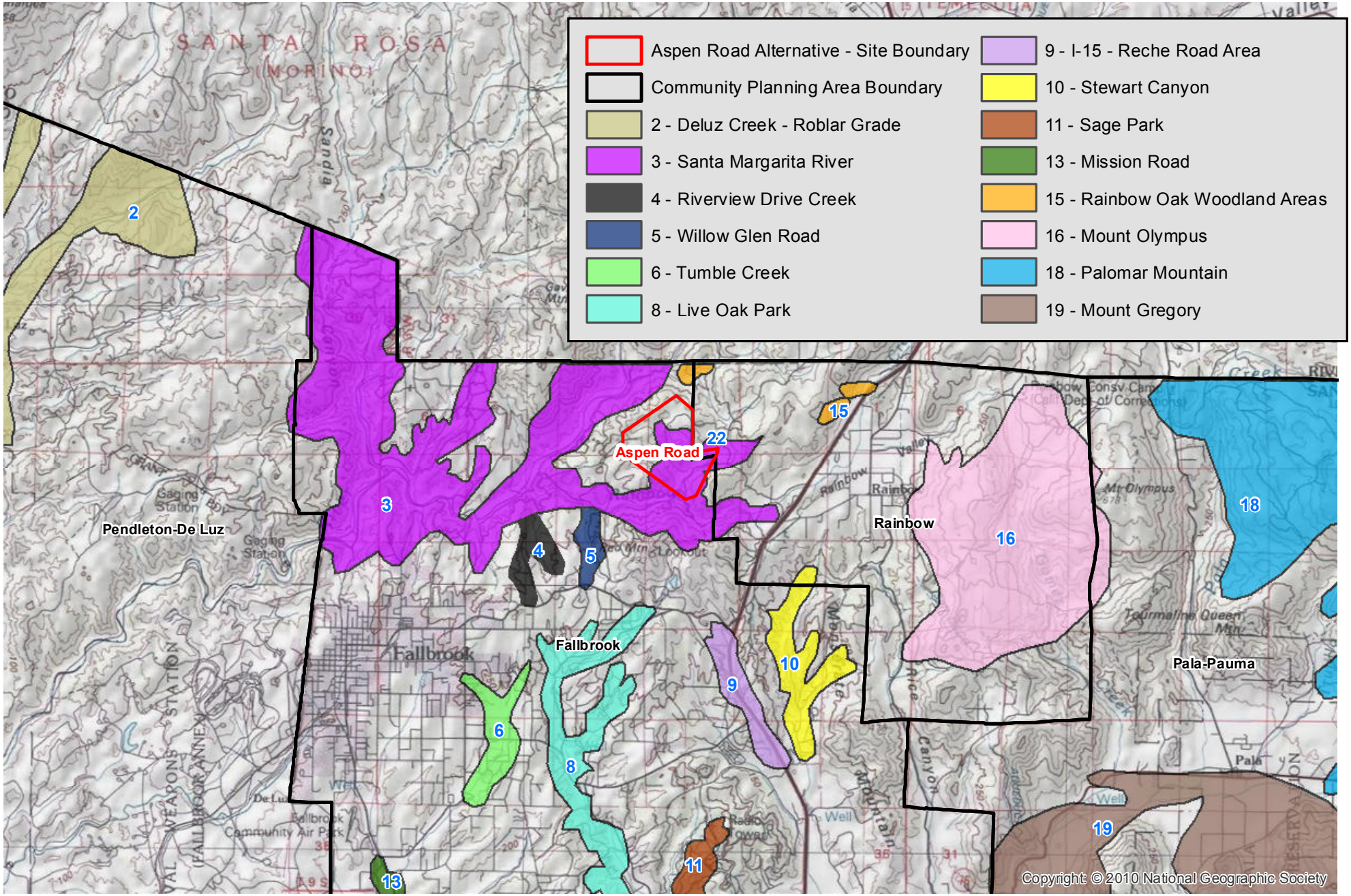
## 4.10.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.10.6.1 Affected Environment

The Gopher Canyon Road Alternative site is generally undeveloped with a few existing residences and a water storage tank located on the western portion of the site. The Panoramic Estates, a gated residential subdivision with 35 lots (four acres plus in size), has been approved on the remainder of the site. Infrastructure, including roads (Panoramic Drive, Panoramic Way, and Panoramic Place), sidewalks, and curbs have been completed for the subdivision. A small portion of the eastern side of the site contains National Quarries, which is a quarry and a processing plant for granite. No known utilities or utility easements transect the site.

The Gopher Canyon Road Alternative site is located in a combination rural/semi-rural area, which is generally characterized by agricultural and large-lot rural residential development. The approved subdivision on the site is considered a semi-rural use. In addition, the surrounding area has other land uses

[7] *Fallbrook Community Plan, Appendix A, Resource Conservation Areas, page 32 (August 2011).*




0 1.5 3 Miles

**Fallbrook Community Plan Resource Conservation Area Map**

Gregory Canyon

Source: SANDAG, 2012; PCR Services Corporation, 2012.

FIGURE

**4.10-2**

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including quarries, day spas/resorts, and regional utility infrastructure for communications and water treatment. More specifically, the Vista Valley Country Club is located immediately to the east of the site. The Country Club includes a private golf course that abuts the site and residences located further east. Residences are also located immediately to the west of the site at a higher elevation than the site. National Quarries is located immediately southeast of the site. The quarry and processing plant have a Major Use Permit through the County which expires in 2026. A second quarry is located farther from the site on the western slopes of the Merriam Mountains, near Twin Oaks Valley Road. The Cal-a-Vie Health Spa is located northwest of the site. Land to the east and northeast of the Gopher Canyon Road Alternative site are in agricultural use.

The Gopher Canyon Road Alternative site is designated Semi-Rural Residential, (SR-4), Rural Lands (RL-20), Specific Plan Area, Public/Semi-Public Facilities, and Public Agency Lands in the County's General Plan. The northeastern and northwestern portions of the site are primarily designated Specific Plan Area and SR-4, respectively. A small area located in the northwestern area is designated Public/Semi-Public Facilities. The central portion of the site is designated RL-20, Specific Plan Area, SR-4, and Public/Semi-Public Facilities. The southeastern and southwestern portions of the site are primarily designated Public Agency Lands and RL-20, respectively. The zoning allows a mix of uses, including crop or animal agricultural uses; mining, quarrying, borrow pits, and oil extraction uses; after adoption of a specific plan, any uses allowed by the specific plan; and rural residential uses, are allowed by the zoning. Land use designations and zoning on the site and surrounding area are illustrated in Figure 4.2-6, Gopher Canyon Road Alternative Area – General Plan Designated Land Uses, in Section 4.2, Agricultural Resources, of this EIS.

## 4.10.6.2 Design Features

Consistency with land use plans is related to the physical effects of a development and the degree to which a development affects resources that land use plans intend to protect, such as land, water, air quality, noise environment, mobility, cultural resources, aesthetic resources, public services, utilities, and other resources. Design features listed in subsection 4.10.3.2 for the Applicant's Proposed Alternative are from Proposition C and are, thus, specific to the Applicant's Proposed Alternative site. However, design features and proposed mitigation measures with respect to the physical effects of the Gopher Canyon Road Alternative are addressed in respective sections of the EIS.

## 4.10.6.3 Environmental Consequences

### Consistency with General Plan and other Land Use Plans

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for purpose of avoiding or mitigating an environmental effect.*

**Impact Statement Gopher LU-1: The Gopher Canyon Road Alternative would introduce elements that would not conserve topography and would, thus, not be consistent with the General Plan's designated rural and semi-rural use of the site and the surrounding area or with the objective of the Bonsall Community Plan to balance agriculture, rural, estate lots, and open space uses that conserve topography. Therefore, this alternative would have a significant adverse effect with respect to this criterion.**

### San Diego County General Plan

The Gopher Canyon Road Alternative has been analyzed for consistency with the goals and policies of the General Plan (see Appendix J of this EIS), which dictate future development in the area and, therefore, the intended community character of the site. The Gopher Canyon Road Alternative site is designated as Specific Plan Area, Rural Lands (RL-20), Semi-Rural Residential, (SR-4), Public Service (Transportation/ Communication/Utilities), and Public Agency Lands (Extractive /Industry). Development of a landfill use would not be permitted in the existing General Plan or zoning designation and the Gopher Canyon Road Alternative would require a General Plan Amendment and zone change from rural and semi-rural uses to SWF. Because the use would not be consistent with the existing zoning and land use designations of the site, it would not be consistent with General Plan GOAL LU-2.

One of the purposes of the General Plan is to maintain the County's rural character, as expressed in General Plan GOAL LU-2. The surrounding area is characterized by a mix of uses, including an active quarry, country club and golf course, spa, open space, and residential subdivisions in the Semi-Rural (SR-2) zone to the west. A portion of the site has been approved for a 35-lot, semi-rural subdivision in the SR-4 zone. The anticipated use of the site as a residential development (the site has been graded and developed with 35 housing pads), the mix of zones and land use designations on the site, and the mix of uses and activities surrounding and within the site indicate the expectation of a fairly high level of activity in the area. Landfills are a special purpose use and necessary as final disposal sites for waste generated in developed or developing urban, suburban and rural areas. The siting of a landfill does not attract development of either urban or rural character within close proximity to the landfill. Because the area has a broad mix of land uses and, with the approved subdivision, there is an expectation of activity on the site, the Gopher Canyon Road would not be considered inconsistent with GOAL LU-2.

However, because the landfill would be located in the center of the site, and the size of the site would not allow the preservation of substantive areas of open space, the alternative would not be consistent with Policy LU-5.3 to ensure the preservation of existing open space and rural areas within the site's (Rural and Semi-Rural Land Use Designations (as specified under Policy LU-5.3).

The operation of the landfill would take place during daytime hours and would not be a substantial source of light, and construction and operation activities would comply with San Diego County Light Pollution Code (Sections 59.108–59.110). Therefore, it would be consistent with GOAL COS-13 regarding the preservation of dark skies that contribute to character and night sky visibility for local observatories.

Because the Gopher Canyon Road Alternative would not result in physical impacts that would not be reduced to below a level of significance with the implementation of design features and mitigation measures, the alternative would be substantially consistent with the General Plan and would not impede the objectives of the General Plan to frame future growth and development in unincorporated areas, to protect the County's unique and diverse natural resources, or to maintain the character of its rural and semi-rural communities.

### Bonsall Community Plan

The following summarizes the relationship of the alternative to applicable policies of the Bonsall Community Plan, which are discussed in detail in the General Plan Consistency Analysis, which is contained in Appendix J of this EIS. The alternative would be consistent with Chapter 3 (Conservation and Open Space – Resource

Conservation and Management) COS 1.1 through the implementation of mitigation measures incorporated in to the EIS that would reduce impacts to natural and cultural resources to the extent feasible. If wildlife occurs in the area, the unused portion of the site surrounding the landfill could be used as a wildlife corridor. Therefore, the alternative would not impede the objectives COS-1.3 to provide naturally vegetated open space corridors of sufficient size to maintain biological diversity and functional access for wildlife between varying habitats.

As previously discussed, the alternative would be consistent with San Diego County Light Pollution Code (Sections 59.108–59.110), which is intended to reduce light pollution at the County's observatories. Therefore, it would be consistent with GOAL COS-1.4 to retain an "astronomical dark sky" that facilitates the astronomical research in San Diego County and the continued operation of the Mt. Palomar observatory.

The alternative may not be consistent with Chapter 1 (Land Use – Community Character) GOAL LU-1.1, to create a balance rural agriculture, estate lots, equestrian uses, and open space land uses and new development that conserves natural resources and topography. The alternative would introduce elements that are not consistent with Specific Plan, rural, and semi-rural residential zoning of the site and the surrounding area. The alternative would comprise more than 200 acres of grading and would cause topographic change. The alternative would not be consistent with GOAL 1.2 for continued development that is appropriately designed to match the rural character of the Bonsall community. It would introduce elements adjacent to residential, recreational, and spa uses that may include truck traffic and other elements associated with the landfill that would not be consistent with the rural character and rural and semi-rural uses that make up the majority of the surrounding area.

The alternative would be partially consistent with the policies of the Bonsall Community Plan, particularly with respect to the preservation or restoration of resources and dark skies. However, because the alternative would not be consistent with the underlying land use designation, the intended residential use of the land, a primary land use objective to retain community character, the Gopher Canyon Road Alternative would impede the land use objectives of the Community Plan.

### Regional Plans

The Gopher Canyon Road Alternative would meet the objectives of the RCP to provide solid waste facilities to meet the region's future disposal needs. However, the Gopher Canyon Road Alternative is not identified in the Siting Element of the Countywide Integrated Waste Management Plan and, thus would not be consistent with the objective of the RCP to use the Siting Element as a guide to locate facilities. In order to allow the development of a landfill at this site, an amendment of the Siting Element would be required. The purpose of the alternative is to provide non-hazardous solid waste disposal capacity to service waste generated in or near North County. If the Siting Element were amended to allow a landfill at this site, it is likely that the alternative would receive waste from North County generators. Therefore, with location of the alternative in the North County, the Gopher Canyon Road Alternative would reduce emissions that would, otherwise, be created by the export of the North County's solid waste out of the County or transport of solid waste to areas in the County farther from the source. Therefore, the alternative would be consistent with SANDAG's Growth Management Strategy and the Regional Air Quality Plan, the purposes of which are to reduce vehicle and air emissions. Vehicle emissions and the relationship of the alternative to the objectives of the Regional Air Quality Plan are discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS.

Mitigation Measures

The Gopher Canyon Road Alternative would result in significant adverse effects with respect to consistency with the Bonsall Community Plan and Siting Element of the RCP. In order bring the alternative into consistency with the land use designation (LU-1) of the General Plan and the RCP, the following mitigation measures are proposed:

**MM Gopher LU-1. General Plan Amendment/Zone Change.** A General Plan Amendment and zone change shall be required prior to any use approvals of a landfill at the Gopher Canyon Road Alternative site.

**MM Gopher LU-2. Siting Element of the Countywide Integrated Waste Management Plan Amendment**. An amendment of the Siting Element shall be required prior to approval of the alternative site.

### Consistency with Resource Conservation Area Designation

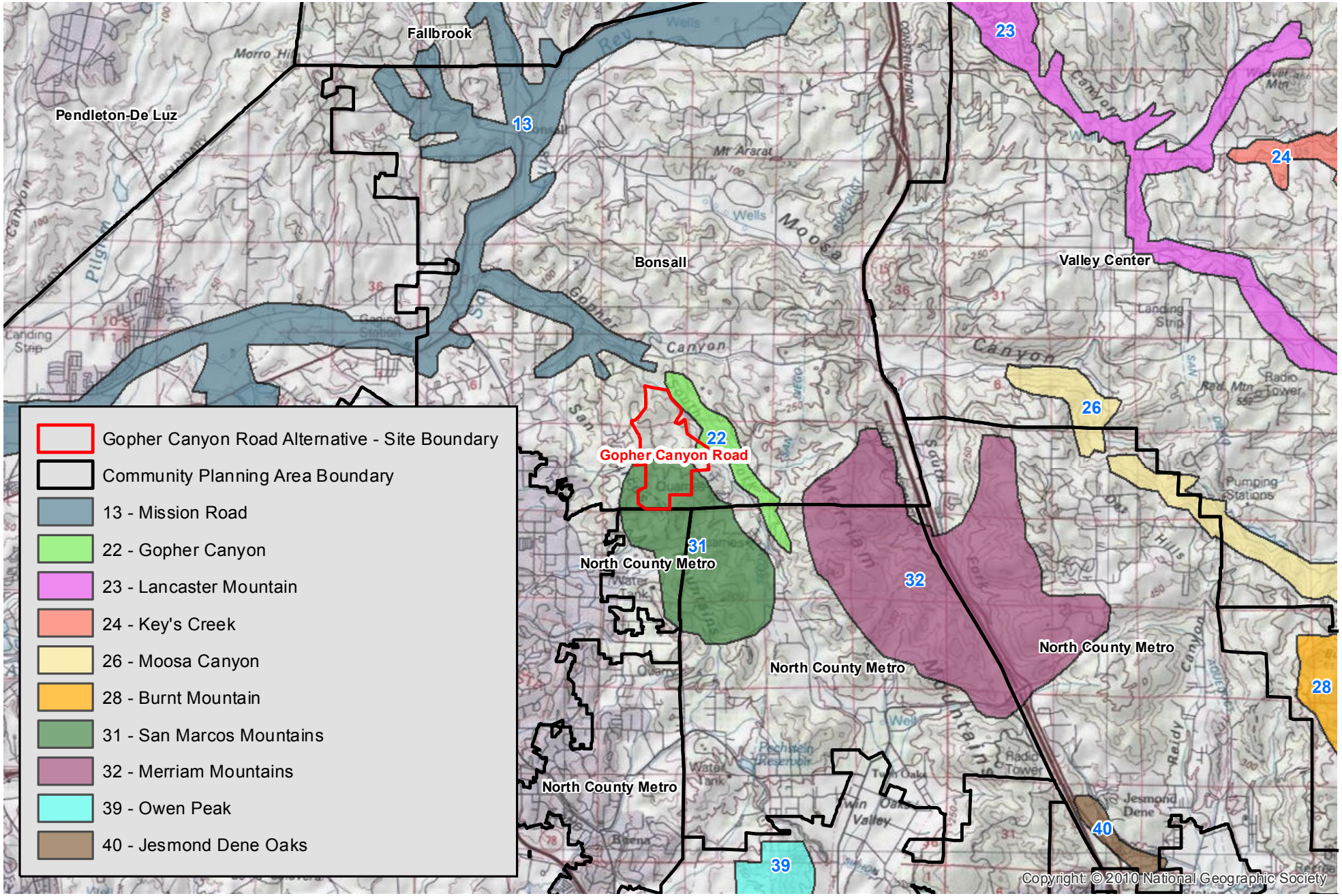
*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable habitat conservation plan or natural community conservation plan.*

**Impact Statement Gopher LU-2: The Gopher Canyon Road Alternative would introduce elements that would not conserve resources in the Gopher Canyon RCA. However, impacts would be reduced through implementation of mitigation measures and, therefore, the alternative would be consistent with the conservation policies of the community plan. The alternative would not have a significant adverse effect with respect to this criterion.**

The south section of Gopher Canyon is located within RCA #20 in the Bonsall Community Plan. The location of RCA #20 is illustrated in Figure 4.10-3, *Bonsall Community Plan Resource Conservation Area Map*. The Gopher Canyon RCA includes scenic oak woodlands along Gopher Canyon. While the Gopher Canyon Road Alternative would impact biotic and aesthetic resources within the boundary of the property and access road, these impacts would not be significant adverse with the implementation of biological and aesthetic resources mitigation measures (see Sections 4.1, Aesthetics and 4.4, Biological Resources, in this EIS). Upon closure, the disturbed areas would be revegetated with native plant species and maintained as permanent open space. Because the alternative would mitigate the significant adverse effects of the alternative on sensitive resources, it would be consistent with the conservation policies of the Bonsall Community Plan represented by the RCA designation. Therefore, the Gopher Canyon Road Alternative would be consistent with the intent of the RCA to conserve resources and would not have a significant adverse effect with respect to this criterion.

Mitigation Measures

With mitigation measures provided in Sections 4.1 and 4.4 of this EIS, the Gopher Canyon Road Alternative would not result in any significant adverse inconsistencies with the RCA. No mitigation measures are proposed.




0 1.5 3 Miles

**Bonsall Community Plan Resource Conservation Area Map**

Gregory Canyon

Source: SANDAG, 2012; PCR Services Corporation, 2012.

FIGURE

**4.10-3**

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## 4.10.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.10.7.1 Affected Environment

The Merriam Mountain Alternative site is undeveloped, with the exception of several paved and dirt access roads that traverse the site. The Merriam Mountain site comprises approximately 533 acres within an approximate 2,327-acre area that was previously considered for a master-planned community (Merriam Mountains Specific Plan).[8] The alternative site and surrounding proposed Specific Plan area is located within the Merriam Mountain range in an area that is primarily undeveloped open space.

The Merriam Mountain site is located generally in a rural area. Land uses that abut the mountain range include rural residential, extractive, communications/utilities, freeway, mobile home park, golf course, resort, and orchard/vineyard. The Lawrence Welk Village is located to the east of the site across I-15. The Golden Door resort/spa is located south of the site west of the I-15.

The Merriam Mountain Alternative site is designated Semi-Rural Residential, (SR-4), Rural Lands (RL-20), Specific Plan Area, Public/Semi-Public Facilities, and Public Agency Lands in the County's General Plan. The size is zoned Limited Agriculture Use Regulations (A-70). Land use designations and zoning on the site and surrounding area are illustrated in Figure 4.2-8, Merriam Mountain Alternative Area – General Plan Designated Land Uses, in Section 4.2, Agricultural Resources, of this EIS.

### 4.10.7.2 Design Features

Consistency with land use plans is related to the physical effects of a development and the degree to which a development affects resources that land use plans intend to protect, such as land, water, air quality, noise environment, mobility, cultural resources, aesthetic resources, public services, utilities, and other resources. Design features listed in subsection 4.10.3.2 for the Applicant's Proposed Alternative are from Proposition C and are, thus, specific to Applicant's Proposed Alternative site. However, design features and mitigation measures with respect to the physical effects of the Merriam Mountain Alternative are addressed in respective sections of the EIS.

[8] *The "Merriam Mountains Specific Plan" applies to much of the approximately 1,000-acre property that comprises the 533-acre Merriam Mountain Alternative site and adjacent area to the south. In order to move forward with the Merriam Mountains Project, the proponent must obtain a general plan amendment (GPA) (Case #NC42). The Merriam Mountains Project would allow approximately 1,100 dwelling units. On June 27, 2012, the San Diego County Board of Supervisors referred staff-evaluated changes to Property Specific Request NC42 and NC42 Study area to the Chief Administrative officer to process a County-initiated GPA (San Diego County Board of Supervisors Minute Order June 27, 2012, Agenda Item 10.7 (http://www.sdcounty.ca.gov.dp (July 31, 2012). Because of the "very high complexity" status of the Merriam Mountain GPA, the GPA is anticipated to require approximately 62 months for completion (County Board of Supervisors, General Plan Amendment Workplan Options for Property Specific Requests, June 20, 2012). Until the completion of the County-initiated GPA, the existing RL-20 designation of the Merriam Mountain site would remain intact (Rich Grunow, Chief Project Planning Division, San Diego County Department of Planning, telephone interview July 31, 2012). At the completion of the GPA, the majority of the Merriam Mountain Alternative site would remain RL-20, although sections along the south portion of the site would be re-designated as SR2 in steep slope areas and SR0. 5, in flatter areas. "SR" designations correspond to semi-rural residential uses.*

## 4.10.7.3 Environmental Consequences

### Consistency with General Plan and other Land Use Plans

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for purpose of avoiding or mitigating an environmental effect.*

**Impact Statement Merriam LU-1: The Merriam Mountain Alternative would conflict with several policies and goals of the General Plan and North County Metropolitan Subregional Plan, regarding land use designation, rural character, and protection of the I-15 scenic corridor. Therefore, the alternative would have a significant adverse effect with respect to this criterion.**

#### San Diego County General Plan

The Merriam Mountain Alternative has been analyzed for consistency with the goals and policies of the General Plan (see Appendix J of this EIS), which dictate future development in the area and, therefore, the intended community character of the site. The Merriam Mountain site is designated as Rural Lands (RL-20). This designation and zoning is intended to allow low density residential and agricultural uses and, as such, development of a landfill would not be permitted in this General Plan designation. The Merriam Mountain Alternative would require a General Plan Amendment and rezone from rural lands to SWF. Because the use would not be consistent with the existing zoning and designation of the site, the alternative would not be consistent with General Plan GOAL LU-1.

One of the purposes of the General Plan is to maintain the County's rural character, as expressed in General Plan GOAL LU-2. The Merriam Mountain Alternative site and the surrounding Merriam Mountains are predominantly rural and undeveloped. Landfills are a special purpose use and necessary as final disposal sites for waste generated in developed or developing urban, suburban and rural areas. The siting of a landfill does not attract development of either urban or rural character within close proximity to the landfill. Policy LU-2.4, which addresses the relationship of land uses to community character is intended to ensure that the land uses and densities depicted on the Land Use Map reflect the unique issues, character, and development objectives for a Community Plan area. The alternative would, therefore, change the existing character of the area by its high level of activity. Therefore, the Merriam Mountain Alternative is considered to be inconsistent with GOAL LU-2 of the General Plan.

The Merriam Mountain Alternative would not be consistent with Policy LU-5.3 to ensure the preservation of existing open space and rural areas within the site's Rural and Semi-Rural Land Use Designations (as specified under Policy LU-5.3). The landfill would be located in the center of the approximately 533-acre alternative site, and the area around the landfill circumference would not be adequate to allow the preservation of substantive areas of open space.

However, the alternative would be consistent with GOAL LU-6 and the primary goals of the Conservation and Open Space Element to maintain environmental balance with respect to biological resources and sensitive plant and animal species; wetlands; cultural resources, including Native American resources; aesthetic resources; geologic hazards; ground water quality and supply, wetlands protection, and surface water runoff through the incorporation of design features and mitigation measures to the extent feasible.

The landfill would be located within Merriam Mountains RCA in an area containing native trees and other sensitive biotic resources. Although impacts to these resources would be mitigated to below a significant adverse level through revegetation (see Sections 4.1, Aesthetics, and 4.4, Biological Resources, of this EIS), the alternative would not provide a significant amount of preserved land area on site, and, thus, would not be consistent with Policy COS-2.1 for the protection, restoration, and enhancement of regionally important natural habitats when development occurs within an underlying Rural Land designation. The alternative would not be consistent with Policy COS-11.1 regarding the protection of scenic highways, significant scenic vistas, and prominent ridgelines. The landfill mass would dominate and rise above a prominent ridgeline and alter an important view corridor as viewed from I-15, a County-designated scenic highway.

The operation of the landfill would take place during daytime hours and would not be a substantial source of light, and construction and operation activities would comply with San Diego County Light Pollution Code (Sections 59.108–59.110). Therefore, it would be consistent with GOAL COS-13 regarding the preservation of dark skies that contribute to character and night sky visibility for local observatories.

However, because the Merriam Mountain Alternative would not be consistent with the underlying land use designation for the site and several goals and policies of the General Plan regarding rural character and ridgeline protection, it would be considered to conflict with applicable goals and policies of the General Plan. Therefore, the Merriam Mountain Alternative would have a significant adverse effect with respect to General Plan policies.

### North County Metropolitan Subregional Plan

The following summarizes the relationship of the alternative to applicable policies of the North County Metropolitan Subregional Plan, which are discussed in detail in the General Plan Consistency Analysis, which is contained in Appendix J of this EIS. The alternative would not be consistent Chapter 3 (Land Use) which describes the site as predominantly hillside residential single-family homes on large lots in the Rural Lands (RL-20) zone. The alternative would not be consistent with Chapter 3 (Conservation Designate Resource Conservation Areas), in which the site is identified as an RCA for the protection of sensitive biological, archaeological, aesthetic, mineral, and water resources. The alternative would cause a significant adverse effect to natural landform character with respect to contrast with the surrounding mountains, blockage of a view corridor, and domination of the ridgeline as viewed from I-15. The area is also designated as MRZ-2, indicating the presence of mineral resources, which would be impacted by the landfill development.

The alternative would not be consistent with Appendix C – I-15 Corridor Subregional Plan (A. Scenic Resources) for the preservation of the scenic attributes of the I-15 corridor. As previously discussed, the landfill prism would cause a significant adverse effect to natural landform character with respect to contrast with the surrounding mountains and domination of the ridgeline as viewed from I-15. In addition, because the alternative would not be consistent with the underlying Rural Lands (RL-20) designation and zoning on the site, it would not be consistent with Appendix C – I-15 Corridor Subregional Plan (B. Land Use) to provide a land use pattern sensitive to the constraints of the I-15 corridor. Therefore, because the Merriam Mountain Alternative would not be consistent with the underlying land use designation, the intended residential use of the land, and objectives to protect the I-15 scenic corridor, it would conflict the land use objectives of the North County Metropolitan Subregional Plan.

### Regional Plans

The Merriam Mountain Alternative would meet the objectives of the RCP to provide solid waste facilities to meet the region's future disposal needs. However, the Merriam Mountain Alternative is not identified in the Siting Element of the Countywide Integrated Waste Management Plan and, thus would not be consistent with the objective of the RCP to use the Siting Element as a guide to locate facilities. In order to allow the development of a landfill at this site, an amendment of the Siting Element would be required. Although the Merriam Mountain site was designated as a tentative Class III landfill site in the County's Integrated Waste Management Plan (1996), it was removed from the Siting Element in the County's 2005 Update of the Siting Element since the General Plan and zoning for the site had not been amended to allow the development of a landfill. However, because the purpose of the alternative is to provide non-hazardous solid waste disposal capacity to service waste generated in or near North County, it is likely that the alternative would receive waste from North County generators. With location of the alternative in the North County, the alternative is expected to reduce emissions that would, otherwise, be created by the export of the North County's solid waste out of the County or transport of solid waste to areas in the County farther from the source. Therefore, the alternative would be consistent with SANDAG's Growth Management Strategy and the Regional Air Quality Plan, the purposes of which are to reduce vehicle and air emissions. Vehicle emissions and the relationship of the alternative to the objectives of the Regional Air Quality Plan are discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS.

#### Mitigation Measures

The Merriam Mountain Alternative would result in significant adverse effect with respect to consistency with the General Plan, Fallbrook Community Plan, and Siting Element of the RCP. In order bring the alternative into consistency with the land use designation (LU-1) of the General Plan, Community Plan, and RCP, the following mitigation measures are proposed:

**MM Merriam LU-1. General Plan Amendment/Zone Change.** A General Plan Amendment and zone change shall be required prior to any use approvals of a landfill on the Merriam Mountain Alternative site.

**MM Merriam LU-2. Siting Element of the Countywide Integrated Waste Management Plan Amendment**. An amendment of the Siting Element shall be required prior to approval of the alternative site.

### Consistency with Resource Conservation Area Designation

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable habitat conservation plan or natural community conservation plan.*

**Impact Statement Merriam LU-2: The Merriam Mountain Alternative would adversely affect mineral resources and aesthetic resources, including the ridgeline of the Merriam Mountains and view corridors. This would conflict with conservation policies of the RCA. Because no feasible mitigation measures are available to reduce the conflict between the alternative and the policies of the RCA, this alternative would have a significant adverse effect with respect to this criterion.**

The Merriam Mountains are designated as RCA #23 in the North County Metropolitan Subregional Plan. The location of RCA #23 is illustrated in Figure 4.10-4, *North County Metropolitan Subregional Plan Resource Conservation Area Map*, below. As described in the Subregional Plan, the RCA designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. The landfill would adversely affect aesthetic resources with respect to contrast with the surrounding mountains, blockage of a view corridor and sky, and domination of the ridgeline as viewed from I-15 (a designated scenic highway). No feasible mitigation measures are available to reduce the landfill to below the ridgeline or to reduce the adverse effects of view blockage (see Section 4.1, Aesthetic Resources, of this EIS).

In addition, a section within the northwest area of the Merriam Mountain Alternative site is designated as MRZ-2, indicating the presence of mineral resources. Conversion of the Merriam Mountain Alternative site to landfill activities could impede access to on-site mineral resources. This would be considered an adverse effect with respect to mineral resources (see Section 4.7, Geology, of this EIS). Because the MRZ-2 area would be used for landfill development, mitigation, such as avoidance of the MRZ-2 area, would not be feasible. Therefore, the alternative would not be consistent with the RCA designation, which requires protection of aesthetic and mineral resources. However, no significant adverse effects on ground and surface water resources are anticipated and effects on cultural resources would be reduced through the implementation of mitigation measures described in Section 4.5, Cultural Resources, of this EIS.

Mitigation Measures

No feasible mitigation measures are available to reduce inconsistencies between the alternative and the conservation policies of the RCA.

## 4.10.8 EAST OTAY MESA ALTERNATIVE

### 4.10.8.1 Affected Environment

The East Otay Mesa site is situated in southern San Diego County approximately 0.25 miles from the United States-Mexico international border. The site is located approximately two miles east of the Siempre Viva Road exit from State Route 905, east of the terminus of Otay Mesa Road. The site is approximately two miles east of the community of Otay Mesa, and is approximately 55 miles south of the Applicant's Proposed Alternative. The East Otay Mesa site was identified as a feasible landfill site in the site feasibility assessment for Southwest San Diego County prepared by Ogden Environmental and Energy Services (Ogden, 1993).

On June 8, 2010, the voters of San Diego County approved county-wide initiative Proposition A. Proposition A amended the County General Plan, Zoning Ordinance, and other ordinances and policies of the County of San Diego to allow for the construction and operation of a recycling collection center and Class III solid waste landfill on the East Otay Mesa site. As a result of the passage of Proposition A, the site is currently designated Public/Semi Public Lands (Solid Waste Facility) in the San Diego County General Plan and is zoned SWF.

The site has been used for agricultural purposes but is, otherwise, vacant. Several dirt roadways traverse the area. The land surrounding the site is also largely undeveloped farmland and grazing land. The nearest developed parcels are light industrial uses in the vicinity of the Siempre Viva Road/SR 125 interchange, approximately two miles to the west. The latter are located within the East Otay Mesa Business Park Specific Plan area, which adjoins the East Otay Mesa site to the west. The East Otay Mesa Business Park Specific Plan

designates the East Otay Mesa Alternative site as Landfill Initiative, although the alternative site is not located within the Specific Plan area.

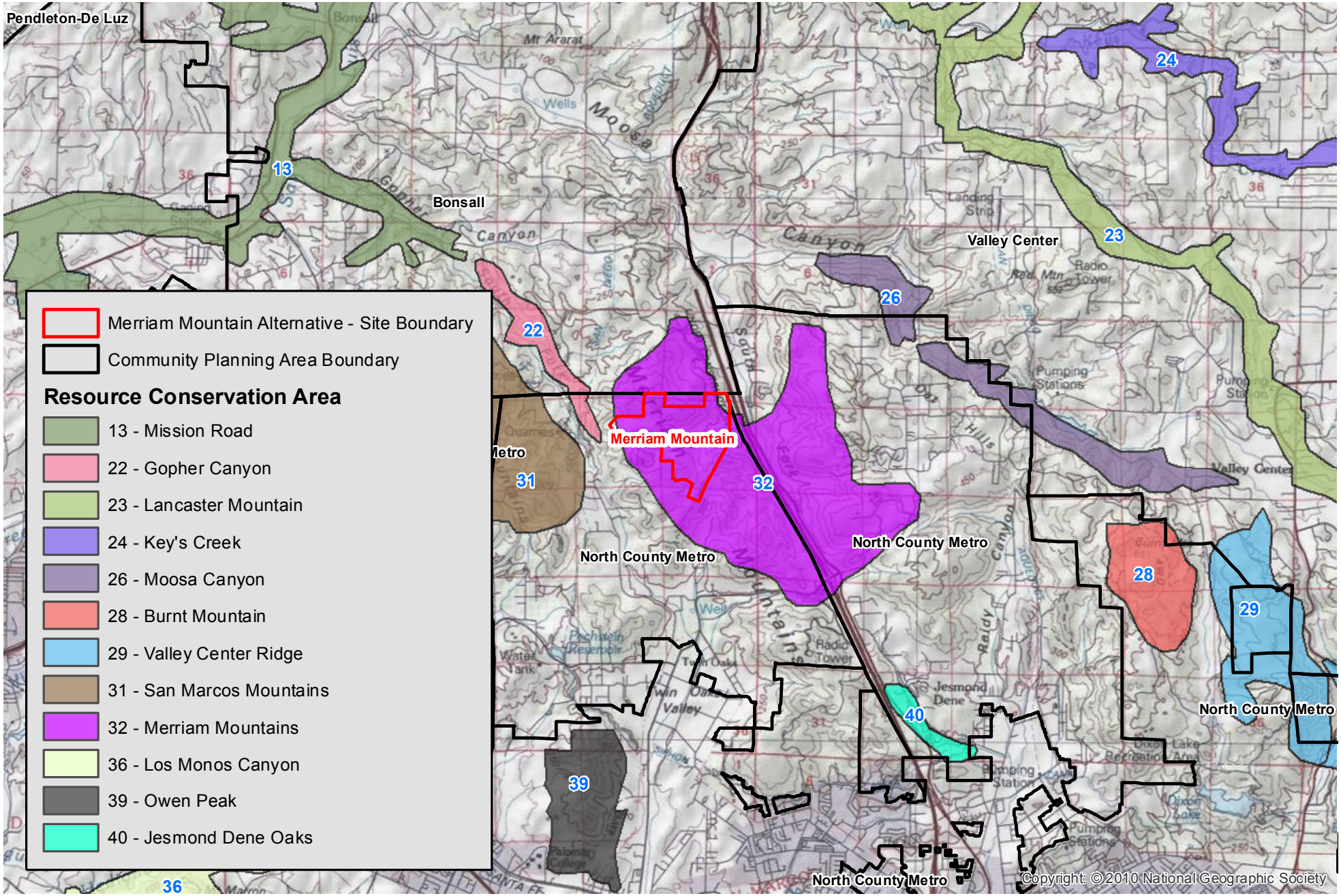
Land use designations in the Specific Plan area are illustrated in Figure 4.2-10, East Otay Mesa Business Park Specific Plan, in Section 4.2, Agricultural Resources, of this EIS. As shown in Figure 4.2-10, the East Otay Mesa Alternative site is characterized by a 1,000-foot landfill buffer overlay along its westerly edge. Other adjoining proposed land uses in the adjacent Specific Plan area are Rural Residential and Mixed Industrial. The East Otay Mesa Business Park Specific Plan also contains lands designated as Heavy Industrial to the northwest of the East Otay Mesa Alternative site. The Specific Plan also illustrates areas designated as Sensitive Resource Special Areas abutting the Landfill Initiative site at the northwest and south edges of the site.[9] The latter applies to areas within the Otay Mountains Resource Conservation Area (RCA #118), which also includes a portion of the site and adjoining lands. Other land uses in the area, not within the Specific Plan, are the Donovan State Prison and the George F. Bailey Detention Facility located to the north and northwest, and the Otay Valley Regional Park located to the north of the alternative site. Undeveloped open space used for grazing adjoins the East Otay Mesa Alternative site to the north and east.

### 4.10.8.2 Design Features

Consistency with land use plans is related to the physical effects of a development and the degree to which a development affects resources that land use plans intend to protect, such as land, water, air quality, noise environment, mobility, cultural resources, aesthetic resources, public services, utilities, and other resources. Design features and mitigation measures with respect to the physical effects of the East Otay Mesa Alternative are addressed in respective sections of the EIS. However, specific mitigation measures required under Proposition A, Section 5, include the following:

- Landfill Gas System. The Project shall include a network of vertical extraction wells, lateral transmission pipes to a gas recovery facility, and perimeter gas monitoring probes. With this system the landfill gas will be extracted from the landfill and combusted in an enclosed flare.
- Water Quality. The Project shall comply with all requirements of the Regional Water Quality Control Board to ensure protection of surface and underground water quality.
- Earthquakes. All structures located at the East Otay Mesa site shall be designed by a qualified engineer to withstand the maximum probable earthquake to avoid potential impacts associated with earthquakes and ground shaking.
- Air Quality. Air quality impacts associated with the Project shall be mitigated by meeting all requirements imposed by the San Diego County Air Pollution Control District for the Authority to Construct and Authority to Operate permits.
- Noise Abatement Plan.

[9] *San Diego County, East Otay Mesa Business Park Specific Plan, Figure 3.2-11, Areas Subject to "G" Sensitive Resource Special Area Designator, page 132 (September 15, 2010).*




0 1.5 3 Miles

**North County Metro Subregional Plan Resource Conservation Area Map**

Gregory Canyon

Source: SANDAG, 2012; PCR Services Corporation, 2012.

FIGURE

**4.10-4**

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- Dust Control Plan. To control dust from Project operations, the Project Proponent shall submit a Dust Control plan to the San Diego County Air Pollution Control District for review and approval.
- Biological Impacts. All sensitive species and habitat impacted by the Project shall be mitigated in accordance with requirements imposed by the United States Fish & Wildlife Service.
- Visual Impacts Mitigation. The Project Proponent shall employ extensive use of landscaping emphasizing native vegetation, and rounding/undulation of slopes on the refuse column and changes in slope angles. All landscaping shall be performed by a licensed landscape architect in the State of California. This licensed architect shall prepare a detailed landscape plan designed to minimize visual impact associated with the Project to the maximum feasible extent. The plan prepared by the licensed architect shall be implemented by the Project Proponent upon completion.
- Cultural Impacts. Impacts to Native American resources impacted by the Project shall be mitigated through the development of a Memorandum of Agreement between the Project Proponent and the appropriate regulatory agencies in accordance with Section 106 of the National Historic Preservation Act.
- Additional Mitigation Measures. Mitigation measures included as part of any subsequent environmental review of the Project shall be included as additional mitigation measures for the Project. The Project Proponent shall submit a mitigation and monitoring program that meets state and federal law to the Integrated Waste Management Board for review and approval as part of the solid waste facilities permit.

## 4.10.8.3 Environmental Consequences and Mitigation Measures

### Consistency with General Plan and Other Land Use Plans

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for purpose of avoiding or mitigating an environmental effect.*

**Impact Statement East Otay LU-1: Although the East Otay Mesa Alternative would be consistent with the site's land use designation and zoning, the alternative would conflict with several policies and goals of the County General Plan, Otay Subregional Plan, and regional plans with respect to protection of agricultural and biological resources. Therefore, the alternative would have a significant adverse effect with respect to this criterion.**

#### San Diego County General Plan

The East Otay Mesa Alternative would be consistent with the land use designation of Public/Semi-Public and SWF zoning on the site (Policy LU-1). The East Otay Mesa Alternative would also be substantially consistent with the applicable goals and policies of the General Plan's Land Use, Mobility, Conservation and Open Space, Safety, and Noise Elements. The consistency of the alternative with the goals and policies of the General Plan is described in detail in Appendix J of this EIS.

One of the purposes of the General Plan is to maintain the County's rural character, as expressed in GOAL LU-2: "Maintenance of the County's Rural Character. Conservation and enhancement of the unincorporated County's varied communities, rural setting, and character." The General Plan implemented this policy

through the updating of the General Plan in 2011, at which time overall housing capacity was reduced by 15 percent and 20 percent of future growth from the eastern backcountry was shifted to western communities, compared to the 1978 General Plan. As a special purpose designation, a landfill is considered neither urban nor rural, but rather an infrastructure element similar to roads or utilities, such as water and sewer. Landfills are necessary as final disposal sites for waste generated in developed or developing urban, suburban and rural areas. The General Plan designation of Public/Semi-Public Lands with a Solid Waste Facility designator is intended to protect waste facility sites from encroachment by development of incompatible uses. With the implementation of design features, the East Otay Mesa Alternative would not result in an adverse effect regarding the character or rural lifestyle that exists or is planned in the area and, therefore, the alternative would be consistent with GOAL LU-2 of the County's General Plan.

The East Otay Mesa Alternative site is located within a Resource Conservation Area (RCA #127). Because the area contains sensitive biotic resources, such as vernal pools, which would be unavoidably and adversely affected by the landfill development, the alternative would not be fully consistent with GOAL LU-6 and the primary goals of the Conservation and Open Space Element to maintain environmental balance (see Section 4.4, Biological Resources of this EIS). In addition, the alternative would only be partially consistent with GOAL LU-16 regarding siting of waste management facilities to reduce environmental impacts. The purpose and need of the landfill is to provide disposal capacity for waste generated in North San Diego County. Thus, the location of the landfill in South County would not minimize environmental impacts associated with transportation compared to alternatives in closer proximity to population centers in the North County. For instance, the East Otay Mesa Alternative would require longer vehicle trips to dispose of North County waste, which would result in higher demand for fossil fuels and would generate greater air emissions compared to alternative sites in North County.

The alternative would not be consistent with GOAL LU-7 for the protection of agriculture as a beneficial resource. A portion of the site is designated under the FMMP as Farmland of Local Importance. The alternative would permanently convert this agricultural resource to a non-agricultural use and, as such, would not protect agricultural resources in accordance with this policy.

The operation of the landfill would take place during daytime hours and would not be a substantial source of light, and construction and operation activities would comply with San Diego County Light Pollution Code (Sections 59.108–59.110). Therefore, it would be consistent with GOAL COS-13 regarding the preservation of dark skies that contribute to character and night sky visibility for local observatories.

However, because the East Otay Mesa Alternative would result in significant adverse effects to biological and agricultural resources, the alternative would conflict with several goals and policies of the General Plan regarding these resources. Also, in providing waste disposal capacity for North County, the alternative would result in greater vehicle miles and vehicle emissions than other alternatives and would conflict with environmental goals of the General Plan.

### Otay Subregional Plan

The following summarizes the relationship of the alternative to applicable policies of the Otay Subregional Plan, which are discussed in detail in the General Plan Consistency Analysis, contained in Appendix J of this EIS. The alternative would not be fully consistent with Chapter 1.A (Land Use). Because the alternative would permanently convert land that is designated as Farmland of Local Importance under the FMMP

designator, it would not be consistent with Chapter 1.A (4), which encourages the protection of the area's valuable agricultural land. The alternative, however, would be consistent with the land use goals of the plan (Chapter 1.A (2) and 1.A (3)) to increase the area's industrial development and to provide an economic benefit. The alternative, which would adversely impact sensitive biotic resources, would not be consistent with the conservation goals of Chapter 1.D.1 (Conservation GOAL) to protect environmental resources within a designated RCA or with Chapter 1.D.2, to develop adequate preservation methods to protect high priority vernal pools on Otay Mesa. The alternative may also not be consistent with Chapter 1.E (Coordination GOAL) to encourage development proposals to consider the consequences of such proposals on development across the border in Mexico. Such proposals shall be distributed to appropriate Mexican officials for review and comment. Further, Land Use Policy A.4, of the Otay Community Plan states: "The County shall discourage industries that display pollution or other nuisance characteristics from locating near the Mexican border."[10] Because the alternative would be within the view field of the mixed residential community in Mexico immediately to the southwest it was identified as causing a potential nuisance factor with respect to views (see Section 4.1, Aesthetics, of this EIS). The alternative would, thus, not be consistent with the goal of the Subregional Plan to discourage industries with nuisance characteristics along the border. Therefore, because the East Otay Mesa Alternative would not be fully consistent with the goals of the Otay Subregional Plan, it would impede the land use objectives of the Subregional Plan.

#### Regional Plans

The East Otay Mesa Alternative would be consistent with the objectives of the RCP to provide solid waste facilities to meet the region's future disposal needs. However, because the purpose of the alternative is to provide non-hazardous solid waste disposal capacity to service waste generated in or near North County, it is reasonable to assume that the alternative the East Otay Mesa site would not be ideally located to reduce vehicle emissions associated with hauling compared to alternative sites in the North County. Respectively, this alternative would likely generate greater vehicle emissions and cause greater use of fossil fuels than other alternatives. However, because the alternative would be considered consistent with zoning and SANDAG growth projections, it would be consistent with SANDAG's Growth Management Strategy and the Regional Air Quality Plan, the purposes of which are to reduce vehicle and air emissions. Vehicle emissions and the relationship of the alternative to the objectives of the Regional Air Quality Plan are discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS.

#### Mitigation Measures

The East Otay Mesa Alternative would result in significant adverse effects with respect to biological and agricultural resources and potential nuisance uses within proximity to the international border and, as such, would not be consistent with applicable policies of the General Plan, and Otay Subregional Plan. No feasible mitigation measures are available to reduce inconsistencies with these plans.

### Consistency with Resource Conservation Area Designation

*Criterion: An alternative would have a significant adverse effect if the alternative would conflict with any applicable habitat conservation plan or natural community conservation plan.*

[10] *Otay Subregional Plan, page6 (August 2011).*

**Impact Statement East Otay LU-2: The East Otay Mesa Alternative would impact sensitive biotic resources in RCA #127. Impacts to vernal pools on the site would not be reduced through implementation of mitigation measures and, therefore, the alternative would not be consistent with the conservation policies of the Otay Subregional Plan. The alternative would thus have a significant adverse effect with respect to this criterion.**

Otay Mountain is designated as RCA #127 as shown in Figure 4.10-5, *Otay Mountain Resource Conservation Area Map*. The RCA comprises the mountain area surrounding the East Otay Mesa Alternative site and the east section of the site within the higher elevations of the canyon. Construction and development of the East Otay Mesa Alternative would adversely affect sensitive biotic resources in the RCA. A limited sensitive mima mound-vernal pool complex is located on the site. Since the feasibility of on-site mitigation to this resource is not currently known, impacts are considered significant adverse (see Section 4.4, Biological Resources of this EIS). Any unmitigated loss of sensitive biotical resources would conflict with the intention of the RCA to conserve such resources. Therefore, this alternative would not be consistent with the conservation policies of the RCA and would result in a significant adverse effect with respect to this criterion.

Mitigation Measures

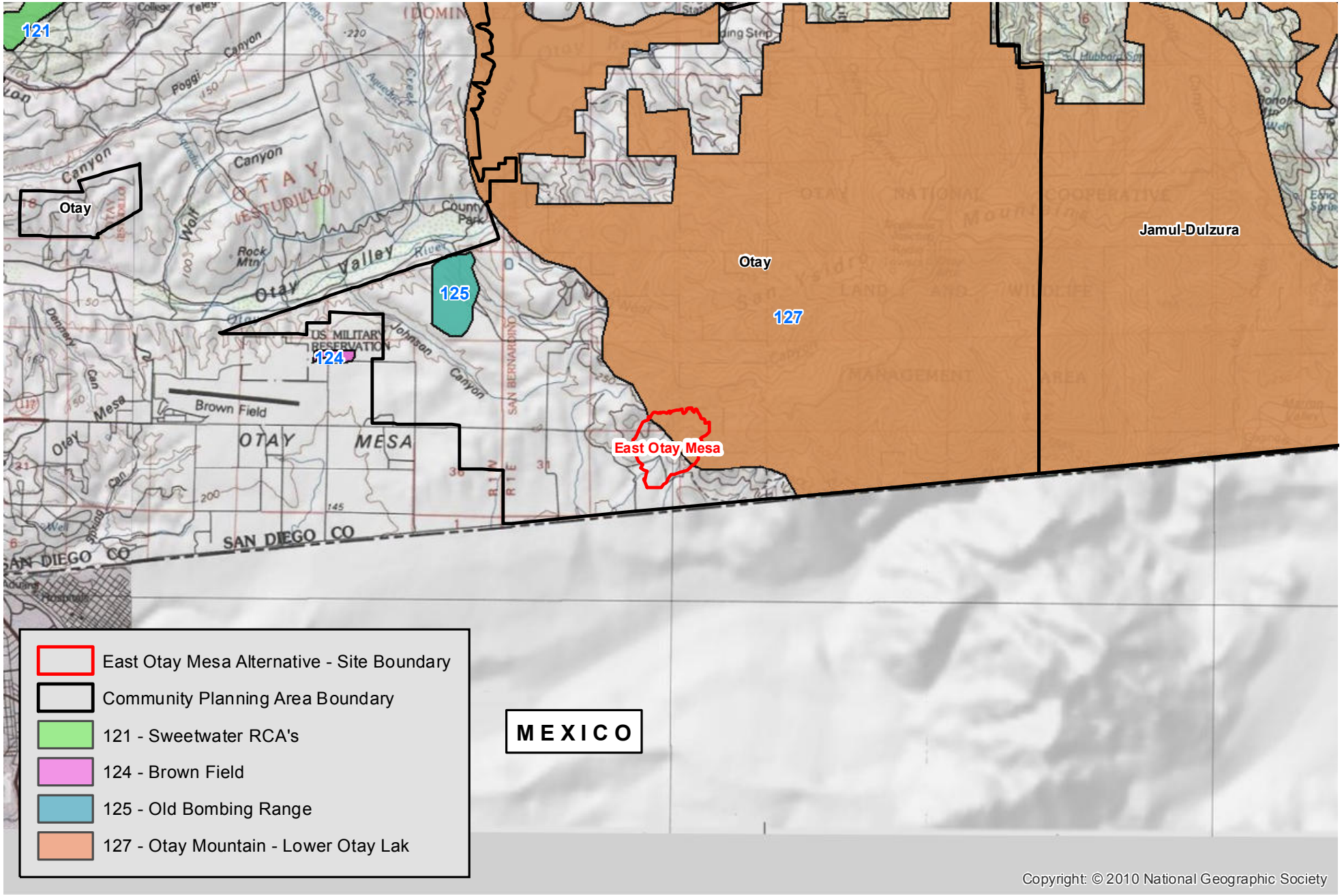
The East Otay Mesa Alternative would result in a significant adverse effect with respect to the RCA. However, no feasible mitigation measures are available to reduce inconsistencies between the alternative and the conservation policies of the RCA.

## 4.10.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.10.9.1 Affected Environment

The Sycamore Canyon Expansion Alternative site is located on SR 52 approximately 13 miles northeast of downtown San Diego, and approximately 0.75 mile west of the boundary between the cities of San Diego and Santee. Undeveloped Marine Corps Air Station Miramar lands used for military training, and conserved open space are located to the north of the site. SR 52 and Mission Trails Regional Park lands are located to the south. Undeveloped private land lies immediately to the west and east. In addition, West Hills Park and West Hills High School are located approximately 0.75 mile southeast of the landfill area. The Santee Lakes and Recreation Area are located approximately 0.75 mile to the east. Existing residential areas are located approximately 0.7 mile from the landfill to the east, 0.75 mile to the southeast, and 1.0 mile to the south.

Approximately 150 acres of the existing 491-acre site are currently being used for landfill operations. The landfill footprint comprises approximately 138 acres and other existing uses include recycling and rock crushing operations, a landfill gas flare facility, co-generation equipment, and sedimentation basins. Three electrical transmission lines cross the site diagonally from southwest to northeast, and the site contains various landfill access roads and trails. Except for groundwater monitoring wells and landfill gas probe sites, the remaining portions of the site are undeveloped. The landfill entrance area, located near Mast Boulevard and West Hills Parkway, contains two scales, a scale house, administrative office buildings, parking areas, and a recycling center operated by a third party. A 2,800-foot long, two-lane paved access road connects the property entrance on SR 52 and the landfill operation. An existing staging area is located at the west side of the access road, just north of SR 52.




N

0 1.5 3 Miles

**Otay Mountain Resource Conservation Area Map**

Gregory Canyon

Source: SANDAG, 2012; PCR Services Corporation, 2012.

FIGURE

**4.10-5**

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The site is primarily designated as Industrial Employment in the City of San Diego General Plan, although sections of the site are designated as Park, Open Space, and Recreation (see Figure 5.1-1, Existing and Proposed General Plan Land Use Designations, in the Sycamore Landfill Master Development Plan Revised Final EIR). A small area at the southeast corner of the property along SR 52 is designated as Commercial Employment, Retail, and Services. The abutting, surrounding area is designated as Park, Open Space, and Recreation. Existing zoning of the site is Residential RS-1-8 (see Figure 5.1-2, Existing and Proposed Zoning Map, in the Sycamore Landfill Master Development Plan Revised Final EIR). The site is located in the East Elliott Community Plan area and is designated primarily as Sanitary Landfill. Smaller peripheral sections of the property are designated as Open Space and Office Commercial (see Figure 5.1-3, Existing and Proposed Community Plan Land Use Designations, in the Sycamore Landfill Master Development Plan Revised Final EIR).

The Sycamore Canyon Expansion Alternative site is located in the Eastern Area of the City of San Diego's Multiple Species Conservation Program (MSCP), although most of the site is not included within the Multi-Habitat Planning Area (MHPA) (see Figure 5.1-4, City MSCP Subarea Plan – Eastern Area, in the Sycamore Landfill Master Development Plan Revised Final EIR). The MSCP is a comprehensive, long-term habitat conservation planning program that covers approximately 900 square miles in southwestern San Diego County (including sections of the City of San Diego). As part of the City's MSCP Subarea Plan, the City developed the MHPA, which delineates core biological resource areas and corridors targeted for conservation throughout the City. The Eastern Area of the City's MSCP Subarea Plan includes the remaining undeveloped lands in the eastern portion of the City of San Diego including the area known as East Elliott (approximately 2,300 acres), and MTRP (approximately 5,700 acres). Approximately 23.2 acres of the landfill expansion area lie within the MHPA, and approximately 2.4 graded acres of the land within the 32-acre relocated transmission line easement are within the MHPA.

## 4.10.9.2 Design Features

Consistency with land use plans is related to the physical effects of a development and the degree to which a development affects resources that land use plans intend to protect, such as land, water, air quality, noise environment, mobility, cultural resources, aesthetic resources, public services, utilities, and other resources. Design features and mitigation measures with respect to the physical effects of the Sycamore Canyon Expansion Alternative are addressed in respective sections of the EIS.[11]

## 4.10.9.3 Environmental Consequences

### Consistency with General Plan and other Land Use Plans

*Criterion: An alternative would result in a significant adverse effect if the alternative would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the alternative (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for purpose of avoiding or mitigating an environmental effect.*

**Impact Statement Sycamore LU-1: The Sycamore Canyon Expansion Alternative would conflict with Open Space and Land Preservation Policy CE-B.1 and Urban Design Element, Natural Features Policy**

[11] *Design features are also described in the Table 3.3 of the Sycamore Landfill Master Plan Revised Final EIR (August 2012)*

**UD-A-1 to protect and preserve open space. Therefore, the alternative would have a significant adverse effect with respect to this criterion.**

### City of San Diego General Plan

The Sycamore Canyon Expansion Alternative involves several land use actions including (1) a General Plan Amendment to change the land use designations of "Park, Open Space and Recreation" and "Commercial Employment" to "Industrial Employment;" (2) a community plan amendment to change the land use designations of "Open Space" and "Office Commercial" to "Sanitary Landfill;" and (3) a zone change from RS-1-8 (Residential) to IH-2-1 (Heavy Industrial). According to the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012, page 3-27), the General Plan Amendment would occur on approximately 43 acres of land designated as "Park, Open Space and Recreation" and five acres of land designated as "Commercial Employment, Retail and Services." The plan amendments and rezoning ensure consistency with the land use designations of the General Plan and the East Elliott Community Plan, a component of the General Plan.

The consistency of the alternative with the goals and policies of the City of San Diego General Plan is described in detail in Table 4 in Appendix J of this EIS. As shown in Table 4, the alternative would be substantially consistent with Land Use and Community Planning, Economic Prosperity, Mobility, Urban Design, Conservation, Recreation, Noise, and Public Facilities Elements of the General Plan. However, the alternative would cause a loss of open space, which is discouraged by Open Space and Land Preservation Policy CE-B.1. Although the alternative would preserve approximately 52 acres of additional open space within the MHPA surrounding the landfill property to compensate for biological resources impacts (refer to Section 5.5 of the Sycamore Landfill Development Plan Revised Final EIR), the alternative would be inconsistent with Policy CEB-1 due to the loss of natural open space prior to facility closure. In addition, the loss of open space would not be consistent with Urban Design Element, Natural Features Policy UD-A-1, to protect the integrity of designated open spaces.

The alternative would be inconsistent with the General Plan policies with respect to impacts on approximately 0.62 acres of City-defined wetlands habitat. This loss of wetlands habitat would be considered adverse given the importance of the resource to the City of San Diego and Wildlife Agencies. Because the proposed amendment would result in a physical impact, the Sycamore Canyon Expansion Alternative is considered to have a significant adverse effect with respect to the City of San Diego General Plan. The EIR prepared for the Sycamore Landfill Master Development Plan also found that the alternative would conflict with General Plan Conservation Element's open space policies.[12] Although the alternative site would ultimately be converted to open space as part of the closure plans, there are no measures available in the interim to compensate for the loss of naturally occurring open space. Therefore, the alternative would have significant adverse effect with respect to this criterion.[13]

[12] *Sycamore Landfill Master Development Plan Revised Final EIR (August 2012), page 5.1-15, states: "The alternative's conflict with City open space policies would represent a significant and unmitigable land use policy impact."*

[13] *In the approval of amendments of the General Plan and Community Plan to allow the Sycamore Landfill Master Development Plan (September 17, 2012), the San Diego City Council adopted a statement of overriding considerations to accept significant impacts identified in the Revised Final EIR.*

### East Elliott Community Plan

Approximately 26 acres of land designated for Open Space in the East Elliott Community Plan area would be converted to landfill use. As such, the Sycamore Canyon Expansion Alternative would not be consistent with the Open Space Management Guidelines of the East Elliott Community Plan (Guideline 1), which states that natural open space areas should remain undeveloped with disturbance limited to trails and passive recreational uses such as walking, hiking and nature study that are consistent with preservation of natural resources. However, as discussed in the Sycamore Canyon Landfill Master Development Plan Revised Final EIR (August 2012, page 5.1-52) the land to be converted from Open Space to Landfill lies adjacent to the approved landfill which reduces its inherent value as open space. However, the loss of open space would conflict with Guideline 1 of the East Elliott Community Plan.[14]

### City of Santee General Plan

The alternative would be consistent with Policy 9.2 of the City of Santee General Plan, in which the City should "oppose any expansion of 'Sycamore Landfill' that would result in increased land use compatibility impacts to the City, unless they can be adequately mitigated." According to the Sycamore Canyon Landfill Master Development Plan Revised Final EIR (August 2012, page 5.1-52), the primary potential for land use compatibility issues are related to noise and odors associated with landfill operations. The operation of the landfill would not create adverse land use compatibility impacts on the Santee residents in the area. Operations would not exceed levels considered unacceptable by the City of San Diego's Noise Element or Noise Control Element or by the City of Santee. With continued implementation of the Odor Management Plan, odors associated with the landfill operations would not adversely impact nearby residential areas. To further reduce the potential for odors, the Master Plan establishes a limit for green waste handling and no green waste handling would occur within 150 feet of the current eastern ridge of the landfill. Because noise and odor impacts would not adversely affect residents of the City of Santee, the alternative would be consistent with the intent of the City of Santee General Plan.

#### Mitigation Measures

The Sycamore Canyon Expansion Alternative would result in significant adverse effects with respect to policies of the San Diego General Plan and East Elliott Community Plan. However, no feasible mitigation measures are available to reduce inconsistencies between the alternative and these plans.

### Consistency with Resource Conservation Area Designation

*Criterion: An alternative would result in a significant adverse effect if the alternative would conflict with any applicable habitat conservation plan or natural community conservation plan.*

**Impact Statement Sycamore LU-2: The Sycamore Canyon Expansion Alternative would be within the 30-percent encroachment allowance into the MHPA that applies to essential public facilities. Therefore, the alternative would not conflict with MSCP Subarea Plan and would not have an adverse effect with respect to this criterion.**

[14] *Ibid.*

As described in the Sycamore Landfill Master Development Plan Revised Final EIR, the alternative would impact narrow endemic species and sensitive vegetation communities that would be mitigated to less-than-adverse levels through the implementation of City-approved translocation and restoration plans, as well as conveyance of land to the City for permanent habitat preservation. No impacts to regional wildlife corridors would occur. The landfill expansion would be in compliance with the MHPA Guidelines in Section 1.2.2 of the MSCP Subarea Plan, established for the East Elliott/MTRP portion of the Subarea Plan. As shown in Figure 4.10-6, *Sycamore Canyon Area Resource Conservation Area Map*, the site is not located within an RCA area. The MSCP Subarea Plan assumed that in the future the landfill area would be reclaimed as an open space preserve or passive park. The existing Sycamore Landfill property is located outside of but surrounded by MHPA. A portion of the landfill and ancillary facilities expansion would encroach into 23.18 acres of sensitive vegetation communities and one land cover type (developed/disturbed) within the MHPA. The alternative (including the landfill expansion and transmission line relocation) would encroach into 21.3-percent of the MHPA within the alternative parcels. This would fall below the allowed 30-percent MHPA encroachment limit permitted by the City of San Diego Biology Guidelines for essential public facilities.[15] A detailed discussion of the alternative's compliance with the MSCP Subarea Plan is provided in Section 5.5, Biological Resources, of the Sycamore Landfill Master Development Plan Revised Final EIR and the Biological Technical Report contained in Appendix H1 of that EIR.

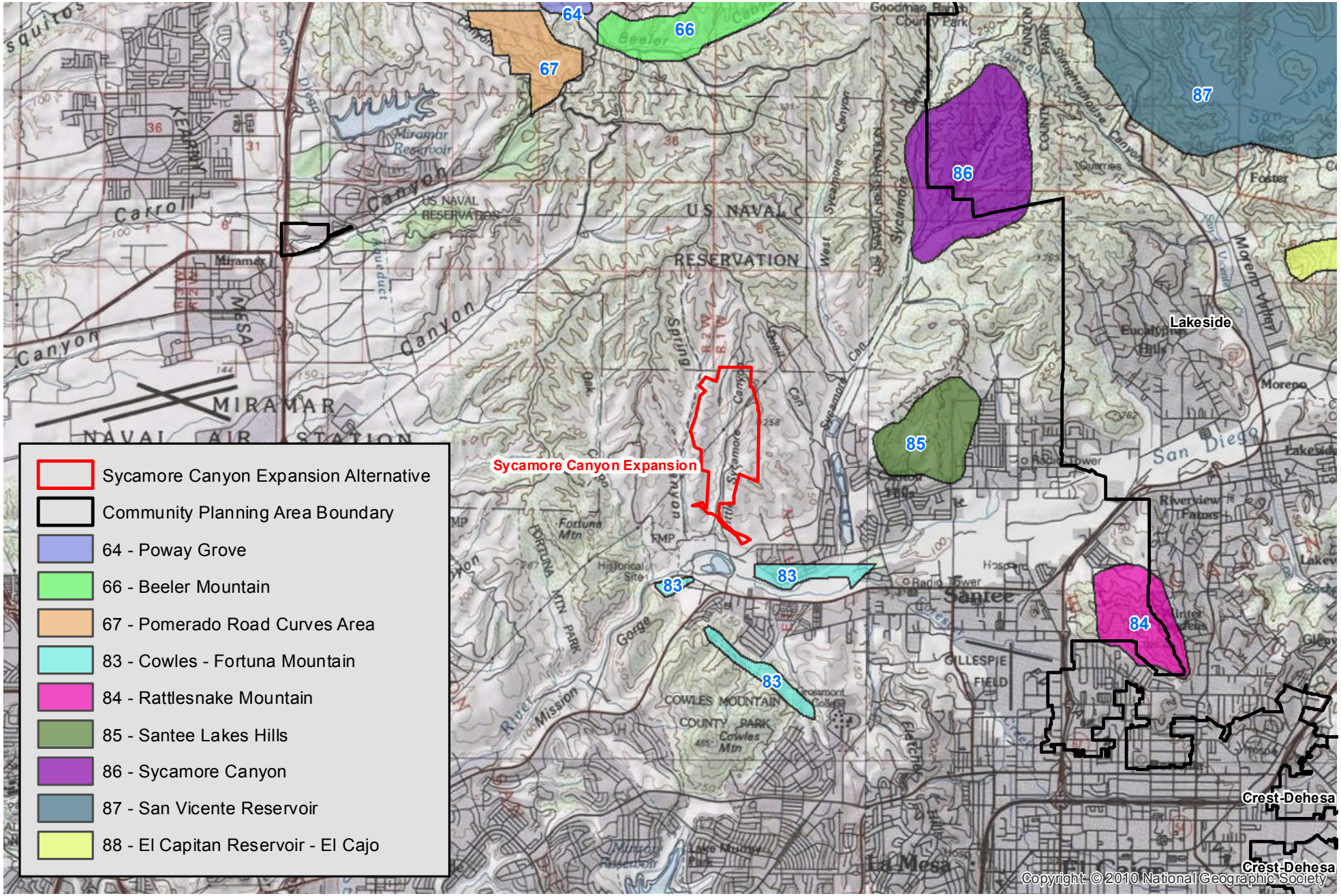
However, the alternative has the potential to result in adverse construction-related impacts due to the proximity of grading activities relative to the MHPA relative to the alternative's grading activities. Construction impacts relate to potential land development/grading/boundaries; drainage/toxins; staging/storage, equipment maintenance, and trash; lighting; noise; barriers; and invasives and would be minimized through compliance with measures listed in the Biological Resources Section of the Sycamore Landfill Master Development Plan Revised Final EIR. These measures would ensure that adverse indirect operational impacts to the MHPA would be minimized. Therefore, the landfill use would be consistent with the provisions of the MSCP Subarea Plan. The Sycamore Canyon Expansion Alternative would be within the 30-percent encroachment allowance into the MHPA that applies to these "essential public facilities" and would not result in adverse effects to the MSCP Subarea Plan.[16]

## Mitigation Measures

The alternative would be consistent with the MSCP Subarea Plan and would not result in an adverse effect. No mitigation measures are proposed.

[15] *Sycamore Landfill Master Development Plan Revised Final EIR, page 5.1-22.*

[16] *Ibid.*




0 1.5 3 Miles

**Sycamore Canyon Area Resource Conservation Area Map**

Gregory Canyon

Source: SANDAG, 2012; PCR Services Corporation, 2012.

FIGURE

**4.10-6**

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# 4.11 NOISE AND VIBRATION

## INTRODUCTION

This section presents an evaluation of the noise and vibration environment in the vicinity of the alternative sites, including a discussion of noise measurement scales, noise regulations, and existing noise conditions in and near the sites. Section 4.4, Biological Resources, of this EIS contains an analysis regarding potential noise effects relative to biological resources.

With the exception of the Sycamore Canyon Expansion Alternative, all alternatives are located within unincorporated San Diego County and are assessed with respect to San Diego County standards. The evaluation of the Sycamore Canyon Expansion Alternative is based on the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012), which includes an analysis of the consistency of the alternative with the City of San Diego General Plan and respective community plans.

The section contains an analysis of potential short-term noise increases due to initial construction of the alternatives as well as potential long-term noise increases due to operation of the alternatives. Noise levels for construction equipment are assessed based on the Federal Highway Administration (FHWA) Roadway Construction Noise Model. Operational noise impacts have been evaluated by identifying the noise levels generated by outdoor stationary noise sources such as the recycling drop-off activities, borrow/stockpile operations, rock crushing and tire shredding operations, and the flare station. Roadway noise impacts have been evaluated using the California Department of Transportation (Caltrans) Technical Noise Supplement methodology and roadway traffic volume data provided in the Traffic Impact Studies prepared for the alternatives by Linscott Law & Greenspan (LLG). Vibration impacts from blasts on the Applicant's Proposed Alternative site are based on previously conducted tests by Ogden Environmental and Energy Services (Ogden, 1996) as well as supplemental vibration impact modeling conducted by Investigative Science and Engineering (ISE, 1998). These vibration technical reports are provided in Appendix K. Noise calculations conducted for the alternatives by PCR Services Corporation are also provided in Appendix K.

## 4.11.1 REGULATORY FRAMEWORK

Applicable policies and regulations that serve to protect people from adverse noise and vibration impacts are discussed below.

### 4.11.1.1 Federal

There are no applicable federal noise regulations for landfill activities. Therefore, only federal vibration regulations are discussed below.

#### U.S. Bureau of Mines RI 8507 Blasting Criteria

The U.S. Bureau of Mines, in its report RI 8507, "Structure Response and Damage Produced by Ground Vibrations from Surface Blasting," identifies acceptable maximum transverse ground velocity levels. This criterion sets the maximum peak particle velocity as a function of frequency. For example, if the blast frequency was 30.0 Hz, the maximum allowable particle velocity at the monitoring point would be 1.5 inches

per second. According to the U.S. Bureau of Mines, a range of frequencies between 11.0 and 40.0 Hz would produce negligible effects (i.e., displacement, fatigue, and damage) in conventionally constructed structures (i.e., structures built within the past 100 years).

### 4.11.1.2 Regional

#### San Diego County General Plan, Noise Element

The San Diego County General Plan Noise Element provides guidance on improving the safety and health of the community and abatement of excessive noise (San Diego County, 2011). The Noise Element provides information on the existing and projected noise environment and includes goals, objectives, and policies to ensure an acceptable noise environment. While the County Noise Ordinance, which is discussed below, protects noise sensitive areas, such as residential areas from fixed and/or operational noise sources, it does not apply to mobile noise sources, such as automobiles or heavy trucks traveling on public roadways. Public roadway noise is regulated through the implementation of the Noise Abatement Control Policies adopted as part of the Noise Element of the San Diego County General Plan. These policies identify unacceptable noise levels for noise sensitive land uses and recommend measures for controlling noise levels. For new development that would result in any (existing or future) noise sensitive area to be exposed to noise levels equal to 60 dBA CNEL or greater (exterior), the Noise Element requires that the applicant prepare a noise study. For any noise sensitive areas determined to be exposed to noise greater than 60 dBA CNEL, mitigation measures are specified. These mitigation measures include modifications to the proposed project, or modifications to the affected property using the most current noise abatement technology.

Additionally, the County of San Diego established noise standards for new developments impacted by transportation noise sources (e.g., roadways). The noise standards are 60 CNEL for outdoor single-family residential uses (e.g., rear yards) and 70 CNEL for golf courses, agriculture, and mining. While these standards do not apply directly to landfills, they are used as a guideline for assessing off-site landfill-related traffic impacts. See Section 4.10, Land Use and Planning, of this EIS for an analysis of the alternatives relative to other goals and policies of the County's Noise Element.

#### San Diego County Vibration Ordinance

The San Diego County Ordinance Section 6314, provides maximum permissible vibration displacement levels for various zoning designations. Specifically, Section 6314 limits vibration caused by steady state, earth-borne oscillation which is continuous and occurring more frequently than 100 times per minute, or an impact-borne oscillation with discreet pulses at or less than 100 times per minute, to specific vibration displacement standards. San Diego County has no other vibration regulations that are applicable to the alternatives.

#### San Diego County Noise Ordinance

Fixed source and/or operational noise are governed by Section 36.404 of the San Diego County Code, (referred to as the County Noise Ordinance or Ordinance). The applicable sound level restrictions from the County Noise Ordinance are a function of the time of day and the land use zoning designation. Sound levels are measured at the property boundary of the noise source. The relevant exterior noise standards in the Ordinance are shown in Table 4.11-1, *San Diego County Noise Ordinance Exterior Noise Standards*.

**Table 4.11-1**

**San Diego County Noise Ordinance Exterior Noise Standards**

| Zoning | Noise Metric | Noise Level Not to be Exceeded | |
|---|---|---|---|
| | | 7 A.M. to 10 P.M. (daytime) | 10 P.M. to 7 A.M. (nighttime) |
| R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-88, S-90, S-92, R-V, and R-U with a General Plan Land Use Designation density of less than 10.9 dwelling units per acre. | Leq (1-hour) | 50 dBA | 45 dBA |
| R-RO, R-C, R-M, S-86, R-V, and R-U With a General Plan Land Use Designation density of 10.9 or more dwelling units per acre. | Leq (1-hour) | 55 dBA | 50 dBA |
| S-94 and all commercial zones. | Leq (1-hour) | 60 dBA | 55 dBA |
| M-50, M-52, M-54 | Anytime | 70 dBA | 70 dBA |
| S-82, M-56, M-58 | Anytime | 75 dBA | 75 dBA |

[a] *Zoning Designations:*
*R-C, R-D, R-M, R-MH, R-R, R-RO, R-S, R-U, R-V = residential zones*
*A-70, A-72 = agriculture zones*
*M-50, M-52, M-54, M-56, M-58 = manufacturing/industrial zones*
*S-80, S-81, S-82, S-86, S-88, S-90, S-92 = special purpose use zones (S-80 = recreational)*

[b] *The noise limit shall be raised to the measured ambient noise level, if the ambient noise level is higher. The ambient noise level shall be measured when the alleged noise violation source is not operating.*

[c] *The noise limit on the boundary between two zoning districts shall be the arithmetic mean of the respective noise limits, provided however, that the one-hour average sound level limit applicable to extractive industries (including but not limited to borrow pits and mines), shall be 75 dBA at the property line regardless of the zone where the extractive industry is actually located.*

*Source: San Diego County Code, Section 36.404*

Section 36.410 of the County Noise Ordinance addresses noise from short-term construction activity. The Ordinance limits operation of construction equipment between the hours of 7:00 A.M. and 7:00 P.M. In addition, construction equipment noise levels must not exceed 75 dBA for eight hours during any 24-hour period when measured at or within the property line of any residence.

## 4.11.1.3 Local

### City of San Diego General Plan Noise Element

General community noise and land use compatibility guidelines are set forth in the Noise Element in the City of San Diego General Plan. As indicated in the Noise Element, office and commercial uses are conditionally compatible with exterior noise levels up to 75 dBA CNEL and interior noise levels of 50 dBA CNEL. Single-family residential uses are conditionally compatible with exterior noise levels up to 65 dBA CNEL and interior noise levels up to 45 dBA CNEL.

## City of San Diego Municipal Code

The San Diego Municipal Code (SDMC) noise limits apply to construction and operational noise sources. Section 59.5.0404 of the SDMC regulates construction noise and limits construction hours to between 7:00 A.M. and 7:00 P.M. unless a permit is issued. The ordinance limits sound levels at or beyond the property lines of any property zoned residential to an average sound level no greater than 75 decibels. Fixed source and/or operational noise are governed by SDMC Section 59.5.0401. The noise limits are in terms of a one-hour average sound level. The allowable noise limits vary according to the land use and time of day. Sound levels are measured at the property line between the noise source and the adjacent receptor. The noise limits for various land uses are provided in Table 4.11-2, *City of San Diego Noise Ordinance Limits*. The property line noise limit where two zoning districts meet is the arithmetic mean of the respective limits for the two zones (SDMC Section 59.5.0401[b]). The allowed noise limit at the boundary between residential and industrial uses would be 62.5 dBA from 7:00 A.M.to 7:00 P.M., 60 dBA from 7:00 P.M. to 10:00 P.M., and 57.5 dBA from 10:00 P.M. to 7:00 A.M.

**Table 4.11-2**

**City of San Diego Noise Ordinance Limits**

| Land Use Zoning [a] | Time of Day | One-hour Average Sound level (dBA) |
|---|---|---|
| Single-Family Residential | 7 A.M. to 7 P.M. | 50 |
| | 7 P.M. to 10 P.M. | 45 |
| | 10 P.M. to 7 A.M. | 40 |
| Multi-Family Residential (Up to a maximum density of 1/2000) | 7 A.M. to 7 P.M. | 55 |
| | 7 P.M. to 10 P.M. | 50 |
| | 10 P.M. to 7 A.M. | 45 |
| All other Residential | 7 A.M. to 7 P.M. | 60 |
| | 7 P.M. to 10 P.M. | 55 |
| | 10 P.M. to 7 A.M. | 50 |
| Commercial | 7 A.M. to 7 P.M. | 65 |
| | 7 P.M. to 10 P.M. | 60 |
| | 10 P.M. to 7 A.M. | 60 |
| Manufacturing and all other industrial, including or Agricultural and Extractive Industry | Anytime | 75 |

[a] *The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.*

*Source: City of San Diego Noise Ordinance Section 59.5.0401*

## City of Santee Noise Abatement and Control Ordinance

The City of Santee Noise Abatement and Control Ordinance establishes the noise level limits for various stationary noise sources generated on private property affecting neighboring properties. The City's Noise Ordinance specifies sound level limits in terms of one-hour average sound level ($L_{eq}$). The Noise Ordinance requires that the daytime noise level at an outdoor area of a residential property not exceed 50 dBA during

the daytime. Evening time (7:00 P.M. to 10:00 P.M.) and nighttime (10:00 P.M. to 7:00 A.M.) noise level limits are reduced by 5 dBA and 10 dBA, respectively, to reflect the increased sensitivity to noise occurring during this time period. The applicable limit for residential land uses from the transportation sources operating on public roads is 60 dBA CNEL.

## 4.11.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides a discussion of community noise measurement scales and background regarding vibration, followed by the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts regarding noise and vibration.

### Community Noise Measurement Scales

Community noise levels are measured in terms of the "A-weighted decibel," abbreviated "dBA." A-weighting is a frequency correction that correlates overall sound pressure levels with the frequency response of the human ear.

The "equivalent noise level," or "$L_{eq}$" is the average noise level on an energy basis for any specified time period. The $L_{eq}$ for one hour is the energy average noise level during the hour, specifically, the average noise based on the energy content (acoustic energy) of the sound. It can be thought of as the level of a continuous noise that has the same energy content as the fluctuating noise level. The equivalent noise level has the units of dBA.

Several rating scales have been developed for measurement of community noise. These account for: (1) the parameters of noise that have been shown to contribute to the effects of noise on people; (2) the variety of noises found in the environment; (3) the variations in noise levels that occur as a person moves through the environment; and (4) the variations associated with the time of day.

The predominant rating scale in use for land use compatibility assessment is the Community Noise Equivalent Level (CNEL). The CNEL scale represents a time-weighted 24-hour average noise level based on the A-weighted decibel. "Time-weighted" refers to the fact that the noise levels during certain hours are adjusted for increased sensitivity of hearing during these hours, by adding five decibels (dB) to each of the evening hour readings (7 P.M. to 10 P.M.) and ten dB to each reading during the nighttime hours (10 P.M. to 7 A.M.). These time periods and penalties were selected to reflect people's increased sensitivity to noise during these time periods. The "day-night" or "$L_{dn}$" scale is similar to the CNEL scale except that evening hour readings are not adjusted. A CNEL noise level may be reported as a "CNEL of 60 dBA," "60 dBA CNEL," or simply "60 CNEL."

Intermittent or occasional noises such as those associated with certain types of earth moving operations are not of sufficient volume to exceed community noise standards that are based on a time averaged scale such as the CNEL scale. A common method of characterizing these noise levels is with the $L_{eq}$ or equivalent noise level (see description above).

The measurement levels are in terms of L percent, which show the noise levels for different time durations to describe the existing ambient noise environment. The results are presented in terms of the equivalent noise

levels ($L_{eq}$), maximum ($L_{max}$) and minimum ($L_{min}$) noise levels, and percentile noise levels (L). The $L_{50}$ percentile level, for example, is the noise level exceeded 50 percent of the time. The $L_{50}$ level represents the median or average noise level. The $L_{90}$ level represents the most quiet noise level experienced, or the background noise level. The $L_{max}$ level represents the loudest instantaneous noise level recorded during the measurement period, and the $L_{min}$ represents the quietest level.

## Vibration Technical Background

The study of wave phenomenon produced by a blasting event is identical to the study of wave motion produced by earthquakes, or seismology. The study of seismology predicts the vibratory response of the earth at various points due to some type of input excitation, in this case blasting.

Vibration is generally defined as any oscillatory (wave) motion induced in a structure or mechanical device as a direct result of an input excitation. The three major components of a vibratory system are: (1) the mass of the object; (2) the damping present in the object; and (3) the stiffness of the object. Input excitation, in this case the force and displacement generated by blast excavation, is the mechanism that starts a vibratory response. An object's inherent level of damping is the only natural mechanism that can temper the potentially destructive effects of the vibration. Damping is a type of drag that is always present to some degree in an object and serves to remove energy from the vibrating system as it moves. Artificial damping, such as shock absorbers, viscous isolation materials, and simple friction, is used routinely in mechanical devices. The stiffness of a vibrating system allows an object to store the energy received and redistribute the energy in the form of a vibration. Without some form of stiffness, an object will not vibrate. Mechanical forms of stiffness include springs.

Blasting vibration is caused by the imperfect use of explosive energy released during blasting operations. In blasting vibration, the unused energy radiates through the surrounding rock mass in the form of stress-strain waves. When these waves come into contact with a surface, physical motion results as the energy induces oscillation in the ground surface. In the case where the oscillation frequency is of sufficient magnitude (such as in an earthquake), severe structural damage can occur.

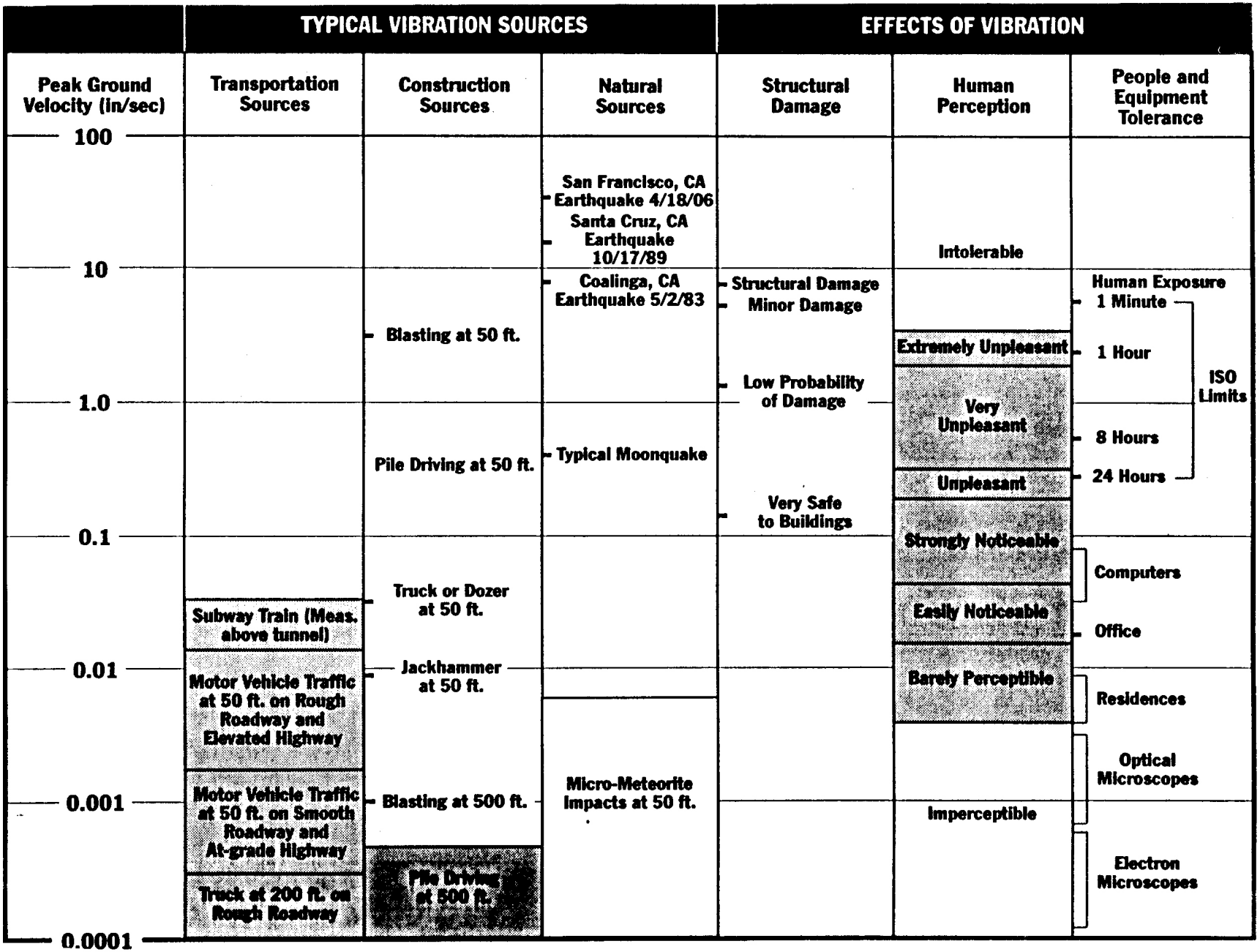
Figure 4.11-1, *Typical Vibration Sources and Sensitivities*, provides typical vibration sources and their effects on buildings, infrastructure, equipment, and humans. The peak ground velocity produced by various disturbances is given throughout a wide spectrum ranging from the infinitesimal to the severe.

## 4.11.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing significant adverse effects rely on local thresholds for guidance.

### San Diego County Noise Criteria

Table 4.11-1 provides the exterior noise standards in the County Ordinance, which are based on the property zoning. Table 4.11-1 indicates that the daytime noise limit for residential land uses is 50 dBA $L_{eq}$. Landfill sites are similar to the types of uses allowed in the Special Purpose Use Zones (S-82) and Manufacturing/Industrial Zones (M-58). Therefore, landfill sites would have a daytime noise limit of 75 dBA, $L_{eq}$. The County uses the arithmetic mean when different zones are adjacent to one another. The arithmetic




Typical Vibration Sources and Sensitivities

Gregory Canyon

Source:Ogden, 1996; David Evans and Associates, Inc., 1999.

FIGURE

4.11-1

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mean between residential zones and industrial zones is 62.5. Therefore, the 62.5 dBA $L_{eq}$ is the noise limit that the landfill activity noise levels must not exceed at a residential property line. Therefore, a significant adverse noise effect would result from an alternative if:

- Noise from the alternative's noise sources, other than traffic noise on public roadways, would exceed 62.5 dBA $L_{eq}$ at a residential property line; or
- Traffic noise on public roadways would exceed an exterior level of 60 dBA CNEL for single-family residential uses.

### San Diego County Vibration Criteria

A significant adverse vibration effect would occur from an alternative if:

- Blasting operations would result in the exceedance of the U.S. Bureau of Mines RI 8507 standards, which are adopted in the San Diego County Water Authority design procedure manual 02229-3 (February 1995). Those frequency dependent standards are shown in Table 4.11-3, *U.S. Bureau of Mines RI 8507 Standards*.

**Table 4.11-3**

**U.S. Bureau of Mines RI 8507 Standards**

| Blast Frequency Component (f) (Hz) | Maximum Allowable Peak Particle Velocity (inches per second) |
|---|---|
| 2.5 to 10.0 | 0.05 |
| 11.0 to 40.0 | 0.05 x (f) |
| >40.0 | 2.0 |

*The maximum allowable peak particle velocity for the range of frequencies between 11.0 and 40.0 Hz is limited to the value of 0.05 times the dominant blast frequency. Thus for example, if the blast frequency was 30.0 Hz, the maximum allowable particle velocity at the monitoring point would be 1.5 inches per second.*

*Source: U.S. Bureau of Mines*

### City of San Diego Noise Criteria

According to the City's Significance Determination Thresholds, a significant adverse noise effect would result from an alternative if:

- Noise from alternative's noise sources would result in temporary construction noise which exceeds noise levels identified in SDMC Section 59.5.0404, including temporary construction noise that exceeds an average sound level greater than 75 dBA $L_{eq}$ at a sensitive receptor during the 12-hour period from 7:00 A.M. to 7:00 P.M. (construction is generally prohibited between the hours of 7:00 P.M. and 7:00 A.M.);
- Noise from alternative's noise sources would expose single-family residential properties to exterior noise levels exceeding 57.5 dBA $L_{eq}$ from 7:00 A.M. to 7:00 P.M., 52.5 dBA $L_{eq}$ from 7:00 P.M. to 10:00 P.M., and 50 dBA $L_{eq}$ from 10:00 P.M. to 7:00 A.M.;

- Noise from alternative's noise sources would expose institutional uses (i.e., schools) to exterior noise levels exceeding 60 dBA $L_{eq}$ from 7:00 A.M. to 7:00 P.M., 55 dBA $L_{eq}$ from 7:00 P.M. to 10:00 P.M., and 52.5 dBA $L_{eq}$ from 10:00 P.M. to 7:00 A.M.;
- Noise from alternative's noise sources would expose commercial uses to exterior noise levels exceeding 65 dBA $L_{eq}$ from 7:00 A.M. to 7:00 P.M., 60 dBA $L_{eq}$ from 7:00 P.M. to 7:00 A.M.; and/or
- Noise from alternative's noise sources would expose single-family residential dwellings to interior sound levels exceeding 45 dBA $L_{eq}$.

An alternative would result in significant adverse land use – noise compatibility noise effects if it places land uses within areas exceeding the following noise levels:

- Open space, parks and recreational uses are incompatible with exterior noise levels above 65 dBA CNEL;
- Single-family residential uses are incompatible with exterior noise levels above 65 dBA CNEL and interior noise levels above 45 dBA CNEL;
- Institutional uses (i.e., educational facilities) are incompatible with exterior noise levels above 65 dBA CNEL and interior noise levels above 45 dBA CNEL; and
- Offices, sales and commercial service uses are incompatible with exterior noise levels above 75 dBA CNEL and interior noise levels above 50 dBA CNEL.

The City's Significance Determination Thresholds contain specific thresholds for traffic noise impacts that are based on the City of San Diego General Plan. Specifically, the Land Use Compatibility Chart (Table K-4) has been updated in the Noise Element of the 2008 General Plan, and the Transportation Element of the 2008 General Plan does not include the traffic noise thresholds contained in Table K-2 of the City's Significance Determination Thresholds. Traffic noise criteria used in this EIS are based on a combination of Table K-2 (from the City's Significance Determination Thresholds) and the Land Use – Noise Compatibility Guidelines in the Noise Element of the 2008 General Plan. Where differences occur between Table K-2 and the Land Use – Noise Compatibility Guidelines, the more restrictive guideline is applied.

An alternative would result in a significant adverse traffic noise effect if the alternative would:

- Expose single-family or multi-family housing to exterior traffic noise levels that exceed 65 dBA CNEL at exterior useable areas (with the exception of residential front yards or balconies, unless the balconies are part of the usable open space calculation for multifamily units) and interior traffic noise levels that exceed 45 dBA CNEL;
- Expose institutional uses to exterior traffic noise levels that exceed 65 dBA CNEL at exterior useable areas and interior traffic noise levels that exceed 45 dBA CNEL;
- Expose open space, parks and recreational uses to exterior traffic noise levels that exceed 65 dBA CNEL at exterior useable areas;
- Expose office uses to exterior traffic noise levels that exceed 70 dBA CNEL at exterior useable areas and interior traffic noise levels that exceed 50 dBA CNEL;

- Expose commercial, retail, or industrial uses to exterior traffic noise levels that exceed 75 dBA CNEL at exterior useable areas; and/or
- Increase noise levels by at least 3 dBA where noise levels currently exceed the traffic noise thresholds.

For residential areas in the City of Santee, the land use compatibility criterion is 60 dBA CNEL.

### 4.11.2.2 Methodology

#### Construction Noise (Initial and Periodic)

Noise impacts from on-site construction related activities are evaluated by determining the noise levels generated by the different types of construction activity, calculating the construction-related noise level at nearby sensitive receptor locations, and comparing these construction-related noise levels to the established significance criteria. More specifically, the following steps were undertaken to calculate construction noise impacts:

1. Typical noise levels for each construction equipment were obtained from the FHWA Roadway Construction Noise Model;
2. Distances between construction site locations (noise source) and surrounding sensitive receptors were measured using site plans and Google Earth;
3. The construction noise level was then calculated, in terms of hourly $L_{eq}$, for sensitive receptor locations based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance; and
4. Construction noise levels were then compared to the construction noise evaluation criteria.

#### Traffic Noise

Roadway noise impacts are evaluated using the Caltrans Technical Noise Supplement methodology based on the roadway traffic volume data provided in the Traffic Impact Study prepared for the alternatives by LLG. This methodology allows for the definition of roadway configurations, barrier information (if any), and receptor locations. Roadway noise attributable to the alternatives were calculated and compared to noise levels that would occur under the future No Federal Action condition.

#### Landfill Operational Noise

Operational noise impacts have been evaluated by identifying the noise levels generated by outdoor stationary noise sources such as recycling drop-off activities, borrow/stockpile operations, rock crushing and tire shredding operations, and the flare station. The impacts are assessed by calculating the hourly $L_{eq}$ noise level from each noise source at surrounding sensitive receptor property lines, and comparing the noise levels to existing ambient noise levels. More specifically, the following steps were undertaken to calculate outdoor stationary point-source noise impacts:

1. Distances between stationary noise sources and surrounding sensitive receptor property lines were measured using site plans and Google Earth;

2. Stationary-source noise levels were calculated at each sensitive receptor property line based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance; and
3. Projected noise level increases were compared to the stationary source noise evaluation criteria.

### Blasting Vibration

Vibrations are commonly measured using a device known as an accelerometer. This device consists of a small crystal shaped instrument that is designed to produce a small electrical charge when it is vibrated. This electrical charge is transmitted via a cable assembly into a spectrum analyzer that displays the frequency content and magnitude of the electrical signal.

For the Applicant's Proposed Alternative site, vibration test blasts were previously conducted at five locations along the First San Diego Aqueduct alignment to determine existing frequency reposes and soil damping characteristics by Ogden Environmental and Energy Services (Ogden) in 1996. These data were used to provide an analysis of the potential effects from blasting. Even though the vibration test blasts were conducted in 1996, the test results are still applicable to the Applicant's Proposed Alternative since geologic conditions at the Applicant's Proposed Alternative site have not changed.

In addition, this section contains a summary of a vibration technical report that was prepared by Ogden which addresses existing vibratory site conditions, as well as potential impacts to the First San Diego Aqueduct from construction blasting activities at the proposed Gregory Canyon Landfill site. The Ogden report has been supplemented by additional vibration impact modeling conducted by Investigative Science and Engineering (ISE, 1998), to determine the level of impact on nearby residences and the SDG&E transmission facilities. The vibration studies are contained in Appendix K of this EIS.

The maximum permissible vibration displacement levels in the San Diego County Ordinance Section 6314 do not apply to construction blasting since such blasting operations are not considered to be continuous or impact oscillation generating activities. Further, the ordinance specifically exempts vibration caused by temporary construction or demolition. The blasting vibration impacts for the alternatives were evaluated based on the U.S. Bureau of Mines RI 8507 Blasting Criteria. For the purposes of impact determination, the 0.25 second blast decay rate (from Appendix D of the vibration technical report) was used as the response curve of choice to represent a maximum impact analysis.

## 4.11.3 APPLICANT'S PROPOSED ALTERNATIVE

## 4.11.3.1 Affected Environment

### Existing Noise Levels

#### Ambient Noise Levels

Measurements of the existing ambient noise levels were performed at five locations along the southern and western boundary (R1 through R5) and at two sensitive wildlife habitat locations (LBV-1 and LBV-2) along the San Luis Rey River on the Applicant's Proposed Alternative site. See Figure 4.11-2, *Ambient Noise Measurement Locations,* for the ambient noise measurement locations. Measurements were performed between November 1 and 3, 2000, by PCR Services Corporation using the Larson-Davis Model 820 noise monitor. One-hour noise measurements were performed at locations R3, R4, and R5, while a 15-minute

measurement was taken at location R2 during daytime hours (7:00 A.M. to 6:00 P.M.). The existing noise conditions at locations R1, LBV-1, and LBV-2 were measured over a 24-hour period.

A survey for sensitive receptors was conducted by PCR Services Corporation staff on October 27, 2010. Based on the survey, no change has occurred in the proximity or location of sensitive receptors relative to the site compared with the sensitive receptors identified at the time of the previous environmental analysis. Additional noise measurements were conducted to confirm the existing ambient noise levels were consistent with noise measurements conducted in 2000. Short-term (15-minute) measurements were conducted at locations R1, R2, R3, and R4 on Wednesday, January 11, 2012 between the hours of 11:00 A.M. and 1:00 P.M. A noise measurement was not conducted at measurement location R5 because of accessibility issues due to fallen trees. The analysis locations are shown in Figure 4.11-2. These locations coincide with the measurement locations shown in Figure 4.11-2.

Table 4.11-4, *Existing Ambient Noise Measurement Levels (Applicant's Proposed Alternative Site)*, provides a summary of the ambient noise measurement data at the five locations shown in Figure 4.11-2. Data sheets from the field measurements and the complete results of the 24-hour noise monitoring are provided in Appendix K. As indicated in Table 4.11-4, typical noise sources included birds, the rustling of trees, local residents, a distant tractor, and the occasional aircraft and/or automobile. The resulting noise levels ($L_{eq}$) ranged from a minimum of 38.5 (at location R3) to a maximum of 58.1 (at location R1) dBA. As shown in Table 4.11-4, noise levels measured on January 11, 2012 were generally consistent with noise levels measured on November 1 and 3, 2000.

To further characterize ambient conditions the $L_{eq}$, $L_{90}$, and arithmetic average noise levels were calculated at the three 24-hour measurement sites for the hours from 7:00 A.M. to 6:00 P.M., which represent the operational hours of the Applicant's Proposed Alternative. The results are provided in Table 4.11-4. These daily noise levels are all less than the maximum daytime hourly $L_{eq}$ and, therefore, the noise analysis conservatively used the maximum daytime hourly $L_{eq}$ in calculating potential noise impacts.

### Estimated Existing Roadway Noise Levels

Estimates of existing roadway CNEL noise levels were computed for the roadways that would serve the site and are shown in Table 4.11-5, *Estimated Existing Traffic Noise Levels*. The values do not take into account the possible effects of existing noise barriers or topography. Table 4.11-5 indicates that the areas along SR 76 east and west of Highway 395 have an estimated existing noise level in excess of 65 CNEL, which exceeds the County Noise Element's limits of 60 dBA CNEL.

### Ambient Vibration

Ambient vibration monitoring locations are shown on Figure 3 of the vibration technical report (Ogden, 1996) and the measured levels at each monitoring location are shown in Table 4.11-6, *Selected Ambient Vibration Levels along San Diego First Aqueduct Alignment*. As indicated in Table 4.11-6, ambient ground velocity levels at the site were found to average around 0.24 inches per second in the 25 Hz center frequency range and 0.14 inches per second in the 40 Hz center frequency range at most monitoring locations. Maximum vibration velocities of 3.35 inches per second at 25 Hz and 3.72 at 40 Hz were found to occur along SR 76, which was the most active location measured.[1] Also, the area is subject to seismicity owing to the

[1] *Vibration Technical Report on Construction Blasting Operations at the Gregory Canyon Landfill, Ogden Environmental and Energy Services Co., Inc., March 1996.*

**Table 4.11-4**
**Existing Ambient Noise Measurement Levels (Applicant's Proposed Alternative Site)**

| Measurement | | | One-Hour Noise Levels (dBA) [a] | | | | | | Daytime Noise Levels (dBA) [b] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location [c] | Description | Duration | $L_{EQ}$ 2000/ 2012 | $L_{max}$ 2000/ 2012 | $L_{min}$ 2000/ 2012 | $L_{10}$ | $L_{50}$ | $L_{90}$ | Minimum Hourly $L_{EQ}$ | Average $L_{EQ}$ [D] | Arithmetic average noise level [e] | $L_{90}$ | CNEL |
| LBV-1[f] | Wildlife Habitat | 24-hours | 53.9/ NA | 77.4/ NA | 36.4/ NA | 47.9 | 42.6 | 37.7 | 38.9 | 47.0 | 44.5 | 35.7 | 49.4 |
| LBV-2[f] | Wildlife Habitat | 24-hours | 47.7/ NA | 65.6/ NA | 35.6/ NA | 47.8 | 42.3 | 38.9 | 38.1 | 42.9 | 43.3 | 35.0 | 48.6 |
| R1 | Western Boundary | 24-hours | 58.1/ 43.5[g] | 89.3/ 57.8 | 43.7/ 32.0 | 54.3 | 50.3 | 47.5 | 49.3 | 54.6 | 52.1 | 46.2 | 54.4 |
| R2 | Southern Boundary [h] | 15-minutes | 38.9/ 39.9 | 55.9/ 46.9 | 29.9/ 36.9 | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] |
| R3 | Southern Boundary [i] | 1-hour | 38.5/ 36.3 | 55.5/ 46.1 | 26.7/ 31.6 | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] |
| R4 | Southern Boundary [j] | 1-hour | 41.2/ 40.7 | 58.2/ 55.1 | 22.0/ 31.5 | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] |
| R5 | Southern Boundary [k] | 1-hour | 43.7/ NA | 62.6/ NA | 25.2/ NA | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] | – [l] |

[a] *Noise levels provided represent the highest noise measurements recorded during the monitoring period. Daytime ambient noise levels at R1 are likely overestimated due to intermittent agricultural activity occurring immediately adjacent to the noise monitor during the maximum-recorded noise level. Based on the remaining daytime hourly noise measurements ambient conditions at R1 would be approximately 51 dBA.*

[h] *Birds and residents; 70 degrees; 35% relative humidity; no wind.*

[i] *Distant Tractor, aircraft, and birds; 68 degrees; 45% relative humidity; wind 0-5 mph from the north.*

[j] *Aircraft, helicopter, and birds; 75 degrees; 35% relative humidity; no wind.*

[k] *Aircraft, trees rustling, helicopters, and one car; 77 degrees; 35% relative humidity; wind 0-5 mph from the south.*

[l] *Data not measured*

[b] *Represent Applicant's Proposed Alternative's operational hours (7:00 A.M. – 6:00 P.M.).*

[e] *The standard deviation for the arithmetic average noise level is 4.6, 3.5, and 3.3 dBA for location LBV-1, LBV-2, and R1, respectively.*

[g] *Daytime ambient noise levels at R1 measured on January 11, 2012 are likely much less than ambient noise levels measured in 2000 since no agricultural activity occurred during measurements conducted on January 11, 2012.*

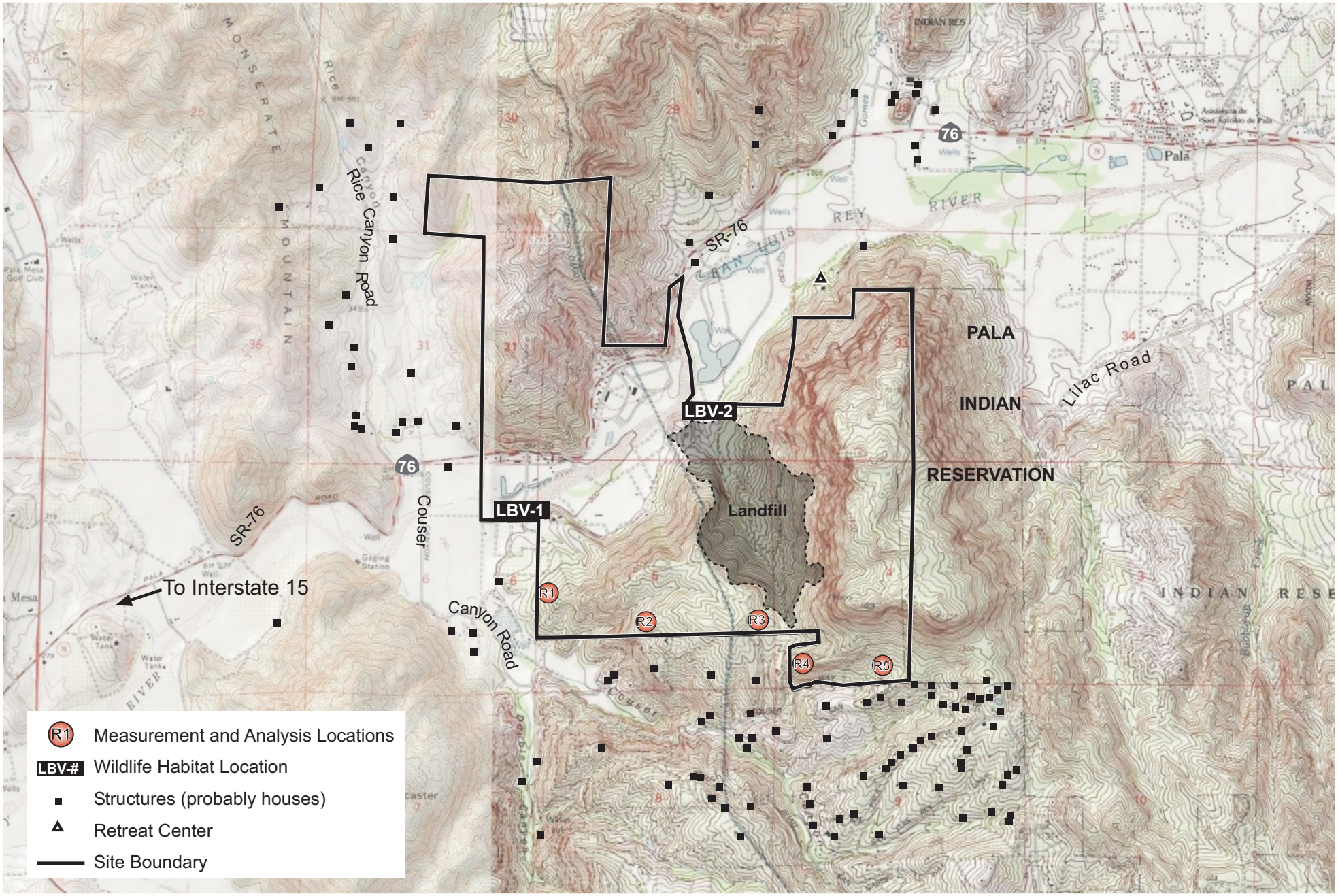
*Monitoring was conducted by PCR Services Corporation, November 1 through November 3, 2000.*

[c] *Monitoring locations are shown on Figure 4.11-2*

[f] *See Section 4.4, Biological Resources, of this EIS for an analysis of noise effects on biological resources*

[d] *The standard deviation for the average $L_{eq}$ is 3.8, 3.1, and 1.6 dBA for location LBV-1, LBV-2, and R1, respectively.*

*Source: PCR Services Corporation, 2002 and 2012*




N

0 0.5 Miles

**Ambient Noise Measurement and Noise Analysis Locations**

**Gregory Canyon**

Source: USGS, Pala 7.5-Minute Quad and PCR Services Corporation, 2000.

FIGURE

**4.11-2**

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**Table 4.11-5**

**Estimated Existing Traffic Noise Levels**

| Roadway Segment | Existing CNEL (dBA) at Referenced Distances from Roadway Right-of-Way [a] | |
|---|---|---|
| | 25 Feet | 50 Feet |
| **SR 76** | | |
| West of Old Highway 395 | 69.5 | 67.5 |
| East of Old Highway 395 | 68.8 | 66.8 |
| West of I-15 | 68.9 | 67.1 |
| Between I-15 and Pankey Road | 67.6 | 65.9 |
| Between Pankey Road and Rice Canyon Road | 65.3 | 63.5 |
| Between Rice Canyon Road and Couser Canyon Road | 64.6 | 62.5 |
| Between Couser Canyon Road and Project Access | 65.2 | 63.1 |
| **Interstate 15** | | |
| Northbound Ramp of SR 76 | 63.8 | 61.8 |
| Southbound Ramp of SR 76 | 63.9 | 61.8 |
| **Old Highway 395** | | |
| North of SR 76 | 63.4 | 61.3 |
| South of SR 76 | 65.4 | 63.4 |

[a] *Calculated based on existing traffic volumes.*

*Source: PCR Services Corporation, 2012*

proximity to the Elsinore Fault Zone, which passes approximately six miles northeast of the site. Please see Section 4.7, Geology and Soils, for a discussion on earthquakes and seismicity.

## 4.11.3.2 Design Features from the Gregory Canyon EIR

The Applicant's Proposed Alternative would include the following design features related to noise impacts to human sensitive receptors:

- Rock crushing or tire shredding would be located a minimum of 1,500 feet from Locations R1 through R5 (Figure 4.11-2) unless other forms of noise attenuation, such as berms or acoustical curtains, are used to reduce combined landfill noise levels to below 62.5 dBA $L_{eq}$.
- A 15- to 20-foot high berm would be constructed and maintained along the northern boundary of Borrow/Stockpile Area A from the haul road westward wrapping around the western boundary of Borrow/Stockpile Area A during initial construction and during future operations. The base elevation of the berm would change whenever the elevation of the stockpile increases or decreases; however, the height relative to the stockpile would remain at 15- to 20-feet above the top of the stockpile.

**Table 4.11-6**

**Selected Ambient Vibration Levels along San Diego First Aqueduct Alignment**

| GF # | 15- Minute Average Levels ($L_{eq}$) | | | Minimum Measured Levels ($L_{min}$) | | | Maximum Measured Levels ($L_{max}$) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Acceleration (in/sec/sec) | Velocity (in/sec) | Displacement (in) | Acceleration (in/sec/sec) | Velocity (in/sec) | Displacement (in) | Acceleration (in/sec/sec) | Velocity (in/sec) | Displacement (in) |
| 25 Hz. Octave Band Results | | | | | | | | | |
| 1 | 36.8395 | 0.2345 | 0.0015 | 7.6969 | 0.0490 | 0.0003 | 85.3716 | 0.5435 | 0.0035 |
| 2 | 36.8395 | 0.2345 | 0.0015 | 7.8761 | 0.0501 | 0.0003 | 86.3602 | 0.5498 | 0.0035 |
| 3 | 36.8395 | 0.2345 | 0.0015 | 8.2473 | 0.0525 | 0.0003 | 100.3029 | 0.6385 | 0.0041 |
| 4 | 36.8395 | 0.2345 | 0.0015 | 7.3504 | 0.0468 | 0.0003 | 116.4967 | 0.7416 | 0.0047 |
| 5 | 36.8395 | 0.2345 | 0.0015 | 6.7813 | 0.0432 | 0.0003 | 91.4773 | 0.5824 | 0.0037 |
| 6 | 37.2661 | 0.2372 | 0.0015 | 8.5372 | 0.0543 | 0.0003 | 94.6920 | 0.6028 | 0.0038 |
| 7 | 35.5888 | 0.2266 | 0.0014 | 6.2562 | 0.0398 | 0.0003 | 111.2535 | 0.7083 | 0.0045 |
| 8 | 35.1814 | 0.2240 | 0.0014 | 8.1529 | 0.0519 | 0.0003 | 101.4644 | 0.6459 | 0.0041 |
| 9 | 35.1814 | 0.2240 | 0.0014 | 7.9673 | 0.0507 | 0.0003 | 93.6081 | 0.5959 | 0.0038 |
| 10 | 56.4045 | 0.3591 | 0.0023 | 6.4020 | 0.0408 | 0.0003 | 526.3971 | 3.3511 | 0.0213 |
| 40 Hz. Octave Band Results | | | | | | | | | |
| 1 | 33.9871 | 0.1352 | 0.0005 | 9.1477 | 0.0364 | 0.0001 | 83.4283 | 0.3320 | 0.0013 |
| 2 | 35.1814 | 0.1400 | 0.0006 | 10.6246 | 0.0423 | 0.0002 | 81.5293 | 0.3244 | 0.0013 |
| 3 | 34.7787 | 0.1384 | 0.0006 | 9.1477 | 0.0364 | 0.0001 | 79.6734 | 0.3170 | 0.0013 |
| 4 | 35.1814 | 0.1400 | 0.0006 | 106246 | 0.0423 | 0.0002 | 85.3716 | 0.3397 | 0.0014 |
| 5 | 34.7787 | 0.1384 | 0.0006 | 10.3828 | 0.0413 | 0.0002 | 75.2166 | 0.2993 | 0.0012 |
| 6 | 35.1814 | 0.1400 | 0.0006 | 10.5030 | 0.0418 | 0.0002 | 81.5293 | 0.3244 | 0.0013 |
| 7 | 33.2134 | 0.1322 | 0.0005 | 9.0430 | 0.0360 | 0.0001 | 80.5960 | 0.3207 | 0.0013 |
| 8 | 33.2134 | 0.1322 | 0.0005 | 8.1529 | 0.0324 | 0.0001 | 87.3602 | 0.3476 | 0.0014 |
| 9 | 32.8332 | 0.1306 | 0.0005 | 9.3608 | 0.0372 | 0.0001 | 73.5044 | 0.2925 | 0.0012 |
| 10 | 67.0368 | 0.2667 | 0.0011 | 10.6246 | 0.0423 | 0.0002 | 936.0811 | 3.7245 | 0.0148 |

*Free Vibration Monitoring Locations (GF#): GF 1: 2080+36.50, GF 2: 2072+95.52, GF 3: 2067+01.24, GF 4: 2061+93.21, GF 5: 1973+39.51, GF 6: 1967+53.39, GF 7: 1956+48.31, GF 8 1950+51.93, GF 9: 1945+48.40, GF 10: Along aqueduct crossing of SR-76 at a distance of 20 feet from roadway centerline.*

*Source: Vibration Technical Report on Construction Blasting Operations at the Gregory Canyon Landfill, Ogden Environmental and Energy Services Co., Inc., March 1996*

- Five-foot high berms would be constructed along the southern edge of the Borrow/Stockpile Area B and the landfill working face, which face the residential zoned property south of Gregory Canyon Landfill. The berms shall block line of sight from the residential property to the heavy equipment working the southern portions of Borrow/Stockpile Area B and the landfill working face.
- A 10- to 16-feet high sound wall would be constructed along the northern edge of the facilities area and the truck route east of the facilities area.
- The flare station would be designed and located so that the flare does not generate noise levels that would exceed 49 dBA at a distance of 400 feet from the flare. Measures may include a sound wall at the base of the flare as well as any needed silencers on the equipment.

The Applicant's Proposed Alternative would include the following design features to reduce potential vibration impacts:

- The Applicant's Proposed Alternative would include the preparation of a blasting plan which would incorporate the following measures:
  - Blasting operations would be performed in accordance with criteria adopted in San Diego County Water Authority design procedure manual 02229-3 (February 1995). Blasting would not occur within 500 feet of the existing pipelines 1 and 2, unless approved by SDCWA.
  - All drilling and blasting operations shall be conducted by a state-licensed blasting contractor with adequate blasting insurance.
  - Seismograph instrumentation would be placed along the aqueduct alignment in the vicinity of any blasting operations.
  - All drilling and blasting would be performed during hours designated by local, state, or federal ordinances.
  - Monitoring of the blasting operations within close proximity to the SDG&E towers would be performed to verify that peak vibration levels and U.S. Bureau of Mines RI 8507 standards are not exceeded.
  - Blasting operations would not occur within 150 feet of the SDG&E towers.
  - Written notice to residents within a one-mile radius of the blast site would be provided at least 24 hours in advance of any blasting on-site.

In addition to the above design features, the following summarizes mitigation measures that would be required under CEQA by the County with implementation of the Gregory Canyon Landfill project pursuant to a Mitigation Monitoring and Reporting Program (MMRP) adopted by the San Diego DEH on May 13, 2011. As these measures would be required as part of the Applicant's Proposed Alternative, they are referred to and considered as design features in this EIS.

- **DF 4.6-1a: Noise Monitoring.** Monitor noise levels at the property lines adjacent to residential uses in the first year of the initial construction and whenever the construction operation changes. If noise levels exceed 62.5 dBA $L_{eq}$ at the property line, implement some or all of the following measures to reduce the noise levels to below 62.5 dBA $L_{eq}$:

- Build temporary noise barriers or berms between construction activities and residences.
- Reduce the amount or size of construction equipment.
- If the 62.5 dBA $L_{eq}$ threshold is not exceeded, no action beyond monitoring shall be necessary.

- **DF 4.6-1b. Limit Hours of Construction.** All construction activities shall be limited to between the hours of 7. 00 A.M. and 6. 00 P.M., Monday through Friday and 8. 00 A.M. to 5. 00 P.M. on Saturday. No construction shall occur on Sundays or federal holidays.
- **DF 4.6-1c. Properly Tuned Equipment/Vehicles.** Ensure that construction equipment and trucks are properly tuned and have noise muffling equipment that meets or exceeds applicable EPA standards.
- **DF 4.6-2a. Tire shredding and Rock Crushing.** The operator shall ensure that the tire shredding and rock crushing shall not occur at the same time.
- **DF 4.6-2b. Tire Shredding Operation.** Tire shredding operations shall be monitored the first time such activity is conducted on-site to ensure that noise levels do not exceed the thresholds. If the noise levels exceed either threshold, the applicant shall implement noise abatement measures which may include such measures as equipment silencers, enclosures, noise baffling, and/or berms. If the thresholds are not exceeded, no additional action beyond monitoring shall be required.
- **DF 4.6-3. Flare Station.** Noise verification shall be conducted specifically for the flare station prior to commencement of its operation to ensure compliance with the 62.5 dBA $L_{eq}$ and 60 dBA $L_{eq}$ at the property line and for wildlife habitat, respectively.
- **DF 4.6-4. Traffic Noise.** Unless determined infeasible by CalTrans, the project applicant shall provide a fair share contribution for the cost to install a sound wall in the right-of-way along SR 76 to reduce noise levels from cumulative traffic at the existing residences.[2]

In addition, Proposition C contained the following requirement, which is contained in the MMRP:

- **DF 4.6-C5K.** Section 5K of Proposition C requires that the applicant-prepare a Noise Abatement Plan that includes:

  1. Physical design provisions to ensure that ambient noise levels do not exceed 65 CNEL at the boundaries of the Gregory Canyon site;

  2. Installation of landfill equipment and vehicles with noise suppressing equipment to assist in meeting the above restrictions;

  3. Provisions for at least 24-hour in advance written notice of any blasting on-site to residents within a one-mile radius of the blast site; and

  4. Where ambient noise levels exceed 65 CNEL at the boundaries of the landfill site, the Applicant shall retain a qualified noise expert to evaluate the problem and propose mitigation measures. These mitigation measures shall be implemented by the Applicant.

[2] *A sound wall would also reduce the project-related increase in traffic noise levels.*

### 4.11.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would result in a significant adverse effect if noise from the alternative's noise sources, other than traffic noise on public roadways, would exceed 62.5 dBA $L_{eq}$ at a residential property line.*

#### Construction Noise Impacts (Initial)

**Impact Statement Gregory NOISE-1: Initial construction activity associated with the Applicant's Proposed Alternative would not result in noise levels in excess of applicable standards at the nearest residential property line. The maximum construction noise levels at the nearest residential property line with implementation of design features is estimated to be 57 dBA, which is less than the 62.5 dBA noise standard. Therefore, no significant adverse effects would occur.**

Initial construction, including the installation of the access road and bridge, construction of pipes and wells, construction of ancillary facilities, excavation of the footprint, and installation of the liner system for the first phase of the operation, would make the site useable to begin to accept waste. Rock material would be processed in the southwestern portion of the defined landfill footprint and would be used in the construction on site and/or stockpiled for future use. Construction of the bridge crossing the San Luis Rey River would be approximately six months depending on when construction begins and the weather conditions during construction. Overall, the initial construction period would be approximately nine to twelve months in duration.

Concrete removed as part of the demolition of the abandoned structures and dairy facilities would be crushed on-site and stored within the eastern portion of the existing construction storage yard. The crushed concrete could be used for a variety of purposes, including foundation fill, stabilization of some internal roads, and stabilization of the working face during wet weather periods. Excavation activities would have the greatest potential for generating off-site noise impacts in areas adjacent to the site. The equipment used to excavate the site and crush rock, as well as the trucks used to import liner material, could produce adverse noise levels. Peak noise levels from these combined operations would range from 70 to 95 dBA at a distance of 50 feet.[3] This type of noise usually drops off at a rate of six dB for each doubling of the distance from the source. Therefore, at 100 feet, the peak construction equipment noise level would range between 64 and 89 dBA; at 200 feet, the peak construction noise level would range between 58 and 83 dBA; and at 400 feet, the peak construction noise level would range between 52 and 77 dBA. For most types of construction equipment, the $L_{eq}$ noise levels would range between 5 and 15 dBA below the peak noise levels noted above. Distances to sensitive receptor locations are show in Table 4.11-7, *Distance to Sensitive Receptor Locations for Construction Activities*.

Construction equipment and deliveries would be brought into the site over a river crossing located at the western boundary of the site.[4] The equipment would run along the property boundary, cross the river, and then turn eastward on the site. The temporary construction route would use the existing road, which would also serve as the internal haul road near the Borrow/Stockpile Area A.

[3] *FHWA Roadway Construction Noise Model User's Guide, 2006.*

[4] *The applicant has an easement for the use of these portions of the river crossing that are not on the Applicant's property.*

**Table 4.11-7**

**Distance to Sensitive Receptor Locations for Construction Activities**

| Receptor | Access Road, and Bridge (feet) | Borrow /Stockpile Area A (feet) | Borrow /Stockpile Area B (feet) | Ancillary Facility (feet) | Landfill Footprint (feet) | Blasting (feet) |
|---|---|---|---|---|---|---|
| Closest Residential Property Line | 3,200 | 800 | 500 | 5,000 | 1,300 | 1,300 |

*Source: PCR Services Corporation, 2012*

During the construction of the access road and bridge, there could be of crane, grader, dozer, excavator, water truck, loader, drill rig, and compactor. Detailed noise calculations for construction activities are provided in Appendix K of this EIS. Based on these maximum impact numbers and the specified types of equipment, and the estimated peak noise levels generated by these equipment, the $L_{eq}$ noise level produced by construction activities on the Applicant's Proposed Alternative site is estimated to be approximately 50 dBA at the closest residential property line (located approximately 3,200 feet from the access road and bridge construction site). As the access road and bridge construction-related noise would not exceed 62.5 dBA significance threshold at the nearest residential property line, no significant adverse effect would occur.

The use of Borrow/Stockpile Area A (located approximately 800 feet from a residential property line, R1) during initial construction would involve heavy earth moving equipment such as scrapers that could generate noise levels of 65 dBA at a distance of 800 feet. However, the Applicant's Proposed Alternative would install a 15- to 20-foot high berm (relative to the stockpile elevation) along the western edge of the Borrow/Stockpile Area A. The location and elevation of the berm would change as Borrow/Stockpile Area A is used; however, the height relative to the top of the borrow/stockpile area would remain constant. The berm would reduce construction noise levels at the nearest residential uses located west of the Borrow/Stockpile Area A by approximately 15 dB.[5] Therefore, noise levels produced at Borrow/Stockpile Area A during the initial construction would be reduced to 50 dBA at the nearest property line. Noise levels would not exceed the 62.5 dBA criterion along the western property line adjacent to Analysis Location R1 due to the creation of this berm. Therefore, no significant adverse effects would occur.

The use of Borrow/Stockpile Area B (located approximately 500 feet from a residential property line, R3) would involve heavy earth moving equipment such as scrapers that could generate noise levels of 67 dBA at a distance of 500 feet. However, a 5-foot high berm (relative to the stockpile elevation) would be installed along the southern edge of the Borrow/Stockpile Area B. The location and elevation of the berm would change as Borrow/Stockpile Area B is used but the height relative to the top of the borrow/stockpile area would remain constant. The 5-feet high berm would reduce construction noise levels at the nearest residential uses located south of the Borrow/Stockpile Area B by approximately 10 dB.[6] Therefore, noise levels produced at Borrow/Stockpile Area B would be reduced to 57 dBA. Noise levels would not exceed the 62.5 dBA criterion along the southern property line adjacent to Analysis Location R3 due to the creation of

[5] *Highway Noise Barrier Design Handbook, FHWA, February 2000.*

[6] *Ibid.*

this berm. Therefore, no significant adverse noise effects would result from the use of Borrow/Stockpile Area B.

The ancillary facilities area would be located approximately 5,000 feet from the nearest property line. During the construction of ancillary facilities, heavy earth moving equipment such as a grader would generate noise levels of 45 dBA at a distance of 5,000 feet. As the ancillary facilities construction-related noise would not exceed 62.5 dBA criteria at the nearest property line, no significant adverse effects would occur.

A Retreat Center is located on the Pala Reservation south of SR 76 to the east of the site. Since the Retreat Center is located on the east side of Gregory Mountain, the Retreat Center is fully shielded from noise and vibration impacts by Gregory Mountain and no significant adverse noise effects would occur.

Mitigation Measures

With implementation of the design features that are incorporated into the Applicant's Proposed Alternative, this alternative would not result in significant adverse effects regarding initial construction noise. No mitigation measures are proposed. Construction noise impacts to biological resources are assessed in Section 4.4, Biological Resources, of this EIS and design features and mitigation measures for biological resource noise impacts from the Applicant's Proposed Alternative are proposed in subsection 4.4.3.3.

### Long-Term Noise Impacts (Operational)

**Impact Statement Gregory NOISE-2: The maximum long-term operational noise levels at the nearest residential property line would be 62.5 dBA or less with implementation of the design features, which would not exceed the noise standard of 62.5 dBA. Therefore, no significant adverse noise effects would occur during operation.**

Operational noise impacts are divided into the following noise sources: ancillary facilities, borrow/stockpile area, landfill working face, rock crushing/tire shredding, and periodic construction to open a new phase or cell.

#### Ancillary Facilities Area

The ancillary facilities area would have truck scales and an approximately 7,000 square-foot maintenance building. Other facilities would include a recycling drop-off area, parking lot, administrative office, a hazardous materials storage are, and a flare station. The flare station, which would burn methane collected in the gas system, is a potential noise source and would operate 24 hours a day. The proposed flare station would be located a minimum distance of 4,600 feet from the closest adjacent residential property line adjacent to nearby off-site residences (see Figure 3-9 of this EIS for the location of the flare station). The flare station would be designed so that the associated noise levels do not exceed 49 dBA $L_{eq}$ at 400 feet from sensitive wildlife habitat locations. Noise levels generated by the flare station would be minor when compared to other alternative-generated noise sources within the site and would not exceed the standard of 62.5 dBA at the nearest residential property line. The flare station would not be installed until landfill gas is generated at levels that warrant the installation of the system. Noise verification specifically for this component of the facilities area would be conducted as part of the design process to ensure compliance with

County established noise limits and standards. A sound wall at the base of the flare station and/or silencers on the equipment would be installed, as necessary and any necessary adjustments would be made to the system to ensure compliance with the noise standards.

### Recycling Drop-Off Noise

The alternative would include a recycling drop-off facility for source separated materials. No sorting, or cleaning would be done to the materials at the site. Based on monitored noise levels at the Sunset Environmental Material Recovery Facility, a ($L_{eq}$) noise level of approximately 65 dBA was measured at a distance of 30 feet.[7] The proposed recycling drop-off facility would be located a minimum distance of 4,800 feet from the closest property line adjacent to nearby off-site residences (see Figure 3-9 of this EIS for the location of the recycling drop-off facility). The noise level of 65 dBA at 30 feet would be reduced to 21 dBA at 4,800 feet from the closest residential property line. Therefore, no significant adverse noise impact on the surrounding residents from the recycling drop-off center would occur.

### Landfill Working Face

At most, nine (9) pieces of equipment which could include three dozers, three compactors, one grader and two scrapers may be in operation at the landfill working face at any one time. The landfill would have two separate working faces, one for commercial vehicles and one for smaller private vehicles. Separate commercial and private vehicle tipping areas are maintained to reduce safety concerns for customers, to allow for better inspection of the refuse loads to detect prohibited materials, and to expedite unloading for the commercial refuse vehicles.

At its initial phase, the landfill would be depressed below the surrounding terrain. However, as the landfill reaches its vertical capacity, the final elevation would be higher than some of the surrounding areas and the natural shielding effect would be diminished or eliminated. Therefore, the noise levels projected at the top elevations would be considered maximum impact. The alternative would include five-foot high berms along the southern edges of the landfill working face and Borrow/Stockpile Area B to block the line of sight to the nearest residences and property line south of the landfill. Under these conditions, it is estimated that the noise levels generated by the landfill working face activities alone would range from approximately 50 dBA $L_{eq}$ at Location R1 to 60 dBA $L_{eq}$ at Location R3. These noise levels would fall below the 62.5 dBA $L_{eq}$ criteria.

### Borrow/Stockpile Area Operation

Borrow/Stockpile Area A would be located near the western boundary and Borrow/Stockpile Area B would be located near the southern boundary. The borrow/stockpile areas would require ten scrapers. Based on this assumption, the noise level would be 70 dBA at 500 feet. It is assumed that a maximum impact condition would be when scrapers are operating at the designated edge of the borrow/stockpile areas. In this location, the nearest residential property line would be located 500 feet from the borrow/stockpile areas. It is estimated that the noise levels generated at the borrow/stockpile activities would be 55 dBA at the locations closest to the Applicant's Proposed Alternative site with the implementation of design features (Table 4.11-8, *Landfill Operation Noise Levels at Property Line Individual and Combined Noise Levels*) as the 15- to 20-foot high berm along the northern boundary of Borrow/Stockpile Area A and five-foot high berms along the southern edge of the Borrow/Stockpile Area B would provide a minimum of 15 dB noise reduction at the

[7] *Mestre Greve Associates, Sunset Environmental Material Recovery Facility, 1995.*

**Table 4.11-8**

**Landfill Operation Noise Levels at Property Line [a]**
**Individual and Combined Noise Levels**

| Location No./Operation [a] | Approximate Distance Between Location & Operation (feet) | Noise Levels $L_{eq}$ (dBA) |
|---|---|---|
| | **Location R1 (Ambient 58.1)** | |
| Ancillary Facility | 5,100 | 39 |
| Recycling Drop-Off | 6,000 | 19 |
| Landfill Working Face | 3,930 | 50 |
| Borrow/Stockpile Areas | 800 | 51 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location R1 Total From the Applicant's Proposed Alternative** | -- | 57 |
| **Location R1 Total With Ambient** | | 60 |
| | **Location R2 (Ambient 38.9)** | |
| Ancillary Facility | 5,000 | 39 |
| Recycling Drop-Off | 5,500 | 20 |
| Landfill Working Face | 2,600 | 54 |
| Borrow/Stockpile Areas | 1,500 | 45 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location R2 Total From the Applicant's Proposed Alternative** | -- | 57 |
| **Location R2 Total With Ambient** | | 57 |
| | **Location R3 (Ambient 38.5)** | |
| Ancillary Facility | 5,000 | 39 |
| Recycling Drop-Off | 4,800 | 21 |
| Landfill Working Face | 1,300 | 60 |
| Borrow/Stockpile Areas | 500 | 55 |
| Rock Crushing or Tire Shredding | 1,500 | 56 |
| **Location R3 Total from the Applicant's Proposed Alternative** | -- | 62 |
| **Location R3 Total with Ambient** | | 62 |
| | **Location R4 (Ambient 41.2)** | |
| Ancillary Facility | 6,200 | 37 |
| Recycling Drop-Off | 6,700 | 18 |
| Landfill Working Face | 1,900 | 56 |
| Borrow/Stockpile Areas | 2,600 | 41 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location R4 Total From the Applicant's Proposed Alternative** | -- | 58 |
| **Location R4 Total With Ambient** | | 58 |

**Table 4.11-8 (Continued)**

**Landfill Operation Noise Levels at Property Line [a]**
**Individual and Combined Noise Levels**

| Location No./Operation [a] | Approximate Distance Between Location & Operation (feet) | Noise Levels $L_{eq}$ (dBA) |
|---|---|---|
| | **Location R5 (Ambient 43.7)** | |
| Ancillary Facility | 6,600 | 36 |
| Recycling Drop-Off | 7,400 | 17 |
| Landfill Working Face | 2,700 | 53 |
| Borrow/Stockpile Areas | 4,100 | 37 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location R5 Total From the Applicant's Proposed Alternative** | -- | 57 |
| **Location R5 Total With Ambient** | | 57 |

[a] *Noise levels represent nearest residential property lines (Figure 4.11-2)*

*Source: PCR Services Corporation, 2012*

nearest residential property line.[8] As shown in Table 4.11-8, noise from the borrow/stockpile areas would be 60 dBA, which would be below the criteria.

### Rock Crushing/Tire Shredding Operations

Rock crushing and tire shredding would occur within the southwestern portion of the landfill footprint, a minimum of 1,500 feet from Locations R1 through R5 (Figure 4.11-2) to minimize impacts at the adjacent residential property lines. The rock crushing operation would primarily generate noise due to the trucks hauling the crushed rock from the rock crushing area. A noise analysis for a similar rock crushing operation (Arroyo Trabuco Sand and Gravel Operation) was reviewed to determine the range of noise levels that could be generated by such an operation. The analysis showed that at 500 feet, the minimum noise level was 62 dBA and the maximum noise level was 76 dBA. The average noise level (for 15-minute measurement periods) was 65 dBA $L_{eq}$ at 500 feet. By itself, the rock crushing operation would generate a noise level of 54 dBA $L_{eq}$ at a distance of 1,500 feet.

The tire shredder would be brought on-site approximately once every six months or when tire volumes necessitate. The predominant noise sources from the tire shredding operation are the engine and the cutting blades. Noise levels from the tire shredding operational would be comparable to that of the rock crushing operation. To maintain the 62.5 dBA $L_{eq}$ at the property boundary a design feature is included to ensure that the tire shredding and rock crushing do not occur at the same time.

[8] *Highway Noise Barrier Design Handbook, FHWA, February 2000.*

### Periodic Construction

This section addresses the construction impacts associated with periodic construction including the excavation and blasting to open a new phase or cell.

The nearest residences are located to the south and west of the site. Currently, there are approximately twenty residences to the south and ten residences to the west located within about 3,000 feet of the portion of the site where the landfill activities would occur. Four locations along the southern property line and one location along the western property line of the site were identified as Analysis Locations R1 through R5 (Figure 4.11-2). These locations, which are representative of the nearest residential property lines, range between approximately 1,300 and 3,930 feet from the landfill footprint and range between are approximately 500 and 4,100 feet from the borrow/stockpile areas.

Assuming maximum impact conditions (the maximum amount of construction equipment being used at the southernmost edge of the landfill), construction activities could generate a one-hour $L_{eq}$ noise level of approximately 50 to 70 dBA, with the one-hour $L_{eq}$ at the closest residential property line (500 feet) being 70 dBA. The potential construction equipment noise including rock crushing and processing may be discernible at the nearest home. The applicant would conduct noise monitoring at the property lines adjacent to residential uses in the first year of the initial construction and whenever the construction operation changes (DF 4.6-1a). If noise levels exceed 62.5 dBA Leq at the property line, the applicant would implement control measures to reduce the noise levels to below 62.5 dBA $L_{eq}$. Design features, such as temporary noise barriers or operational limitations, such as the reduction in the size and number of construction equipment, would be used if necessary to reduce the noise level to 62.5 dBA.

Blasting would be required during the landfill construction phases to fracture the underlying rock structure and ease the removal of and to access final footprint elevations. Blasting noise consists largely of low frequency noise components. The human ear is less sensitive to low frequency noises than it is to high frequency noises, and the A-weighted noise scale which has a frequency correction that correlates overall sound pressure levels with the frequency response of the human ear weights the noise levels accordingly. The anticipated maximum noise level associated with landfill-related blasting activities at 1,300 feet is 59 dBA ($L_{max}$). The nearest residential property lines are estimated to be located from 1,300 to 3,930 feet from the potential blasting operation. Based on the distances, the $L_{max}$ noise levels due to blasting would range from 38 to 59 dBA at these locations. The blasting noise combined with the highest measured ambient noise level of 52.4 dBA would be 59.9 dBA. Therefore, blasting noise would not exceed the 62.5 dBA $L_{eq}$ standard at the nearest residential property line. While the blasting noise would not exceed the County Noise Ordinance standard, it would be a relatively infrequent impulsive noise that may cause annoyance for those residents that may hear it. The applicant would provide advance written notice to residents within a one-mile radius of the blast site at least 24 hours in advance of any blasting on-site.

### Total Combined Landfill Noise at the Nearest Residential Property Lines (Without Periodic Construction)

Because various activities would occur simultaneously at the landfill footprint and the borrow/stockpile areas, evaluation of the combined noise levels with ambient noise is necessary to determine the total noise effect at the five analysis locations (Figure 4.11-2). The closest points are estimated to range from1,300 to 3,930 feet away from the landfill working face and between 500 and 4,100 feet from the stockpile/borrow

areas. The rock crusher and tire shredder are portable and would be located no closer than 1,500 feet from the property line.

Table 4.11-8 summarizes the potential total landfill noise levels at the nearest receptors from all of the potential landfill-related noise sources. The total combined landfill noise due to all landfill and rock crushing activities operating simultaneously would be greater than noise due to individual landfill operation. Total landfill and rock crushing operations including ambient noise would result in noise levels ranging between approximately 57 dBA to 62 dBA, which is below the noise criteria of 62.5 dBA $L_{eq}$ at the property line. Therefore, no significant adverse effect would occur.

### Total Combined Landfill Noise at the Nearest Residential Property Lines (With Periodic Construction)

As previously discussed, periodic construction activities could generate a one-hour $L_{eq}$ noise level of approximately 50 to 70 dBA at the closest residential property line. Due to the logarithmic nature of the decibel unit, the maximum noise level from periodic construction would largely mask all other operational noise sources at the closest residential property line. In other words, the sum of the maximum periodic construction noise (70 dBA) and the maximum landfill operational noise level (62 dBA) would be 70.6 dBA (e.g., 70 dBA + 62 dBA = 70.6 dBA). As required by a design feature (DF 4.6-1a), the applicant would conduct noise monitoring at the property lines adjacent to residential uses in the first year of the initial construction and whenever the construction operation changes. If noise levels exceed 62.5 dBA $L_{eq}$ at the property line, the applicant would implement control measures to reduce the noise levels to below 62.5 dBA $L_{eq}$. Measures, such as temporary noise barriers or operational limitations, such as the reduction in the size and number of construction equipment, would be used if necessary to reduce the noise level to 62.5 dBA. Therefore, with implementation of design features no significant adverse effect would occur.

A Retreat Center is located on the Pala Reservation south of SR 76 to the east of the site. Since the Retreat Center is located on the east side of Gregory Mountain, the Retreat Center is fully shielded from noise and vibration impacts by Gregory Mountain and significant adverse effects would not occur.

#### Mitigation Measures

With implementation of the design features that are incorporated into the Applicant's Proposed Alternative, this alternative would not result in significant adverse noise effects to sensitive receptors during operation. No mitigation measures are proposed. Periodic construction, blasting, and operational noise impacts to biological resources are assessed in Section 4.4, Biological Resources, of this EIS and design features and mitigation measures for biological resource noise impacts from the Applicant's Proposed Alternative are proposed in subsection 4.4.3.3.

*Criterion: An alternative would result in a significant adverse effect if traffic noise on public roadways would exceed an exterior level of 60 dBA CNEL for single-family residential uses.*

**Impact Statement Gregory NOISE-3: Traffic associated with the Applicant's Proposed Alternative would increase noise levels at residences with existing exterior noise levels in excess of 60 dBA CNEL. Installation of a sound wall would reduce traffic noise levels to below the criteria. However, in the**

**event the affected property owner objects to the installation of a sound wall, the increase in traffic noise would be considered a significant adverse effect.**

Operation of the proposed landfill would generate additional traffic on public roadways serving the Applicant's Proposed Alternative and could, therefore, increase noise levels along these roadways. Although it is expected that the daily volume of trucks would vary, the maximum impact number of trips generated by the landfill would be 673 truck trips and 64 passenger vehicle trips.[9]

As shown in Table 4.11-9, *Estimated Traffic Noise Level Increases on Roadways*, a comparison of the estimated traffic noise levels at 25 feet from the roadway under the Future No Federal Action and Future with Applicant's Proposed Alternative conditions shows that the Applicant's Proposed Alternative would increase the traffic noise levels by less than 1 dBA CNEL. Table 4.11-10, *Estimated Future Cumulative Traffic-Related Noise Levels with the Applicant's Proposed Alternative*, presents the future traffic noise levels with the Applicant's Proposed Alternative at 100 feet from the centerline of each of the roadways, as well as estimated distances to the 60, 65, and 70 CNEL contours. Figure 4.11-3, *Future Traffic Noise Levels with Applicant's Proposed Alternative - 60 CNEL*, illustrates the approximate location of the 60 CNEL contour for the future condition with the Applicant's Proposed Alternative. The estimated 60 CNEL contour on SR 76 between I-15 and the site access road ranges from 427 to 687 feet from the centerline (Figure 4.11-3). The projections do not take into account any barriers or topography that may reduce noise levels.

The residences that are located along SR 76, I-15, and Old Highway 395 and already located within the 60 CNEL contour would continue to be exposed to significant adverse noise impacts under Future No Federal Action and Future with Applicant's Proposed Alternative traffic conditions. In the vicinity of the Applicant's Proposed Alternative, a residence to the west and four residences to the east of the site on SR 76 would be located within the 60 CNEL along SR 76 and would be impacted under Future No Federal Action and Future with Applicant's Proposed Alternative traffic conditions. A cluster of residences on the north side of SR 76 between I-15 and Rice Canyon Road on the Pankey property would also be impacted under Future No Federal Action and Future with Applicant's Proposed Alternative traffic conditions (Figure 4.11-3).

Although the majority of the noise on most of the roads would come from other traffic sources, the Applicant's Proposed Alternative would contribute to the future noise levels along all the roadways that serve the site. In community noise assessments, noise level increases greater than 3 dBA are often considered significant, while changes of less than 1 dBA are not discernable to receptors. However, since the SR 76 corridor is an existing degraded noise environment with noise levels exceeding 60 CNEL at existing residences and the alternative would increase the noise levels, even by a small margin, the alternative would have a significant adverse noise impact to the existing residences.

The applicant would implement design feature (DF 4.6-4) to reduce landfill traffic noise impacts to these existing residences, which includes the installation of a barrier (e.g., fence, masonry wall, earth berm, or vegetation) along SR 76. Given the orientation of the residences and proximity to SR 76, a five-foot masonry wall (assuming installation in the right-of-way) would be the most effective sound barrier to mitigate the alternative's increase in noise levels at the cluster of residences. A total of approximately 730 linear feet of

[9] *Gregory Canyon Traffic Impact Analysis. Linscott, Law & Greenspan, Engineers. 2012. The landfill would accept a maximum daily intake of 5,000 tons per day and an annual intake of up to 1,000,000 tons. Average daily intake would be approximately 3,200 tons.*

**Table 4.11-9**

**Estimated Traffic Noise Level Increases on Roadways**

| Roadway Segment | Calculated Traffic Noise Levels at 25 feet from Roadway, CNEL (dBA) | | Increment Due to the Applicant's Proposed Alternative |
|---|---|---|---|
| | Future No Federal Action | Future with the Applicant's Proposed Alternative | |
| **SR 76** | | | |
| West of Old Highway 395 | 71.8 | 71.8 | 0.0 |
| East of Old Highway 395 | 71.4 | 71.4 | 0.0 |
| West of I-15 | 72.2 | 72.4 | 0.2 |
| Between I-15 and Pankey Road | 71.2 | 71.5 | 0.3 |
| Between Pankey Road and Rice Canyon Road | 71.6 | 71.9 | 0.3 |
| Between Rice Canyon Road and Couser Canyon Road | 70.3 | 70.7 | 0.4 |
| Between Couser Canyon Road and Site Access | 70.1 | 70.4 | 0.3 |
| **Interstate 15** | | | |
| Northbound Ramp of SR 76 | 67.4 | 67.7 | 0.3 |
| Southbound Ramp of SR 76 | 65.8 | 65.9 | 0.1 |
| **Old Highway 395** | | | |
| North of SR 76 | 67.4 | 67.4 | 0.0 |
| South of SR 76 | 68.6 | 68.6 | 0.0 |

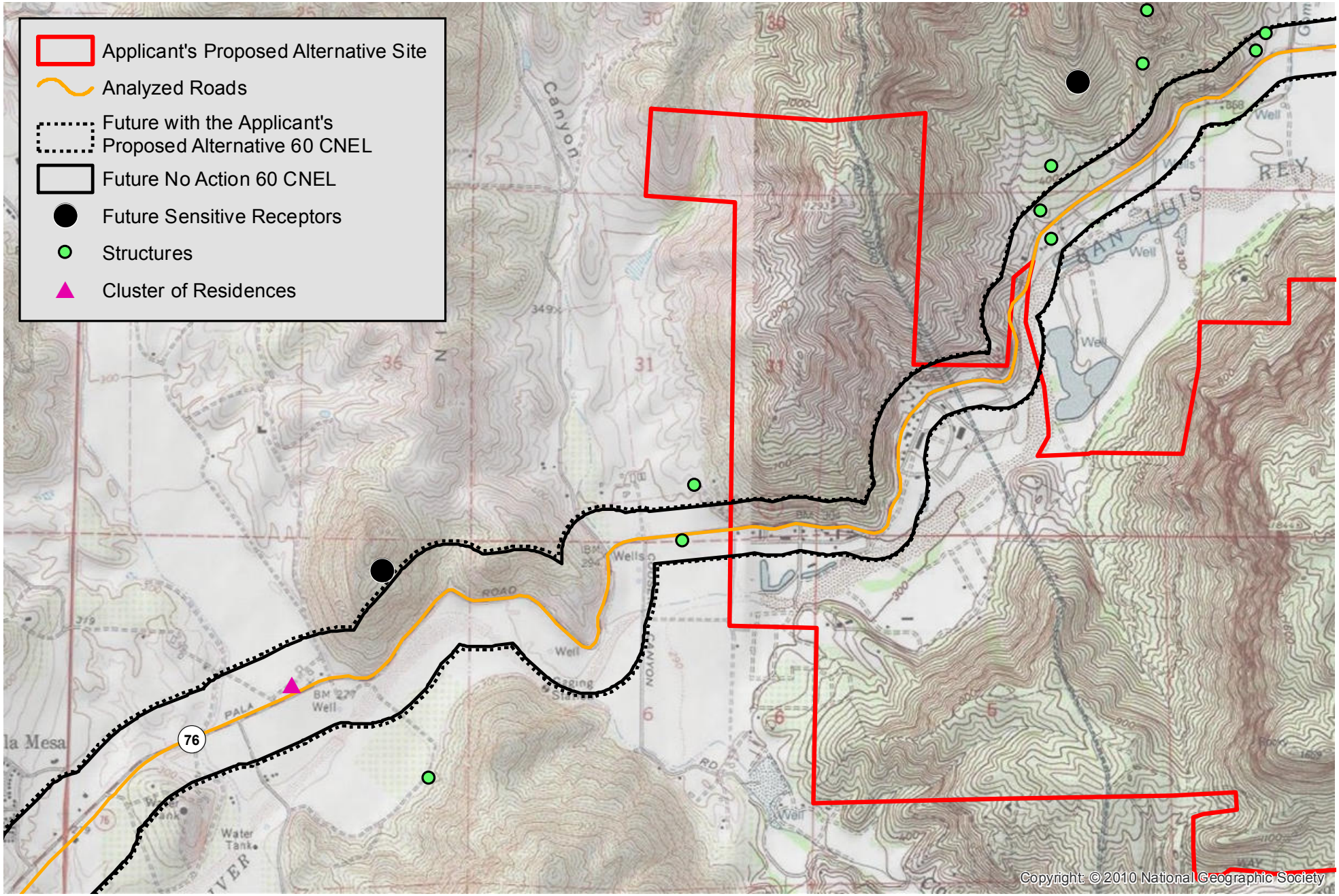
[a] *The estimated noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels.*

*Source: PCR Services Corporation, 2012*

sound wall would be required, with a break in the wall to maintain the common driveway for the cluster of residences. The installation of this sound wall would reduce alternative-generated traffic noise to the impacted residences. However, since the applicant does not own the property and the property owner objects to a sound wall, implementation of this design feature is not considered feasible.[10] Therefore, because the alternative-generated traffic would increase the noise levels in an already degraded environment, the alternative would result in a significant adverse noise effect on the cluster of residences.

In addition to on-site water, the applicant has entered into a contract with the San Gabriel Valley Water Company (SGVWC) to supply up to 80,000 gpd of recycled water to be used as an alternate water source for construction, operation and closure of the landfill. Recycled water would be transported in single-tank, double-axle recycled water trucks with a capacity of between 6,500 gallons and 7,000 gallons. Estimates of roadway noise levels in terms of CNEL were computed for the surface streets that would be used for the recycled water haul route. Alternative-generated traffic (24 round trips) would result in estimated CNEL noise level increase over existing noise levels of 1.5 dBA along Loma Avenue/Mabel Avenue and 0.0 dBA along Rosemead Boulevard (in the City of South El Monte). As these noise level increases are below the City

[10] *Personal communication between the applicant and William Pankey, June 2000.*




N

0 2,000 4,000 Feet

**Future Traffic Noise Levels with Applicant's Proposed Alternative – 60 CNEL**

**Gregory Canyon**

Source: USGS Topographic Series (Bonsall, Pala, CA); PCR Services Corporation, 2012.

FIGURE

**4.11-3**

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**Table 4.11-10**

**Estimated Future Cumulative Traffic-Related Noise Levels with the Applicant's Proposed Alternative**

| | Estimated Future Cumulative Noise Levels @ 100 ft from Roadway (CNEL, dBA) | Estimated Distance to CNEL Contour from Centerline of Roadway (feet)[a] | | |
|---|---|---|---|---|
| | | 70 CNEL | 65 CNEL | 60 CNEL |
| **SR 76** | | | | |
| West of Old Highway 395 | 67.3 | 47 | 182 | 610 |
| East of Old Highway 395 | 66.9 | 41 | 164 | 555 |
| West of I-15 | 68.5 | 62 | 252 | 851 |
| Between I-15 and Pankey Road | 67.5 | 46 | 200 | 687 |
| Between Pankey Road and Rice Canyon Road | 68.0 | 53 | 222 | 756 |
| Between Rice Canyon Road and Couser Canyon Road | 66.2 | 33 | 138 | 470 |
| Between Couser Canyon Road and Site Access | 65.9 | 28 | 124 | 427 |
| **Interstate 15** | | | | |
| Northbound Ramp of SR 76 | 63.2 | 13 | 96 | 357 |
| Southbound Ramp of SR 76 | 61.4 | 0 | 55 | 227 |
| **Old Highway 395** | | | | |
| North of SR 76 | 62.9 | 7 | 56 | 221 |
| South of SR 76 | 64.1 | 13 | 77 | 277 |

[a] *The estimated noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels.*

*Source: PCR Services Corporation, 2012*

of South El Monte incremental increase significance threshold, recycled water truck activity along surface streets would not result in a significant adverse noise effect.[11]

## Mitigation Measures

Even with implementation of the design features that are incorporated into the Applicant's Proposed Alternative, the alternative would result in a significant adverse effect regarding traffic noise on SR 76.

*Criterion: An alternative would result in a significant adverse effect if vibration levels from the alternative's vibration sources would exceed the U.S. Bureau of Mines RI 8507 standards, which are adopted in the San Diego County Water Authority design procedure manual 02229-3 (February 1995).*

### Vibration

**Impact Statement Gregory NOISE-4: Blasting associated with the Applicant's Proposed Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards. Therefore, no significant adverse effects with respect to vibration to nearby residences, SDG&E facilities, and the aqueduct system would occur.**

[11] *Gregory Canyon Landfill, Addendum to the Certified Final EIR, 2009.*

At its closest point, the landfill footprint would be immediately adjacent to the easement for the First San Diego Aqueduct (see Figure 3-16 of this EIS). Provision of a continuous and safe water supply through the First Aqueduct is of prime importance throughout the lifespan of the Applicant's Proposed Alternative. Vibrations from the blasting used to excavate the landfill bottom surface could potentially affect the integrity of the aqueduct, including stability and structural soundness.

Similar to an earthquake, a blast generates two types of energy waves in the ground: irrotational waves (sometimes called dilational waves) and equivoluminal waves (sometimes called shear or distortional waves). Irrotational waves arrive first and are designated in the geologic nomenclature with the symbol "P" (for primus or primary), while the equivoluminal waves, which arrive second, are designated as "S" (for secundus or secondary). P waves are orthogonal (perpendicular) to the advancing wavefront while S waves are parallel to the wavefront. Of the two types of waves generated during a blast, only the S waves are of principal concern since they are more likely to cause damage. The P waves, although traveling farther, dissipate (or decay) rapidly as distance increases from source to receptor. As a result, the vibration technical report analysis is based on the decay distance of the transverse waves resulting from construction blasting along the First Aqueduct.

### Construction Blasting Zone of Influence

The construction blasting zones of influence are based upon assumed peak vibration levels produced by similar operations and the amount of damping present at the site. The assumed peak vibration level was taken as an instantaneous 15.0 inch per second impulse at a reference distance of 50 feet. Nominal attenuation distance is calculated as the distance where the vibration levels drop below a level of significance. The level of significance is defined according to the Bureau of Mines RI 8507 frequency dependent standard.

The graphical results of the blasting modeling are shown in Appendix D of the vibration technical report. Table 4.11-11, *Recommended Minimum Allowable Blasting Limits From First San Diego Aqueduct*, shows the minimum blast distance from the aqueduct that is necessary to meet the Bureau of Mines RI 8507 standards. The last column of Table 4.11-11 incorporates a 1.5 factor of safety to account for experimental and construction blasting errors.

Based upon the level of damping determined for the aqueduct-soil system, the response curves (with an incorporated safety margin) indicate a minimum safe blasting distance of 165 feet for a pure 15.0 Hz wave at this magnitude. As indicated previously, the frequency content of the blast was determined by two small test charge detonations at the landfill site. These distances form the zone of influence due to blasting interaction along the aqueduct alignment. The recommended open-face charge weight per delay to satisfy the above model was calculated to be 34 pounds per 8 millisecond (minimum) delay.

Given the definition of the zone of influence, impacts are expected if blasting occurs inside the influence zone for the respective frequency and maximum velocities. No impacts are expected outside this zone. As can be seen from Table 4.11-11, low frequency waves (below 10 Hz) have the lowest allowable ground velocity threshold, and by their very nature damp out more slowly and convey more energy with the potential to cause structural damage. Thus, a minimum recommended blast distance of greater than 750 feet would be required to mitigate a 15.0 inch per second, pure 5 Hz impulse recorded at 50 feet. This distance drops to

**Table 4.11-11**

**Recommended Minimum Allowable Blasting Limits From First San Diego Aqueduct**

| Primary Blast Frequency Content | Bureau of Mines RI 8507 Maximum Allowable | Minimum blast distance from aqueduct for compliance | Recommended minimum blasting distance from aqueduct (ms=1.5) |
|---|---|---|---|
| 5 Hz | 0.05 in/sec | >500 feet | >750 feet |
| 10 Hz | 0.05 in/sec | 263 feet | 395 feet |
| 15 Hz | 0.75 in/sec | 110 feet | 165 feet |
| 20 Hz | 1.0 in/sec | 94 feet | 141 feet |
| 30 Hz | 1.5 in/sec | 91 feet | 137 feet |
| 40 Hz | 2.0 in/sec | 88 feet | 132 feet |

*Hz = Hertz*
*MS = margin of safety*
*in/sec = inches per second*
*Minimum blast distance are based upon a maximum recordable instantaneous ground disturbance of 15.0 in/sec PPV measured at a reference distance of 50.0 feet from the detonation point.*
*A frequency independent small-strain material damping ratio of 0.0021 per foot was used and is based upon empirical measurements. This level accounts for local aqueduct-soil interaction.*
*Decay curves are based upon a 0.25 second wave decay rate, representing a maximum impact analysis.*
*Values given are for open-face blasting only. Charges fired with a high degree of confinement, such as in pre-split blasting, generate peak particle velocity levels up to 10 times greater than those predicted. Blasting done for opening holes should use significantly larger blast distances or correspondingly smaller charges.*

*Source: Ogden Environmental and Energy Services, 1996*

slightly over 130 feet for a pure 40 Hz wave. SDCWA has requested that no blasting occur within 500 feet of existing pipelines. This distance would be maintained and is included in the design features.

From the experimental test blasts, the principal frequency response of the soil occurred at approximately 15 Hz. For a groundborne vibrational wave with a 15 Hz primary component, the distance traveled by the wave would be 165 feet before diminishing to a level of 0.75 inches per second as set by the RI 8507 standard (Table 4.11-11). The vibration technical report calculates the open face maximum amount of explosives per eight millisecond delay as being 34 pounds. Confined blasts should be scaled down by approximately a factor of nine (approximately four pounds of explosive per eight millisecond delay) to reduce excess vibration levels. No impacts are expected, provided confined blasting occurs at scaled velocity/charge ratios equal to or greater than the identified value of nine. Design features are incorporated into the alternative to ensure that no significant adverse vibratory effects would occur. As previously discussed, these design features include prohibiting blasting within 500 feet of the existing pipelines 1 and 2, unless approved by SDCWA, prohibiting blasting within 150 feet of the SDG&E towers, and monitoring of vibration levels to ensure compliance with standards.

### Impacts to Nearby Residences

Using the assumed blasting conditions described previously and a dominant blast frequency of 18 Hz would result in a distance of 155 feet before the blast wave drops below the RI 8507 threshold. Applying a margin of safety to this value gives an acceptable blast-receptor separation distance of approximately 230 feet. Since the nearest receptor is over 800 feet away from the closest possible blasting point, no significant

ground motion impacts would occur to the nearest residences. Written notice would be provided to residents within a one-mile radius of the blast site within 24 hours of the blasting. In summary, blasting operations would not produce significant adverse effects to nearby sensitive receptors, nor would applicable evaluation criteria be exceeded.

### Impacts to Existing/Proposed Infrastructure

The existing SDG&E transmission towers located along the eastern edge of the canyon are approximately 100-foot steel truss assemblies secured at four locations atop concrete support piers. The truss structure itself is a pined assembly having very little damping due to its all-steel construction. Small motions imparted to the base of the structures would be dispersed throughout the structure with a resulting translation (i.e., horizontal movement) of the top of the tower. This movement could effectively "pull" on the transmission lines suspended between the towers possibly damaging the ceramic stand-offs. Larger motions could produce the potential for brittle shear of the support columns with a subsequent reduction of load-carrying capability of the member.

As similarly described for the First San Diego Aqueduct, the relative damping level between the soil and the support pier is the principal mechanism to remove unwanted ground motion from the tower structure.[12] Damping levels associated with the various test trials are shown in Table 4.11-12, *Recommended Minimum Allowable Blasting Limits From SDG&E Transmission Corridor*. In general, the levels were slightly less than those for the First San Diego Aqueduct. The results show that an average damping ratio of roughly 3.17 percent was present during testing. This level is consistent with the surface composition (i.e., to the depth of the pier) of this area which is unconsolidated and readily dampens vibratory energy.

**Table 4.11-12**

**Recommended Minimum Allowable Blasting Limits From SDG&E Transmission Corridor**

| Primary Blast Frequency Content | Bureau of Mines RI 8507 Maximum Allowable | Minimum Blast Distance from SDG&E Corridor for Compliance | Recommended Minimum Blasting Distance from SDG&E Corridor (MS=1.5) |
|---|---|---|---|
| 5 Hz | 0.05 in/sec | 543 feet | 814 feet |
| 10 Hz | 0.05 in/sec | 285 feet | 427 feet |
| 20 Hz | 1.0 in/sec | 95 feet | 142 feet |
| 30 Hz | 1.5 in/sec | 92 feet | 138 feet |
| 40 Hz | 2.0 in/sec | 90 feet | 135 feet |

*Hz = Hertz*
*MS = margin of safety*
*Minimum blast distance based upon a maximum recordable instantaneous ground disturbance of 15.0 inches/second PPV measured at a reference distance of 50.0 feet from the detonation point*
*A frequency independent small-strain material damping ratio of 0.0016 per foot was used and is based upon empirical measurements. This level accounts for local pier-soil interaction.*
*Decay curves based upon a 0.25 second wave decay rate.*

*Source: Investigative Science and Engineering, 1998*

[12] *This damping level description is provided in Appendix K of this DEIS.*

Table 4.11-12 shows the minimum linear distance required to meet the Bureau of Mines RI 8507 standards for blasting in the vicinity of the SDG&E transmission towers. The last column of Table 4.11-12 incorporates a 1.5 factor of safety to account for experimental and construction blasting errors. Based upon these findings, the minimum blast separation distance would be 135 feet. This value rises to 814 feet for a pure 5 Hz source wave. Since the dominant frequency of the test blasts was 18 Hz, an impact distance of roughly 150 feet would be an acceptable exclusionary distance for blasting operations.

In summary, for the predicted 18 Hz dominant blast wave, a source-receptor separation distance of roughly 150 feet is required for both the SDG&E facilities and aqueduct system. This value is based on the fact that both the SDG&E tower support piers and the aqueduct system have approximately the same level of soil-structure damping. For blasting outside the bounds of this prediction, the levels shown in Tables 4.11-11 and 4.11-12 and the vibration technical reports (Ogden, 1996; ISE, 1998) should be used. Based upon these findings, the requested separation distance of 500 feet by SDCWA would be sufficient to ensure vibration levels from the predicted 18 Hz dominant blast wave would not exceed the evaluation criteria.

#### Pre-Blasting Construction Operations

In addition to the direct effects of blasting, preparation for blasting would require drilling and the movement of vehicles along the aqueduct alignment. However, vehicular activity along the aqueduct is expected to produce vibration levels equivalent to those along SR 76. Since these levels are below the applicable criteria, no significant adverse effects are expected. Additionally, operation of pneumatic drills and hammers associated with blasting would occur at the blast site. Since this type of machinery produces vibration levels below those set for the influence zone, no significant adverse effects are expected.

Mitigation Measures

With implementation of the design features that are incorporated into the Applicant's Proposed Alternative, the alternative would not result in significant adverse effects regarding vibration. No mitigation measures are proposed.

## 4.11.4 NO FEDERAL ACTION ALTERNATIVE

### 4.11.4.1 Affected Environment

The affected environment for the No Federal Action Alternative, in both regional and local contexts, would be the same as the Applicant's Proposed Alternative. The No Federal Action Alternative would provide a conservation bank at the Applicant's Proposed Alternative site. Solid waste disposal would continue to occur generally as it does under existing conditions. Therefore, the affected environment for the No Federal Action Alternative is the same as that for the Applicant's Proposed Alternative, as described above in subsection 4.11.3.1.

### 4.11.4.2 Design Features

The No Federal Action Alternative would not include any design features relative to noise and vibration.

### 4.11.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would result in a significant adverse effect if noise from the alternative's noise sources, other than traffic noise on public roadways, would exceed 62.5 dBA $L_{eq}$ at a residential property line.*

**Impact Statement No Federal Action NOISE-1: The No Federal Action Alternative would involve some earthmoving work to implement the conservation bank. However, such work would be minimal and would be short-term in duration. No long-term operational noise and vibration effects would be associated with the conservation bank. Thus, no significant adverse effects relative to noise or vibration would occur.**

Under the No Federal Action Alternative, the Gregory Canyon property would remain undeveloped. However, habitat restoration would occur and a conservation bank would be developed on the site. Earthmoving that would occur would be minimal and would be short-term in duration. Therefore, no significant adverse noise or vibration effects would occur.

Mitigation Measures

No significant adverse effects with respect to noise would occur. No mitigation measures are proposed.

*Criterion: An alternative would result in a significant adverse effect if traffic noise on public roadways would exceed an exterior level of 60 dBA CNEL for single-family residential uses.*

**Impact Statement No Federal Action NOISE-2: The No Federal Action Alternative would result in minimal trips for implementation and maintenance of the conservation bank. Trips would likely occur off peak. Thus, no significant adverse effects resulting from traffic noise would occur.**

The No Federal Action Alternative would result in a minimal number of trips for the implementation and maintenance of the conservation bank and trips would likely occur off peak. Consequently, this Alternative would not generate or introduce any measureable increase in traffic noise. Therefore, no significant adverse effects resulting from traffic noise would occur.

Mitigation Measures

The No Federal Action Alternative would not result in a significant adverse effect to nearby noise sensitive receptors. No mitigation measures are proposed.

*Criterion: An alternative would result in a significant adverse effect if vibration levels from the alternative's vibration sources would exceed the U.S. Bureau of Mines RI 8507 standards, which are adopted in the San Diego County Water Authority design procedure manual 02229-3 (February 1995).*

Under the No Federal Action Alternative no blasting would occur to implement or maintain the conservation bank. Therefore, this criterion does not apply to the No Federal Action Alternative.

## 4.11.5 ASPEN ROAD ALTERNATIVE

### 4.11.5.1 Affected Environment

#### Existing Noise Levels

##### Ambient Noise Levels

Measurements of the existing ambient noise levels were performed at three locations along the eastern and western Aspen Road Alternative site boundary (A1 through A3). See Figure 4.11-4*, Aspen Road Alternative Noise Analysis Locations*, for the ambient noise measurement locations. Measurements were performed on January 11, 2012, by PCR Services Corporation using the Larson-Davis Model 820 noise monitor.

Table 4.11-13, *Aspen Road Alternative Existing Ambient Noise Measurement Levels*, provides a summary of the ambient noise measurement data at the three locations shown in Figure 4.11-4. A 15-minute measurement was taken at location A1 through A3 during daytime hours (8:00 A.M. to 10:00 A.M.). Typical noise sources included birds, the rustling of trees, local residents, and the occasional automobile. The resulting noise levels ($L_{eq}$) ranged from a minimum of 39.4 (at location A1) to a maximum of 53.4 (at location A2) dBA.

**Table 4.11-13**

**Aspen Road Alternative**
**Existing Ambient Noise Measurement Levels**

| Measurement | | | One-Hour Noise Levels (DBA) [A] | | |
|---|---|---|---|---|---|
| Location [a] | Description | Duration | $L_{eq}$ | $L_{max}$ | $L_{min}$ |
| A1 | Northeastern Boundary | 15-minutes | 39.4 | 51.7 | 29.3 |
| A2 | Eastern Boundary | 15-minutes | 53.4 | 72.0 | 27.3 |
| A3 | Western Boundary | 15-minutes | 52.0 | 69.1 | 38.3 |

[a] *Monitoring locations are shown on Figure 4.11-4*

*Source: PCR Services Corporation, 2012*

##### Estimated Existing Roadway Noise Levels

Estimates of existing roadway noise levels in terms of CNEL were computed for the roadways that would serve the alternative site and are shown in Table 4.11-14, *Aspen Road Alternative Estimated Existing Traffic Noise Levels*. The values do not take into account the possible effects of existing noise barriers or topography. The table indicates that the areas along Mission Road east and west of Live Oak Park Road and Old Highway 395 north of Mission Road have an estimated existing noise level without the landfill in excess of 60 CNEL which exceeds the County Noise Element's limits of 60 CNEL.

**Table 4.11-14**

**Aspen Road Alternative**
**Estimated Existing Traffic Noise Levels**

| Roadway Segment | Existing CNEL (dBA) at Referenced Distances from Roadway Right-of-Way [a] | |
|---|---|---|
| | 25 Feet | 50 Feet |
| **Mission Road** | | |
| West of Live Oak Park Road | 69.3 | 67.2 |
| East of Live Oak park Road | 69.8 | 67.7 |
| **Old Highway 395** | | |
| North of Mission Road | 63.4 | 61.4 |
| **Rainbow Glen Road** | | |
| West of Old Highway 395 | 56.2 | 54.1 |

[a] *Calculated based on existing traffic volumes.*

*Source: PCR Services Corporation, 2012*

## 4.11.5.2 Design Features

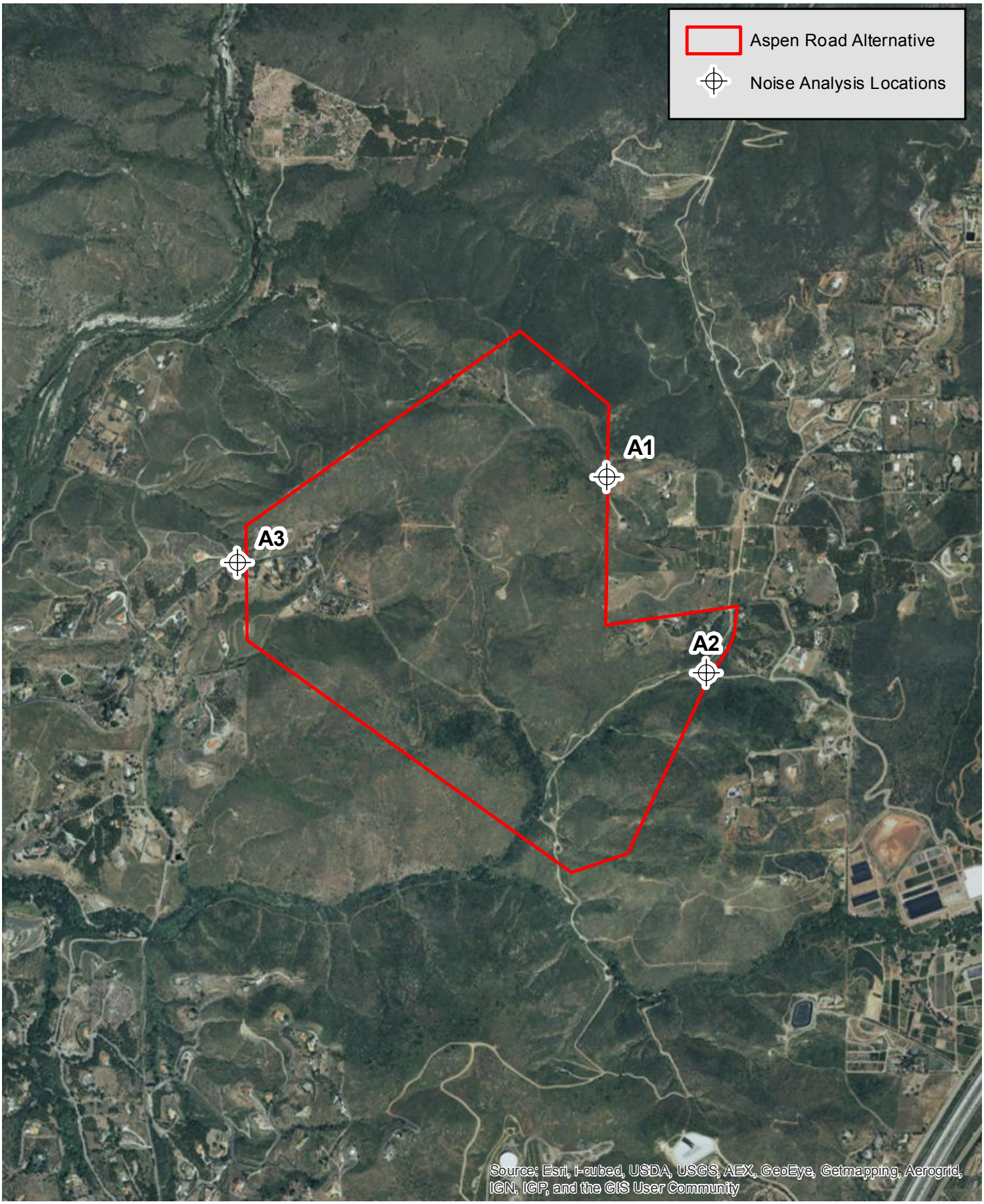
As with the Applicant's Proposed Alternative, the Aspen Road Alternative would incorporate design features that would avoid, minimize, and compensate for adverse noise levels at noise sensitive receptors. The Aspen Road Alternative would limit construction, drilling, and blasting activities to the hours designated by local, state, or federal ordinances; use construction equipment and trucks that are properly tuned and have noise muffling equipment that meets or exceeds applicable EPA standards; conduct drilling and blasting by state-licensed contractors; monitor noise levels at the property lines adjacent to residential uses in the first year of the initial construction and whenever the construction operation changes; use berms, and provide written notice to residents within a one-mile radius of blast sites at least 24 hours in advance of any blasting on-site. In addition, blasting would be done a minimum of 500 feet from existing pipelines. The Aspen Road Alternative would also include the installation of 10-foot high berms along the eastern and western edges of the landfill working face to block the line of sight at the nearest property lines east and west of the landfill.

## 4.11.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would result in a significant adverse effect if noise from alternative's noise sources, other than traffic noise on public roadways, would exceed 62.5 dBA $L_{eq}$ at a residential property line.*

### Construction Noise Impacts (Initial)

**Impact Statement Aspen NOISE-1: The Aspen Road Alternative would result in maximum construction noise levels at the nearest property line with implementation of design features of 67 dBA, which is greater than the 62.5 dBA noise standard. Mitigation is proposed to construct and maintain a 15-to 20-foot high berm along the eastern edge of the borrow/stockpile areas located near Receptor A1 and A2 and western edge of the borrow/stockpile area located near Receptor A3 during initial construction and during future operations. With implementation of this proposed mitigation measure, impacts would be reduced to below the criterion.**




N

0 1,500 3,000 Feet

**Aspen Road Alternative - Noise Analysis Locations**

**Gregory Canyon**

Source: Aerial Express, 2010; PCR Services Corporation, 2012.

FIGURE

**4.11-4**

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As is typical in the industry, the landfill would be developed in phases. The first phase of the landfill would be developed as part of the initial construction, along with the access road, ancillary facilities, borrow/stockpile area(s), and desilting basins. Periodic construction would occur to prepare subsequent phases for operation. Distances to sensitive receptor locations are show in Table 4.11-15, *Aspen Road Alternative Distance to Sensitive Receptor Locations for Construction Activities*.

**Table 4.11-15**

**Aspen Road Alternative**
**Distance to Sensitive Receptor Locations for Construction Activities**

| | Distance to Receptors (feet) | | | |
|---|---|---|---|---|
| **Receptor** | **Access Road** | **Borrow/Stockpiles** | **Ancillary facilities** | **Landfill Operation** |
| Closest Residential Property Line | 900 | 450 | 1,100 | 500 |

*Source: PCR Services Corporation, 2012*

During the construction of the access road there could be of grader, dozer, water truck, and compactor. Detailed noise calculations for construction activities are provided in Appendix K of this EIS. A single-family residence is located approximately 900 feet from the access road. Based on these maximum impact conditions and the specified types of equipment, and the estimated peak noise levels generated by these equipment, the $L_{eq}$ noise level produced by construction activities on the Aspen Road Alternative site is estimated to be up to 62 dBA at the single-family residence. As the access road construction-related noise would not exceed the 62.5 dBA criterion at the nearest residential property line, no significant adverse effects would occur.

The use of borrow/stockpile areas (located approximately 450 feet (Receptor A2) and 500 feet (Receptor A3) from the eastern and western residential property lines during initial construction would involve heavy earth moving equipment such as scrapers that could generate noise levels of 67 dBA at Receptor A2 and 66 dBA at Receptor A3. As noise levels at A2 and A3 would exceed the 62.5 dBA criterion along the eastern and western residential property lines, the Aspen Road Alternative would result in a significant adverse effect at these locations.

The ancillary facilities area would be located approximately 1,320 feet from a nearest residential property line. During the construction of ancillary facilities, heavy earth moving equipment such as grader would generate noise levels of 57 dBA at a distance of 1,320 feet. As the ancillary facilities construction-related noise would not exceed 62.5 dBA criterion at the nearest residential property line, no significant adverse effects would occur.

## Mitigation Measures

The construction of a 15-foot high berm (relative to the stockpile elevation) along the eastern edge of the borrow/stockpile area located near Receptor A2 and western edge of the borrow/stockpile area located near

Receptor A3 would reduce construction noise levels at these locations by approximately 15 dB.[13] Therefore, noise levels produced at borrow/stockpile areas during the initial construction would be reduced to 52 dBA at Receptor A2 and 51 dBA at Receptor A3. Thus, with the implementation of the mitigation measure proposed below, the Aspen Road Alternative would not result in significant adverse effects with respect to noise.

**MM Aspen NOISE-1: Berm.** The applicant shall construct and maintain a 15- to 20-foot high berm along the eastern edge of the borrow/stockpile areas located near Receptors A1 and A2 and the western edge of the borrow/stockpile area located near Receptor A3 prior to initial construction and during future operations. The berms shall block the line of sight from the residential property to the heavy equipment. The base elevation of the berm would change whenever the elevation of the stockpile increases or decreases; however, the height relative to the stockpile would remain at 15- to 20-feet above the top of the stockpile.

### Long-Term Noise Impacts (Operational)

**Impact Statement Aspen NOISE-2: Long-term operational noise associated with the Aspen Road Alternative during periodic construction and landfill operations at the nearest residential property line would be 67.5 dBA. Mitigation is proposed to monitor, reduce the size or number of construction equipment, and install a berm or sound barrier, as necessary to reduce noise levels to 62.5 dBA. With implementation of the proposed mitigation measures, impacts from periodic construction and landfill operations would be below the criterion. Blasting would be infrequent, but may cause noise levels to exceed 62.5 dBA at the nearest residential property line, which would result in a significant adverse effect.**

The nearest residences located near the Aspen Road Alternative are scattered to the east and west of the site. These locations, which are representative of the nearest residential property lines, range between approximately 500 and 2,200 feet from the landfill footprint and range between approximately 450 and 840 feet from the borrow/stockpile areas. Operational noise impacts are divided into the following noise sources; ancillary facilities, borrow/stockpile area operation, landfill working face, and rock crushing/tire shredding.

#### Ancillary Facilities Area

The ancillary facilities would be located at the southern edge of the site. Vehicles would enter the ancillary facilities area and would pass through the fee booth and scales. The administrative office building would be located adjacent to the booths. A tilt-up concrete maintenance building would be located in the ancillary facilities area. A recyclable drop-off area, with bins for drop-off of source separated recyclable material would also be located in the ancillary facilities area as well as hazardous materials storage area. Since hazardous materials would be prohibited at the Aspen Road landfill, a hazardous materials storage area would be located in the ancillary facilities area and would be maintained for use if such materials were to be found in loads coming to the landfill.

The flare station, which would burn methane collected in the gas system, is a potential noise source and would operate 24 hours a day. The proposed flare station would be located a minimum distance of 1,700

[13] *Highway Noise Barrier Design Handbook, FHWA, February 2000.*

feet from the closest residential property line adjacent to nearby off-site residences (see Figure 3-40 of this EIS for the location of the flare station). Noise levels generated by the flare station would be minor when compared to other noise sources within the site and would not exceed the standard of 62.5 dBA at the nearest residential property line. The flare station would not be installed until landfill gas is generated at levels that warrant the installation of the system. A noise verification specifically for this component of the facilities area would be conducted as part of the design process to ensure compliance with County established noise limits and standards. A sound wall at the base of the flare station and/or silencers on the equipment would be installed, as necessary. Any necessary adjustments would be made to the system to ensure compliance with the noise standards.

### Recycling Drop-Off Noise

The alternative would include a recycling drop-off facility for source separated materials. No sorting, or cleaning would be done to the materials at the site. In 1995 Mestre Greve Associates monitored noise levels at the Sunset Environmental Material Recovery Facility. A ($L_{eq}$) noise level of approximately 65 dBA was measured at a distance of 30 feet. The proposed recycling drop-off facility would be located a minimum distance of 1,100 feet from the closest property line adjacent to nearby off-site residences. The noise level of 65 dBA at 30 feet would be reduced to 34 dBA at 1,100 feet from the closest residential property line. As recycling drop-off related noise levels would not exceed the standard of 62.5 dBA at the nearest residential property line, noise effects on the surrounding residents would be below the criterion.

### Landfill Working Face

At most, nine (9) pieces of equipment which could include three dozers, three compactors, one grader and two scrapers may be in operation at the landfill working face at any one time. The landfill would have two separate working faces, one for commercial vehicles and one for smaller private vehicles.

At its initial phase, the landfill would be depressed below the surrounding terrain. However, as the landfill reaches its vertical capacity, the final elevation would be higher than some of the surrounding areas and the natural shielding effect would be diminished or eliminated. Therefore, the noise levels projected at the top elevations would be considered maximum impact conditions. The alternative would include ten-foot high berms along the eastern and western edges of the landfill working face to block the line of sight to the nearest residences and property lines east and west of the landfill. Detailed noise calculations for construction activities are provided in Appendix K of this EIS.

Under these conditions, it is estimated that the noise levels generated by the landfill working face activities alone would range from approximately 45 dBA $L_{eq}$ at Location A2 to 58 dBA $L_{eq}$ at Location A1. These noise levels would fall below the 62.5 dBA $L_{eq}$ criteria and would not be considered a significant adverse effect.

### Borrow/Stockpile Area Operation

Three borrow/stockpile areas are proposed. One borrow/stockpile area would be located at the northeastern portion of the site adjacent to the landfill footprint. The largest of the borrow/stockpile areas would be located adjacent to the western boundary on the west side of the footprint. A third borrow/stockpile area would be located to the east of the landfill footprint. The borrow/stockpile areas would require ten scrapers. Based on this assumption, the noise level would be 71 dBA at 450 feet. It is assumed that a maximum impact condition would be when scrapers are operating at the designated edge of

the borrow/stockpile area located at the northeastern portion of the site. In this location, the nearest residential property line would be located 450 feet from the borrow/stockpile area. It is estimated that the noise levels generated at the borrow/stockpile activities would be 56 dBA at the locations closest to the Aspen Road Alternative site with the implementation of design features (Table 4.11-16, *Aspen Road Alternative - Landfill Operation Noise Levels at Property Line Individual and Combined Noise Levels*) as the 15- to 20-foot high berm along the eastern boundary of the borrow/stockpile area located near A1 and A2 and western edge of the borrow/stockpile area located near would provide a minimum of 15 dB noise reduction at the nearest residential property lines.[14] As shown in Table 4.11-16, noise from the borrow/stockpile areas would be 56 dBA, which would be below the criterion.

### Rock Crushing/Tire Shredding Operations

Rock crushing and tire shredding are proposed as part of the alternative and would occur within the southwestern portion of the landfill footprint. (Figure 3-40). The rock crushing operation would primarily generate noise due to the trucks hauling the crushed rock from the rock crushing area. Based on a noise analysis for a similar rock crushing operation (Arroyo Trabuco Sand and Gravel Operation), noise levels that would be generated by the rock crushing operation were calculated. By itself, the rock crushing operation would generate an $L_{eq}$ noise level of 54 at a distance of 1,500 feet, which was the minimum distance necessary to ensure the Applicant's Proposed Alternative would not generate total operational noise (without periodic construction) levels in excess of the standards. The tire shredder would be brought on-site approximately once every six months or when tire volumes necessitate. The predominant noise sources from the tire shredding operation are the engine and the cutting blades. Noise levels from the tire shredding operation would be comparable to that of the rock crushing operation. To maintain the 62.5 dBA $L_{eq}$ at the property boundary a mitigation measure is proposed to ensure that the tire shredding and rock crushing would occur at a minimum of 1,500 feet from Receptors A1 through A3 and that tire shredding and rock crushing operations would not occur at the same time.

### Periodic Construction

This section addresses the construction impacts associated with periodic construction including the excavation and blasting to open a new phase or cell. The nearest residences are located to the east and west of the site. The nearest residential property lines are located approximately 500 feet from the landfill footprint and 450 feet from the borrow/stockpile areas.

Assuming maximum impact conditions (the maximum amount of construction equipment being used at the edge of the landfill), construction activities could generate a one-hour $L_{eq}$ noise level of approximately 66 dBA at the nearest residential property line located 500 feet from the landfill, which would exceed the 62.5 dBA standard. Mitigation measures are proposed to reduce the noise levels at the residential property lines.

Blasting would be required during the landfill construction phases to fracture the underlying rock structure and ease the removal of and access final footprint elevations. Blasting noise consists largely of low frequency noise components. The human ear is less sensitive to low frequency noises than it is to high frequency noises, and the A-weighted noise scale which has a frequency correction that correlates overall sound

[14] *Highway Noise Barrier Design Handbook, FHWA, February 2000.*

**Table 4.11-16**

**Aspen Road Alternative Landfill Operation Noise Levels at Property Line [a]**
**Individual and Combined Noise Levels**

| Location No./Operation [A] | Approximate Distance Between Location & Operation (feet) | Noise Levels $L_{eq}$ (DBA) |
|---|---|---|
| | **Location A1 (Ambient 39.4)** | |
| Ancillary Facility | 1,100 | 45 |
| Recycling Drop-Off | 1,100 | 34 |
| Landfill Working Face | 500 | 58 |
| Borrow/Stockpile Areas | 840 | 51 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location A1 Total From the Aspen Road Alternative** | -- | 60 |
| **Location A1 Total With Ambient** | | 62 |
| | **Location A2 (Ambient 53.4)** | |
| Ancillary Facility | 1,600 | 43 |
| Recycling Drop-Off | 1,600 | 30 |
| Landfill Working Face | 2,200 | 45 |
| Borrow/Stockpile Areas | 450 | 56 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location A2 Total From the Aspen Road Alternative** | -- | 59 |
| **Location A2 Total With Ambient** | | 60 |
| | **Location A3 (Ambient 52.0)** | |
| Ancillary Facility | 4,000 | 39 |
| Recycling Drop-Off | 4,000 | 23 |
| Landfill Working Face | 1,700 | 47 |
| Borrow/Stockpile Areas | 500 | 55 |
| Rock Crushing or Tire Shredding | 1,500 | 56 |
| **Location A3 Total from the Aspen Road Alternative** | -- | 59 |
| **Location A3 Total with Ambient** | | 60 |

[a] *Noise levels represent nearest residential property lines (Figure 4.11-4)*

*Source: PCR Services Corporation, 2012*

pressure levels with the frequency response of the human ear weights the noise levels accordingly. The nearest residential property line is estimated to be located approximately 500 feet from the potential blasting operation. The anticipated maximum noise level associated with landfill-related blasting activities at 500 feet is 67.3 dBA ($L_{max}$). Therefore, blasting noise would exceed the 62.5 dBA $L_{eq}$ standard at the nearest residential property line. Although the blasting noise would result in a relatively infrequent impulsive noise, the blasting would exceed the County Noise Ordinance standard and may cause temporary annoyance for those residents that may hear it.

### Total Combined Landfill Noise at the Nearest Residential Property Lines (Without Periodic Construction)

Because various activities would occur simultaneously at the landfill footprint and the borrow/stockpile areas, evaluation of the combined noise levels with ambient noise is necessary to determine the total noise effect at the three analysis locations (Figure 4.11-4). The closest points are estimated to range from 500 to 2,200 feet away from the landfill working face and between 450 and 840 feet from the stockpile/borrow areas. The rock crusher and tire shredder are portable and with the incorporation of MM Aspen Noise-2 would be located no closer than 1,500 feet from the property line.

Table 4.11-16 summarizes the potential total landfill noise levels at the nearest receptors from all of the potential landfill-related noise sources. The total combined landfill noise due to all landfill and rock crushing activities operating simultaneously would be greater than noise due to individual landfill operation. Total landfill and rock crushing operations including ambient noise would result in noise levels ranging between approximately 60 dBA to 62 dBA, which is below the noise criteria of 62.5 dBA $L_{eq}$ at the property line. Therefore, without periodic construction no significant adverse effects would occur.

### Total Combined Landfill Noise at the Nearest Residential Property Lines (With Periodic Construction)

As previously discussed, periodic construction activities could generate a one-hour $L_{eq}$ noise level of approximately 66 dBA at the closest residential property line. Due to the logarithmic nature of the decibel unit, the maximum noise level from periodic construction would largely mask all other operational noise sources at the closest residential property line. In other words, the sum of the maximum periodic construction noise (66 dBA) and the maximum landfill operational noise level (62 dBA) would be 67.5 dBA (e.g., 66 dBA + 62 dBA = 67.5 dBA). Thus, periodic construction and landfill operational noise levels could exceed 62.5 dBA $L_{eq}$ at the property line. Therefore, MM Aspen Noise-2 through -5 are recommended below to reduce the noise levels to below 62.5 dBA $L_{eq}$. The blasting noise level of 67.3 dBA combined with the highest measured operational and periodic construction noise level of 67.5 dBA would be 70.4 dBA. No feasible mitigation measures are available to reduce noise from blasting combined with operational and periodic construction noise to below 62.5 dBA.

## Mitigation Measures

With the implementation of the mitigation measures proposed below, the Aspen Road Alternative would not result in significant adverse noise effects, with the exception of noise from blasting. No feasible mitigation measures are available to reduce blasting noise to below the criterion. While occurring infrequently, noise from blasting would cause a significant adverse effect.

**MM Aspen NOISE-2: Rock Crushing/Tire Shredding Location.** Rock crushing and tire shredding shall be located a minimum of 1,500 feet from a residential property line unless other forms of attenuation, such as berms or acoustical curtains, are used to reduce combined landfill noise levels to below 62.5 $L_{eq}$.

**MM Aspen NOISE-3: Rock Crushing/Tire Shredding Timing.** The landfill operator shall ensure that rock crushing and tire shredding do not occur at the same time.

**MM Aspen NOISE-4: Tire Shredding Monitoring.** Tire shredding operations shall be monitored the first time such activity is conducted on-site to ensure that noise levels do not exceed the thresholds. If the noise levels exceed the thresholds, the applicant shall implement noise abatement measures, which may include such measures as equipment silencers, enclosures, noise baffling, and/or berms. If the thresholds are not exceeded, no additional action beyond monitoring shall be required.

**MM Aspen NOISE-5: Noise Monitoring.** The landfill operator shall monitor noise levels at the property lines adjacent to residential uses in the first year of the initial construction and whenever construction operation changes. If noise levels exceed 62.5 dBA $L_{eq}$ at the property line, the operator shall implement some or all of the following measures to reduce noise levels to below 62.5 dBA $L_{eq}$:

- Build temporary noise barriers or berms between construction activities and residences.
- Reduce the amount or size of construction equipment.

If the 62.5 dBA $L_{eq}$ threshold is not exceeded, no action beyond monitoring shall be necessary.

### Traffic Noise Impacts

*Criterion: An alternative would result in a significant adverse effect if traffic noise on public roadways would exceed an exterior level of 60 dBA CNEL for single-family residential uses.*

**Impact Statement Aspen NOISE-3: Traffic noise associated with the Aspen Road Alternative would increase the noise levels at residences with existing exterior noise levels in excess of 60 dBA CNEL. Therefore, traffic would result in a significant adverse noise effect.**

Operation of the proposed landfill would generate additional traffic on public roadways serving the landfill, and could, therefore, increase noise levels along these roadways. For the purpose of this impact analysis, the maximum impact traffic estimates were used to analyze the future traffic-related noise levels associated with the project. Although it is expected that once the landfill is opened, the daily volume of trucks may vary, the total number of trips generated by the landfill amounts to 673 truck trips and 32 passenger vehicle trips.[15]

A comparison of the estimated 60 CNEL contours under the Future No Federal Action and Future with Aspen Road Alternative conditions shows that the Aspen Road Alternative would not increase the number of residences that would be exposed to exterior noise levels in excess of 60 CNEL. The residences that are already located within the 60 CNEL contour would continue to be exposed to significant adverse noise impacts under Future No Federal Action and Future with Aspen Road Alternative traffic conditions. However, the residences that are located along Mission Road on the west and east of Live Oak Park Road and Old Highway 395 north of Mission Road would be impacted by future traffic noise and would be impacted by noise from landfill-generated traffic.

[15] *Traffic Impact Analysis, Gregory Canyon Landfill, Aspen Road Off-Site Alternative. Linscott, Law & Greenspan, Engineers. 2012.*

Table 4.11-17, *Estimated Future Cumulative Traffic-Related Noise Levels with the Aspen Road Alternative*, presents the future traffic noise levels with the Aspen Road Alternative at 100 feet from the centerline of each of the roadways, as well as estimated distances to the 60, 65, and 70 CNEL contours. Figure 4.11-5, *Future Traffic Noise Levels with Aspen Road Alternative - 60 CNEL,* illustrates the approximate location of the 60 CNEL contour for the future condition with the Aspen Road Alternative. The projections do not take into account any barriers or topography that may reduce noise levels. Table 4.11-17 shows that future traffic noise levels with the Aspen Road Alternative along Mission Road and Old Highway 395 would be in excess of 60 CNEL. Although the majority of the noise on most of the roads would come from other traffic sources, the Aspen Road Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. In community noise assessments, noise level increases greater than 3 dBA are often considered significant. However, since the Mission Road and Old Highway 395 corridors are existing degraded noise environments with noise levels exceeding 60 CNEL at existing residences and the alternative would increase the noise levels even by a small margin, the alternative would have a significant adverse noise effect to the existing residences.

**Table 4.11-17**

**Estimated Future Cumulative Traffic-Related Noise Levels with the Aspen Road Alternative**

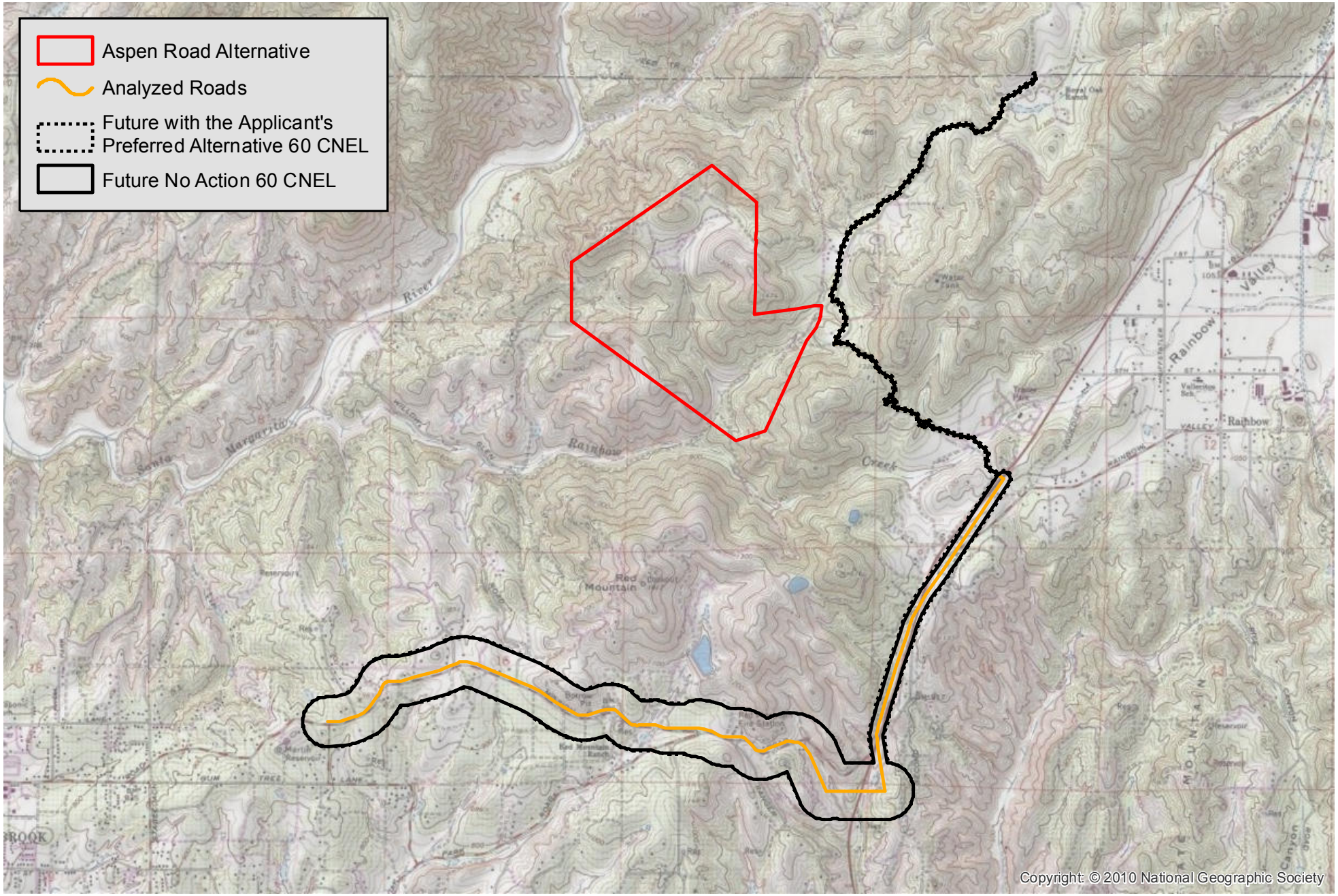
| | Estimated Future Cumulative Noise Levels @ 100 ft from Roadway (CNEL, dBA) | Estimated Distance to CNEL Contour from Centerline of Roadway (feet)[a] | | |
|---|---|---|---|---|
| | | 70 CNEL | 65 CNEL | 60 CNEL |
| **Mission Road** | | | | |
| West of Live Oak Park Road | 67.1 | 44 | 173 | 582 |
| East of Live Oak Park Road | 67.6 | 51 | 196 | 655 |
| **Old Highway 395** | | | | |
| North of Mission Road | 62.4 | 4 | 47 | 182 |
| **Rainbow Glen Road** | | | | |
| West of Old Highway 395 | 56.7 | -11 | 1 | 38 |

[a] *The estimated noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels.*

*Source: PCR Services Corporation, 2012*

## Mitigation Measures

There are no feasible mitigation measures to reduce traffic noise to below the criterion. With implementation of the design features that are incorporated into the Aspen Road Alternative, this alternative would result in significant adverse effects regarding traffic noise.




N

0 3,000 6,000 Feet

**Future Traffic Noise Levels with Aspen Road Alternative - 60 CNEL**

FIGURE

**4.11-5**

**Gregory Canyon**

Source: USGS Topographic Series (Temecula, CA); PCR Services Corporation, 2012.

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### Vibration

*Criterion: An alternative would result in a significant adverse effect if vibration levels from the alternative's vibration sources would exceed the U.S. Bureau of Mines RI 8507 standards, which are adopted in the San Diego County Water Authority design procedure manual 02229-3 (February 1995).*

**Impact Statement Aspen NOISE-4: Blasting associated with the Aspen Road Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards. Implementation of the proposed mitigation measures would require monitoring to ensure compliance with vibration standards. Therefore, no significant adverse effects with respect to vibration to nearby residences and infrastructure would occur.**

The Aspen Road Alternative site is primarily designated as rural and semi-rural lands. A corridor running through the southern portion of the site is designated Public/Semi-Public Facilities. This corridor aligns with the Metropolitan Water District easement in which existing Metropolitan San Diego Pipelines No. 4 and 5 cross underneath the site along the eastern site boundary (see Figure 4.2-6 of this EIS). At its closest point, the landfill footprint would be approximately 300 feet to the northwest of the corridor and Metropolitan Water District easement. Vibrations from the blasting used to excavate the landfill bottom surface could potentially affect the integrity of the Metropolitan San Diego Pipelines No. 4 and 5, including stability and structural soundness.

The impact analysis is based on the previously conducted tests by Ogden Environmental and Energy Services (Ogden, 1996) as well as supplemental vibration impact modeling conducted by Investigative Science and Engineering (ISE, 1998). As discussed previously for the Applicant's Proposed Alternative, impacts are expected if blasting occurs inside the influence zone for the respective frequency and maximum velocities. No impacts are expected outside this zone. For a groundborne vibrational wave with a 15 Hz primary component, the distance traveled by the wave would be 165 feet before diminishing to a level of 0.75 inches per second as set by the RI 8507 threshold (Table 4.11-11). A dominant blast frequency of 18 Hz would result in a distance of 155 feet before the blast wave drops below the RI 8507 threshold. The vibration technical report calculates the open face maximum amount of explosives per eight millisecond delay as being 34 pounds. Confined blasts should be scaled down by approximately a factor of nine (approximately four pounds of explosive per eight millisecond delay) to reduce excess vibration levels. No impacts are expected, provided confined blasting occurs at scaled velocity/charge ratios equal to or greater than the identified value of nine. Design features are incorporated into the alternative to ensure that the potential vibratory effects of blasting are minimized. No blasting would occur within 500 feet of existing pipelines.

#### Impacts to Nearby Residences

Applying a margin of safety to the values discussed above gives an acceptable blast-receptor separation distance of approximately 230 feet. Since the nearest residential property line is approximately 500 feet from the landfill footprint and closest possible blasting point, no significant ground motion impacts would occur to the nearest residences. Written notice would be provided to residents within a one-mile radius of the blast site within 24 hours of the blasting. In summary, blasting operations would not produce significant adverse effects to nearby sensitive receptors, nor would applicable criterion be exceeded.

#### Impacts to Existing Infrastructure

Based on the above analysis, the separation distance of 500 feet would be sufficient to ensure vibration levels from the predicted dominant blast wave would not exceed the RI 8507 threshold. No significant adverse effects to the pipelines would occur.

#### Pre-Blasting Construction Operations

In addition to the direct effects of blasting, preparation for blasting would require drilling and the movement of vehicles along the aqueduct alignment. However, vehicular activity would be similar to that associated with the Applicant's Proposed Alternative. Since these levels are below the applicable threshold criteria, no impacts are expected. Additionally, operation of pneumatic drills and hammers associated with blasting would occur at the blast site. Since this type of machinery produces vibration levels below those set for the influence zone, no significant adverse effects are expected.

Mitigation Measures

With the implementation of the mitigation measure proposed below, the Aspen Road Alternative would not result in significant adverse effects from blasting vibration.

**MM Aspen NOISE-6: Blasting.** Blasting operations shall be monitored the first time such activity is conducted on-site to ensure that vibration level do not exceed the thresholds. If the vibration levels exceed the thresholds, the applicant shall prohibit blasting within the influence zone. If the thresholds are not exceeded, no additional action beyond monitoring shall be required.

## 4.11.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.11.6.1 Affected Environment

#### Existing Noise Levels

#### Ambient Noise Levels

Measurements of the existing ambient noise levels were performed at one location along the western Gopher Canyon Road site boundary (G1) due to limited access to the site. See Figure 4.11-6, *Gopher Canyon Road Alternative- Noise Sensitive Receptors and Noise Analysis Locations,* for the ambient noise measurement location (G1) and sensitive receptor locations (G2 and G3). Measurements were performed on January 11, 2012, by PCR Services Corporation using the Larson-Davis Model 820 noise monitor. A 15-minute measurement was taken at location G1 during daytime hours (2:00 P.M. to 3:00 P.M.). Typical noise sources included birds, the rustling of trees, local residents, and the occasional automobile. The noise level 40.9 dBA $L_{eq}$ was recorded.

#### Estimated Existing Roadway Noise Levels

Estimates of existing roadway noise levels in terms of CNEL were computed for the roadways that would serve the alternative site and are shown in Table 4.11-18, *Gopher Canyon Road Estimated Existing Traffic Noise Levels*. The values do not take into account the possible effects of existing noise barriers or topography. The table indicates that the areas along Gopher Canyon Road have an estimated existing noise level without the landfill in excess of 65 CNEL which exceeds the County Noise Element's limits of 60 CNEL.

N

0 500 1,000 Feet

**Gopher Canyon Road Alternative - Noise Sensitive Receptor and Noise Analysis Locations**

**Gregory Canyon**

Source: Aerial Express, 2010; PCR Services Corporation, 2012.

FIGURE

**4.11-6**

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**Table 4.11-18**

**Gopher Canyon Road Estimated Existing Traffic Noise Levels**

| Roadway Segment | Existing CNEL (dBA) at Referenced Distances from Roadway Right-of-Way [a] | |
|---|---|---|
| | 25 Feet | 50 Feet |
| **Gopher Canyon Road** | | |
| West of Alternative Access Road | 68.0 | 65.9 |
| Between Alternative Access Road and Vista Valley Drive | 68.0 | 65.9 |
| Between Vista Valley Drive and Twin Oaks Valley Road | 68.4 | 66.3 |
| Between Twin Oaks Valley Road and I-15 Ramp | 67.8 | 65.8 |

[a] *Calculated based on existing traffic volumes.*

*Source: PCR Services Corporation, 2012*

## 4.11.6.2 Design Features

As with the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative would incorporate design features that would avoid, minimize, and reduce adverse noise levels at noise sensitive receptors. Likely, these would include general measures incorporated into the Applicant's Proposed Alternative, such as: limiting construction, drilling, and blasting activities to the hours designated by local, state, or federal ordinances; using construction equipment and trucks that are properly tuned and have noise muffling equipment that meets or exceeds applicable EPA standards; conducting drilling and blasting by state-licensed contractors; monitoring of noise levels at the property lines adjacent to residential uses in the first year of the initial construction and whenever the construction operation changes; installing berms; and providing written notices to residents within a one-mile radius of blast sites at least 24 hours in advance of any blasting on-site.

## 4.11.6.3 Environmental Consequences and Mitigation Measures

### Construction Noise Impacts (Initial)

*Criterion: An alternative would result in a significant adverse effect if noise from the alternative's noise sources, other than traffic noise on public roadways, would exceed 62.5 dBA $L_{eq}$ at a residential use property line.*

**Impact Statement Gopher NOISE-1: Initial construction activity associated with the Gopher Canyon Road Alternative would result in maximum construction noise levels at the nearest residential property line with implementation of design features of 64 dBA, which is greater than the 62.5 dBA noise standard. Mitigation is proposed to construct and maintain a 15-to 20-foot high berm along the eastern edge of the borrow/stockpile areas located near Receptor G2 during initial construction and during future operations. With implementation of this proposed mitigation measure, no significant adverse effects with respect to noise would occur.**

As is typical in the industry, the landfill would be developed in phases. The first phase of the landfill would be developed as part of the initial construction, along with the access road, ancillary facilities, borrow/stockpile area(s), and desilting basins. Distances to sensitive receptor locations are show in

Table 4.11-19, *Gopher Canyon Road Alternative Distance to Sensitive Receptor Locations for Construction Activities*.

**Table 4.11-19**

**Gopher Canyon Road Alternative Distance to Sensitive Receptor Locations for Construction Activities**

| | Distance to Receptors (feet) | | | |
|---|---|---|---|---|
| **Receptor** | **Access Road** | **Borrow/Stock Piles** | **Ancillary facilities** | **Landfill Operation** |
| Closest Residential Property Line | 600 | 700 | 1,000 | 500 |

*Source: PCR Services Corporation, 2012*

During the construction of the access road there could be of grader, dozer, water truck, and compactor. Detailed noise calculations for construction activities are provided in Appendix K of this EIS. Based on these maximum impact conditions and the specified types of equipment, and the estimated peak noise levels generated by these equipment, the $L_{eq}$ noise level produced by construction activities on the Gopher Canyon Road Alternative site is estimated to be approximately 60 dBA at the closest residential property line (located approximately 600 feet from the access road construction site). The access road construction-related noise would not exceed the 62.5 dBA criterion at the nearest residential property line.

The use of borrow/stockpile areas located approximately 700 feet from residential property lines (Location G2) east of the site during initial construction would involve heavy earth moving equipment such as scrapers that could generate noise levels of 64 dBA at a distance of 700 feet. As noise levels would exceed the 62.5 dBA criterion along the eastern property line adjacent to Receptor Location G2, significant adverse noise effects would occur at these locations.

The ancillary facilities area would be located approximately 1,000 feet from a nearest residential property line. During the construction of ancillary facilities, heavy earth moving equipment such as grader would generate noise levels of 59 dBA at a distance of 1,000 feet. Thus, the ancillary facilities construction-related noise would not exceed 62.5 dBA criterion at the nearest residential property line.

## Mitigation Measures

The construction of a 15-foot high berm (relative to the stockpile elevation) along the eastern edge of the borrow/stockpile area located near G2 would reduce construction noise levels at these locations by approximately 10 dB.[16] Therefore, noise levels produced at borrow/stockpile areas during the initial construction would be reduced to 54 dBA at Receptor G2. Thus, noise levels would not exceed the 62.5 dBA criterion along the eastern property lines adjacent to Receptor Location G2 with the creation of this berm. With the implementation of the mitigation measure proposed below, the Gopher Canyon Road Alternative would not result in significant adverse effects with respect to noise.

[16] *Highway Noise Barrier Design Handbook, FHWA, February 2000.*

**MM Gopher NOISE-1: Berm.** The applicant shall construct and maintain a 15- to 20-foot high berm along the eastern edge of the borrow/stockpile areas located near G2 during initial construction and during future operations. The berm shall block line of sight from the residential property to the heavy equipment. The base elevation of the berm would change whenever the elevation of the stockpile increases or decreases; however, the height relative to the stockpile would remain at 15- to 20-feet above the top of the stockpile.

### Long-Term Noise Impacts (Operational)

**Impact Statement Gopher NOISE-2: Long-term operational noise associated with the Gopher Canyon Road Alternative would expose nearby residential uses to noise levels of 67.5 dBA with implementation of the design features, which would exceed the noise standard of 62.5 dBA. To reduce this significant impact, mitigation is proposed to monitor, reduce the size or number of construction equipment, and install a berm or sound barrier, as necessary to reduce noise levels to 62.5 dBA. With implementation of the proposed mitigation measures, no significant adverse noise effects from periodic construction and landfill operations would occur. Blasting would be infrequent, but would cause noise levels to exceed 62.5 dBA at the nearest residential property line, which would be a significant adverse effect.**

The nearest residences located near the Gopher Canyon Road Alternative are scattered to the east, west, and southwest of the site. These locations, which are representative of the nearest residential property lines, range between approximately 500 and 2,700 feet from the landfill footprint and range between approximately 700 and 1,900 feet from the potential borrow/stockpile areas. Operational noise impacts are divided into the following noise sources: ancillary facilities, borrow/stockpile area operation, landfill working face, and rock crushing/tire shredding.

#### Ancillary Facilities Area

The ancillary facilities would be located in the northern portion of the site. As with the Applicant's Proposed Alternative, vehicles would enter the ancillary facilities area and would pass through the fee booth and scales. An administrative office building would be located adjacent to the booths. Other uses within the ancillary facilities area would include a recyclable drop-off area and a hazardous materials storage area.

As with the Applicant's Proposed Alternative, a flare station would be located a minimum distance of 1,500 feet from the closest residential property line adjacent to nearby off-site residences (see Figure 3-42 of this EIS for the location of the flare station). Noise levels generated by the flare station would be minor when compared to other noise sources within the landfill site and would not exceed the standard of 62.5 dBA at the nearest residential property line. The flare station would not be installed until landfill gas is generated at levels that warrant the installation of the system. A noise verification specifically for this component of the facilities area would be conducted as part of the design process to ensure compliance with County established noise limits and standards. A sound wall at the base of the flare station and/or silencers on the equipment would be installed, as necessary. Any necessary adjustments would be made to the system to ensure compliance with the noise standards.

### Recycling Drop-Off Noise

The alternative would include a recycling drop-off facility for source separated materials. No sorting, or cleaning would be done to the materials at the site. The proposed recycling drop-off facility would be located a minimum distance of 1,000 feet from the closest property line adjacent to nearby off-site residences. As shown in Table 4.11-20, *Gopher Canyon Road Landfill Operation Noise Levels at Property Line – Individual and Combined Noise Levels*, noise level of 65 dBA at 30 feet would be reduced to 35 dBA at 1,100 feet from the closest residential property line. Thus, the recycling drop-off related noise levels would not exceed the standard of 62.5 dBA at the nearest residential property line.

### Landfill Working Face

At most, nine (9) pieces of equipment which could include three dozers, three compactors, one grader and two scrapers may be in operation at the landfill working face at any one time. The landfill would have two separate working faces, one for commercial vehicles and one for smaller private vehicles.

At its initial phase, the landfill would be depressed below the surrounding terrain. However, as the landfill reaches its vertical capacity, the final elevation would be higher than some of the surrounding areas and the natural shielding effect would be diminished or eliminated. Therefore, the noise levels projected at the top elevations would be considered maximum impact conditions. The alternative would include ten-foot high berms along the eastern and western edges of the landfill working face to block the line of sight to the nearest residences and property lines east and west of the landfill. Detailed noise calculations for construction activities are provided in Appendix K of this EIS.

As shown in Table 4.11-20, it is estimated that the noise levels generated by the landfill working face activities alone would range from approximately 58 dBA $L_{eq}$ at Location G1 to 43 dBA $L_{eq}$ at Location G3. These noise levels would fall below the 62.5 dBA $L_{eq}$ criterion.

### Borrow/Stockpile Area Operation

Based on the conceptual plan, the Gopher Canyon Road Alternative would have two borrow/stockpile areas that would encompass approximately 37 acres. The largest of the two borrow/stockpile area would be located on the eastern edge of the site adjacent to the landfill footprint. The second borrow/stockpile area would be located adjacent to the southern boundary of the site to the south of the footprint. The potential borrow/stockpile areas could have a height on the order of 120 to 220 feet above existing grades. Based on an assumption of 10 scrapers, the noise level would be 67 dBA at 700 feet. It is assumed that a maximum impact condition would be when scrapers are operating at the designated edge of the borrow/stockpile area located at the northeastern portion of the site. In this location, the nearest residential property line would be located 700 feet from the borrow/stockpile area. It is estimated that the noise levels generated at the borrow/stockpile activities would be 57 dBA at the locations closest to the Gopher Canyon Road Alternative site with the implementation of design features (Table 4.11-20) as the 10-foot high berm along the eastern and western boundaries of the borrow/stockpile area located near G2 and G3, respectively, would provide a minimum of 10 dB noise reduction at the nearest residential property lines.[17] As shown in Table 4.11-20, noise from the borrow/stockpile areas would be 57 dBA, which would be below the criterion.

[17] *Highway Noise Barrier Design Handbook, FHWA, February 2000.*

**Table 4.11-20**

**Gopher Canyon Road Landfill Operation Noise Levels at Property Line [a]**
**Individual and Combined Noise Levels**

| Location No./Operation [A] | Approximate Distance Between Location & Operation (feet) | Noise Levels $L_{eq}$ (DBA) |
|---|---|---|
| | **Location G1 (Ambient 40.9)** | |
| Ancillary Facility | 2,600 | 41 |
| Recycling Drop-Off | 2,600 | 26 |
| Landfill Working Face | 500 | 58 |
| Borrow/Stockpile Areas | 1,900 | 58 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location G1 Total From the Gopher Canyon Road Alternative** | -- | 62 |
| **Location G1 Total With Ambient** | | 62 |
| | **Location G2 (Ambient N/A)** | |
| Ancillary Facility | 1,000 | 45 |
| Recycling Drop-Off | 1,000 | 35 |
| Landfill Working Face | 1,400 | 49 |
| Borrow/Stockpile Areas | 700 | 57 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location G2 Total From the Gopher Canyon Road Alternative** | -- | 59 |
| **Location G2 Total With Ambient** | | 59 |
| | **Location G3 (Ambient N/A)** | |
| Ancillary Facility | 7,000 | 37 |
| Recycling Drop-Off | 7,000 | 18 |
| Landfill Working Face | 2,700 | 43 |
| Borrow/Stockpile Areas | 1,700 | 49 |
| Rock Crushing or Tire Shredding | 1,500 | 56 |
| **Location G3 Total from the Gopher Canyon Road Alternative** | -- | 57 |
| **Location G3 Total with Ambient** | | 57 |

[a] *Noise levels represent nearest residential property lines (Figure 4.11-6)*

*Source: PCR Services Corporation, 2012*

## Rock Crushing/Tire Shredding Operations

Rock crushing and tire shredding are proposed as part of the alternative and would occur within the southwestern portion of the landfill footprint (Figure 4.11-6). The rock crushing operation would primarily generate noise due to the trucks hauling the crushed rock from the rock crushing area. By itself, the rock crushing operation would generate an $L_{eq}$ noise level of 54 at a distance of 1,500 feet, which is the minimum distance necessary to ensure the Applicant's Proposed Alternative would not generate total operational noise (without periodic construction) levels in excess of the standards. The tire shredder would be brought on-site approximately once every six months or when tire volumes necessitate. The predominant noise sources from the tire shredding operation are the engine and the cutting blades. Noise levels from the tire shredder would be comparable to that of the rock crushing operation. To maintain the 62.5 dBA $L_{eq}$ at the

property boundary a mitigation measure is proposed to ensure that the tire shredding and rock crushing would occur at a minimum of 1,500 feet from Receptors G1 through G3 and that tire shredding and rock crushing operations do not occur at the same time.

### Periodic Construction

This section addresses the construction impacts associated with periodic construction including the excavation and blasting to open a new phase or cell. The nearest residences are located to the east, west, and southwest of the site. The nearest residential property lines are located approximately 500 feet from the landfill footprint and 700 feet from the borrow/stockpile areas.

Assuming maximum impact conditions (the maximum amount of construction equipment being used at the edge of the landfill), construction activities could generate a one-hour $L_{eq}$ noise level of approximately 66 dBA at the nearest residential property line located 500 feet from the landfill, which would exceed the 62.5 dBA standard. Mitigation measures are proposed to reduce the noise levels at the residential property lines.

Blasting would be required during the landfill construction phases to fracture the underlying rock structure and ease the removal of and access final footprint elevations. Blasting noise consists largely of low frequency noise components. The human ear is less sensitive to low frequency noises than it is to high frequency noises, and the A-weighted noise scale which has a frequency correction that correlates overall sound pressure levels with the frequency response of the human ear weights the noise levels accordingly. The nearest residential property line is estimated to be located approximately 500 feet from the potential blasting operation. The anticipated maximum noise level associated with landfill-related blasting activities at 500 feet is 67.3 dBA ($L_{max}$). Therefore, blasting noise would exceed the 62.5 dBA $L_{eq}$ standard at the nearest residential property line. Although the blasting noise would result in a relatively infrequent impulsive noise, the blasting would exceed the County Noise Ordinance standard and may cause temporary annoyance for those residents that may hear it.

### Total Combined Landfill Noise at the Nearest Residential Property Lines (Without Periodic Construction)

Because various activities would occur simultaneously at the landfill footprint and the borrow/stockpile areas, evaluation of the combined noise levels with ambient noise is necessary to determine the total noise effect at the three analysis locations (Figure 4.11-6). The closest points are estimated to range from 500 to 2,700 feet away from the landfill working face and between 700 and 1,900 feet from the stockpile/borrow areas. The rock crusher and tire shredder are portable and would be located no closer than 1,500 feet from the property line.

Table 4.11-20 summarizes the potential total landfill noise levels at the nearest receptors from all of the potential landfill-related noise sources. The total combined landfill noise due to all landfill and rock crushing activities operating simultaneously would be greater than noise due to individual landfill operation. Total landfill and rock crushing operations including ambient noise would result in noise levels ranging between approximately 57 dBA to 62 dBA, which is below the noise criterion of 62.5 dBA $L_{eq}$ at the property line.

### Total Combined Landfill Noise at the Nearest Residential Property Lines (With Periodic Construction)

As previously discussed, periodic construction activities could generate a one-hour $L_{eq}$ noise level of approximately 66 dBA at the closest residential property line. Due to the logarithmic nature of the decibel unit, the maximum noise level from periodic construction would largely mask all other operational noise sources at the closest residential property line. In other words, the sum of the maximum periodic construction noise (66 dBA) and the maximum landfill operational noise level (62 dBA) would be 67.5 dBA (e.g., 66 dBA + 62 dBA = 67.5 dBA). Since periodic construction and landfill operational noise levels could exceed 62.5 dBA $L_{eq}$ at the property line, mitigation measures are proposed to reduce the noise levels to below 62.5 dBA $L_{eq}$. The blasting noise level of 67.3 dBA combined with the highest measured operational and periodic construction noise level of 67.5 dBA would be 70.4 dBA. No feasible mitigation measures are available to reduce noise from blasting combined with operational and periodic construction noise to below 62.5 dBA.

#### Mitigation Measures

With the implementation of the mitigation measures proposed below, the Gopher Canyon Road Alternative would not result in significant adverse noise effects, with the exception of noise from blasting. No feasible mitigation measures are available to reduce blasting noise to below the criterion. While occurring infrequently, noise from blasting would cause a significant adverse effect.

**MM Gopher NOISE-2: Rock Crushing/Tire Shredding.** Rock crushing and tire shredding shall be located a minimum of 1,500 feet from a residential property line unless other forms of attenuation, such as berms or acoustical curtains, are used to reduce combined landfill noise levels to below 62.5 $L_{eq}$.

**MM Gopher NOISE-3: Rock Crushing/Tire Shredding Timing.** The operator shall ensure that rock crushing and tire shredding not occur at the same time.

**MM Gopher NOISE-4: Tire Shredding Monitoring.** Tire shredding operations shall be monitored the first time such activity is conducted on-site to ensure that noise level do not exceed the thresholds. If the noise levels exceed 62.5 $L_{eq}$, the applicant shall implement noise abatement measures, which may include such measures as equipment silencers, enclosures, noise baffling, and/or berms. If the criterion is not exceeded, no additional action beyond monitoring shall be required.

**MM Gopher NOISE-5: Noise Monitoring.** The operator shall monitor noise levels at the property lines adjacent to residential uses in the first year of the initial construction and whenever construction operation changes. If noise levels exceed 62.5 dBA $L_{eq}$ at the property line, some or all of the following measures shall be implemented to reduce noise levels to below 62.5 dBA $L_{eq}$:

- Build temporary noise barriers or berms between construction activities and residences.
- Reduce the amount or size of construction equipment.

If the 62.5 dBA $L_{eq}$ threshold is not exceeded, no action beyond monitoring shall be necessary.

### Traffic Noise

*Criterion: An alternative would result in a significant adverse effect if the alternative would result in traffic noise on public roadways would exceed an exterior level of 60 dBA CNEL for single-family residential uses.*

**Impact Statement Gopher NOISE-3: Traffic noise associated with the Gopher Canyon Road Alternative would increase the noise levels at residences with existing exterior noise levels in excess of 60 dBA CNEL. Therefore, significant adverse traffic noise effects would occur.**

Operation of the proposed landfill would generate additional traffic on public roadways serving the landfill, and could, therefore, increase noise levels along these roadways. For the purpose of this impact analysis, the maximum impact traffic estimates were used to analyze the future traffic-related noise levels associated with the project. Although it is expected that once the landfill is opened, the daily volume of trucks may vary, the total number of trips generated by the landfill amounts to 673 truck trips and 32 passenger vehicle trips.[18]

A comparison of the estimated 60 CNEL contours under the Future No Federal Action and Future with Gopher Canyon Road Alternative conditions shows that the Gopher Canyon Road Alternative would not increase the number of residences that would be exposed to exterior noise levels in excess of 60 CNEL. The residences that are already located within the 60 CNEL contour would continue to be exposed to significant adverse noise effects under Future No Federal Action and Future with Gopher Canyon Road Alternative traffic conditions. However, the residences that are located along Gopher Canyon Road would be impacted by future traffic noise and would be impacted by noise from alternative-generated traffic.

Table 4.11-21, *Estimated Future Cumulative Traffic-Related Noise Levels with the Gopher Canyon Road Alternative*, presents the future traffic noise levels with the Gopher Canyon Road Alternative at 100 feet from the centerline of each of the roadways, as well as estimated distances to the 60, 65, and 70 CNEL contours. Figure 4.11-7, *Future Traffic Noise Levels with Gopher Canyon Road Alternative - 60 CNEL*, illustrates the approximate location of the 60 CNEL contour for the future condition with the Gopher Canyon Road Alternative. The projections do not take into account any barriers or topography that may reduce noise levels. Table 4.11-21 also shows that future traffic noise levels with the Gopher Canyon Road Alternative along Gopher Canyon Road would be in excess of 60 CNEL.

Although the majority of the noise on most of the roads would come from other traffic sources, the Gopher Canyon Road Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. In community noise assessments, noise level increases greater than 3 dBA are often considered significant. However, since the Gopher Canyon Road corridor is an existing degraded noise environment with noise levels exceeding 60 CNEL at existing residences and the alternative would increase the noise levels, even by a small margin, the alternative would have a significant adverse effect on the existing residences.

[18] *Traffic Impact Analysis, Gregory Canyon Landfill, Gopher Canyon Road Off-Site Alternative. Linscott, Law & Greenspan, Engineers. 2012.*

**Table 4.11-21**

**Estimated Future Cumulative Traffic-Related Noise Levels with the Gopher Canyon Road Alternative**

| | Estimated Future Cumulative Noise Levels @ 100 ft from Roadway (CNEL, dBA) | Estimated Distance to CNEL Contour from Centerline of Roadway (feet)[a] | | |
|---|---|---|---|---|
| | | 70 CNEL | 65 CNEL | 60 CNEL |
| **Gopher Canyon Road** | | | | |
| West of Project Access Road | 64.5 | 16 | 85 | 305 |
| Between Project Access Road and Vista Valley Drive | 64.7 | 18 | 90 | 320 |
| Between Vista Valley Drive and Twin Oaks Valley Road | 65.0 | 21 | 100 | 352 |
| Between Twin Oaks Valley Road and I-15 Ramp | 64.6 | 18 | 90 | 230 |

[a] The estimated noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels.

*Source: PCR Services Corporation, 2012*

Mitigation Measures

There are no feasible mitigation measures to reduce traffic noise. Therefore, this alternative would result in significant adverse effects regarding traffic noise.

### Vibration

*Criterion: An alternative would result in a significant adverse effect if vibration levels from the alternative's vibration sources would exceed the U.S. Bureau of Mines RI 8507 standards, which are adopted in the San Diego County Water Authority design procedure manual 02229-3 (February 1995).*

**Impact Statement Gopher NOISE-4: Blasting associated with the Gopher Canyon Road Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards, with the exception of the water tank located on the western portion of the site. Implementation of the proposed mitigation measures would prohibit blasting within the influence zone of the water tank and would require monitoring to ensure compliance with vibration standards. Therefore, no significant adverse effect with respect to vibration to nearby residences and infrastructure would occur.**

The Gopher Canyon Road Alternative site is generally undeveloped with a few existing residences and a water storage tank located on the western portion of the site. A small portion of the eastern side of the site contains National Quarries, which is a quarry and a processing plant for granite. No known utilities or utility easements transect the site.

The impact analysis is based on the previously conducted tests by Ogden Environmental and Energy Services (Ogden, 1996) as well as supplemental vibration impact modeling conducted by Investigative Science and

Engineering (ISE, 1998). As discussed previously for the Applicant's Proposed Alternative, impacts are expected if blasting occurs inside the influence zone for the respective frequency and maximum velocities. No impacts are expected outside this zone. For a groundborne vibrational wave with a 15 Hz primary component, the distance traveled by the wave would be 165 feet before diminishing to a level of 0.75 inches per second as set by the RI 8507 threshold (Table 4.11-11). A dominant blast frequency of 18 Hz would result in a distance of 155 feet before the blast wave drops below the RI 8507 threshold. The vibration technical report calculates the open face maximum amount of explosives per eight millisecond delay as being 34 pounds. Confined blasts should be scaled down by approximately a factor of nine (approximately four pounds of explosive per eight millisecond delay) to reduce excess vibration levels. No impacts are expected, provided confined blasting occurs at scaled velocity/charge ratios equal to or greater than the identified value of nine.

#### Impacts to Nearby Residences

Applying a margin of safety to the values discussed above gives an acceptable blast-receptor separation distance of approximately 230 feet. Since the nearest residential property line is approximately 500 feet from the landfill footprint and closest possible blasting point, no significant ground motion impacts would occur to the nearest residences. Written notice would be provided to residents within a one-mile radius of the blast site within 24 hours of the blasting. In summary, blasting operations would not produce significant impacts to nearby sensitive receptors, nor would applicable threshold criteria be exceeded.

#### Impacts to Existing Infrastructure

Based on the above analysis, an acceptable blast-receptor separation distance of approximately 230 feet would be sufficient to ensure vibration levels from the predicted dominant blast wave would not exceed the RI 8507 threshold at the water tank located on the western portion of the site. Mitigation is proposed to prohibit blasting within 230 feet of the water tank and supporting infrastructure.

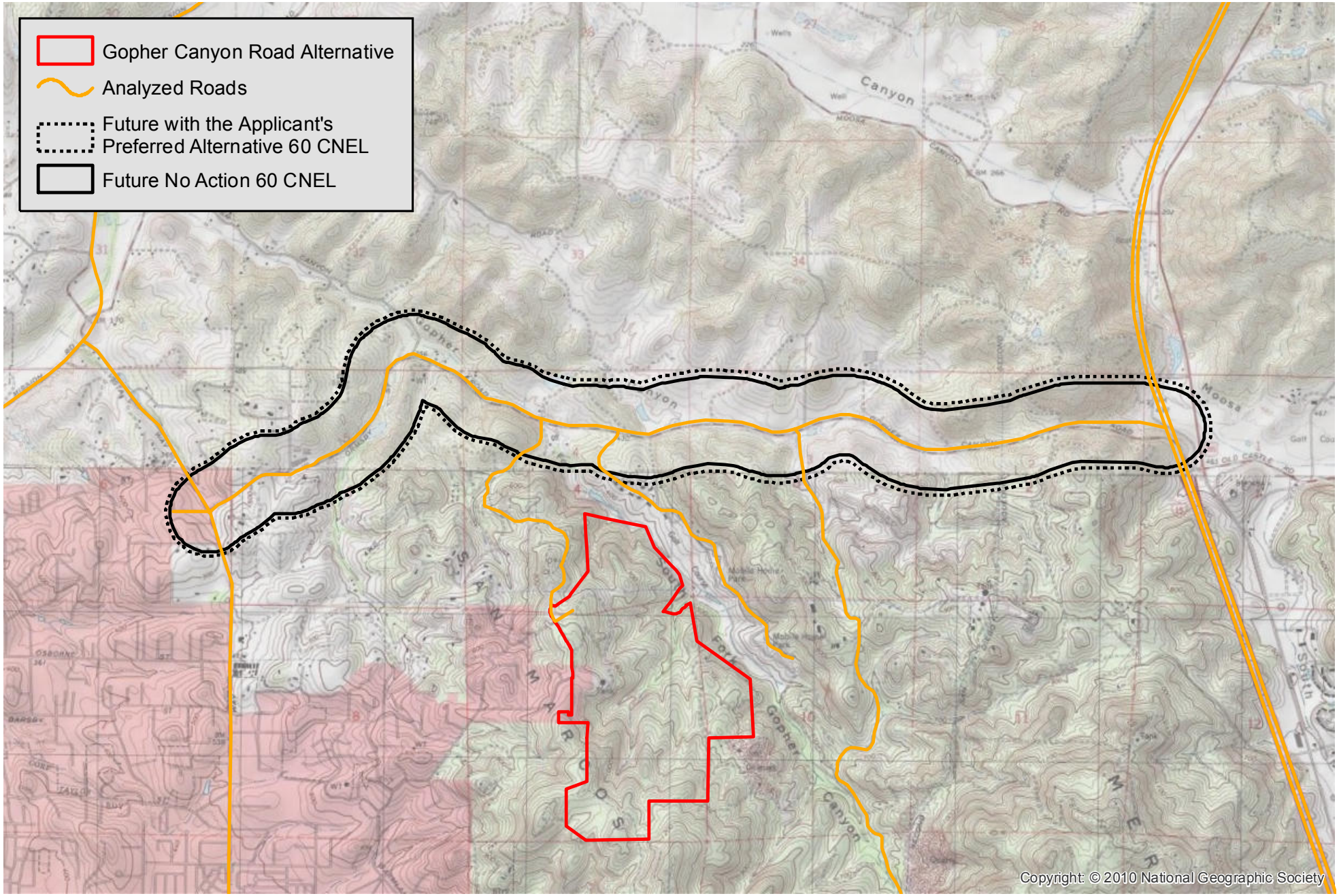
#### Pre-Blasting Construction Operations

In addition to the direct effects of blasting, preparation for blasting would require drilling and the movement of vehicles. However, vehicular activity would be similar to that associated with the Applicant's Proposed Alternative. Since these levels are below the applicable threshold criteria, no impacts are expected. Additionally, operation of pneumatic drills and hammers associated with blasting would occur at the blast site. Since this type of machinery produces vibration levels far below those set for the influence zone, no significant adverse effects are expected.

### Mitigation Measures

With the implementation of the mitigation measures proposed below, the Gopher Canyon Road Alternative would not result in significant adverse effects with respect to vibration from blasting.

**MM Gopher NOISE-6: Blasting Monitoring.** Blasting operations shall be monitored the first time such activity is conducted on-site to ensure that vibration level do not exceed the criterion. If the vibration levels exceed the criterion, the applicant shall prohibit blasting within the influence zone. If the criteria are not exceeded, no additional action beyond monitoring shall be required.




N

0 3,000 6,000 Feet

**Future Traffic Noise Levels with Gopher Canyon Road Alternative - 60 CNEL**

**Gregory Canyon**

Source: USGS Topographic Series (Bonsall, San Marcos, CA); PCR Services Corporation, 2012.

FIGURE

**4.11-7**

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**MM Gopher NOISE-7: Blasting Distance.** Blasting operations shall be prohibited within 230 feet of the water tank and supporting infrastructure.

## 4.11.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.11.7.1 Affected Environment

#### Existing Noise Levels

##### Ambient Noise Levels

Measurements of the existing ambient noise levels were performed at one location along the northern Merriam Mountain site boundary (M1) due to limited access to the site. See Figure 4.11-8, *Merriam Mountain Alternative - Noise Analysis Locations* for the ambient noise measurement location (M1) and sensitive receptor locations (M2, M3, and M4). Measurements were performed on January 11, 2012, by PCR Services Corporation using the Larson-Davis Model 820 noise monitor. A 15-minute measurement was taken at location M1 during daytime hours (3:00 P.M. to 4:00 P.M.). Traffic noise from I-15 dominated noise levels. In addition, typical noise sources include birds and the rustling of trees. The noise level 56.4 dBA, $L_{eq}$ was recorded.

##### Estimated Existing Roadway Noise Levels

Estimates of existing roadway noise levels in terms of CNEL were computed for the roadways that would serve the alternative site and are shown in Table 4.11-22, *Merriam Mountain Alternative Estimated Existing Traffic Noise Levels*. The values do not take into account the possible effects of existing noise barriers or topography. The table indicates that the areas along Deer Spring Road between Twin Oaks Valley Road and I-15 SB Ramps and Mountain Meadow Road between Champagne Boulevard and High Mountain Drive have an estimated existing noise level in excess of 65 CNEL which exceeds the County Noise Element's limits of 60 CNEL. The areas along Champagne Boulevard between Mountain Meadow Road and Lawrence Welk Drive have an estimated existing noise level in excess of 60 CNEL of the County Noise Element's limits.

### 4.11.7.2 Design Features

As with the Applicant's Proposed Alternative, the Merriam Mountain Alternative would include design features that would avoid, minimize, and reduce adverse noise levels at noise sensitive receptors, such as: limiting construction, drilling, and blasting activities to the hours designated by local, state, or federal ordinances; using construction equipment and trucks that are properly tuned and have noise muffling equipment that meets or exceeds applicable EPA standards; conducting drilling and blasting by state-licensed contractors; monitoring of noise levels at the property lines adjacent to residential uses in the first year of the initial construction and whenever the construction operation changes; and providing written notice to residents within a one-mile radius of blast sites at least 24 hours in advance of any blasting on-site. The Merriam Mountain Alternative would include the installation of a 5-foot high berm along the western boundaries of the borrow/stockpile area located near receptor location M4 to reduce noise levels at the property line.

**Table 4.11-22**

**Merriam Mountain Alternative Estimated Existing Traffic Noise Levels**

| Roadway Segment | Existing CNEL (dBA) at Referenced Distances from Roadway Right-of-Way [a] | |
|---|---|---|
| | 25 Feet | 50 Feet |
| **Deer Spring Road** | | |
| Between Twin Oaks Valley Road and I-15 SB Ramps | 68.6 | 66.5 |
| **Mountain Meadow Road** | | |
| Between Champagne Boulevard and High Mountain Drive | 65.7 | 63.9 |
| **Champagne Boulevard** | | |
| Between Mountain Meadow Road and Lawrence Welk Drive | 63.6 | 61.5 |
| **Lawrence Welk Drive** | | |
| Between Champagne Boulevard and Lawrence Welk Court | 49.4 | 47.3 |

[a] *Calculated based on existing traffic volumes.*

*Source: PCR Services Corporation, 2012*

## 4.11.7.3 Environmental Consequences and Mitigation Measures

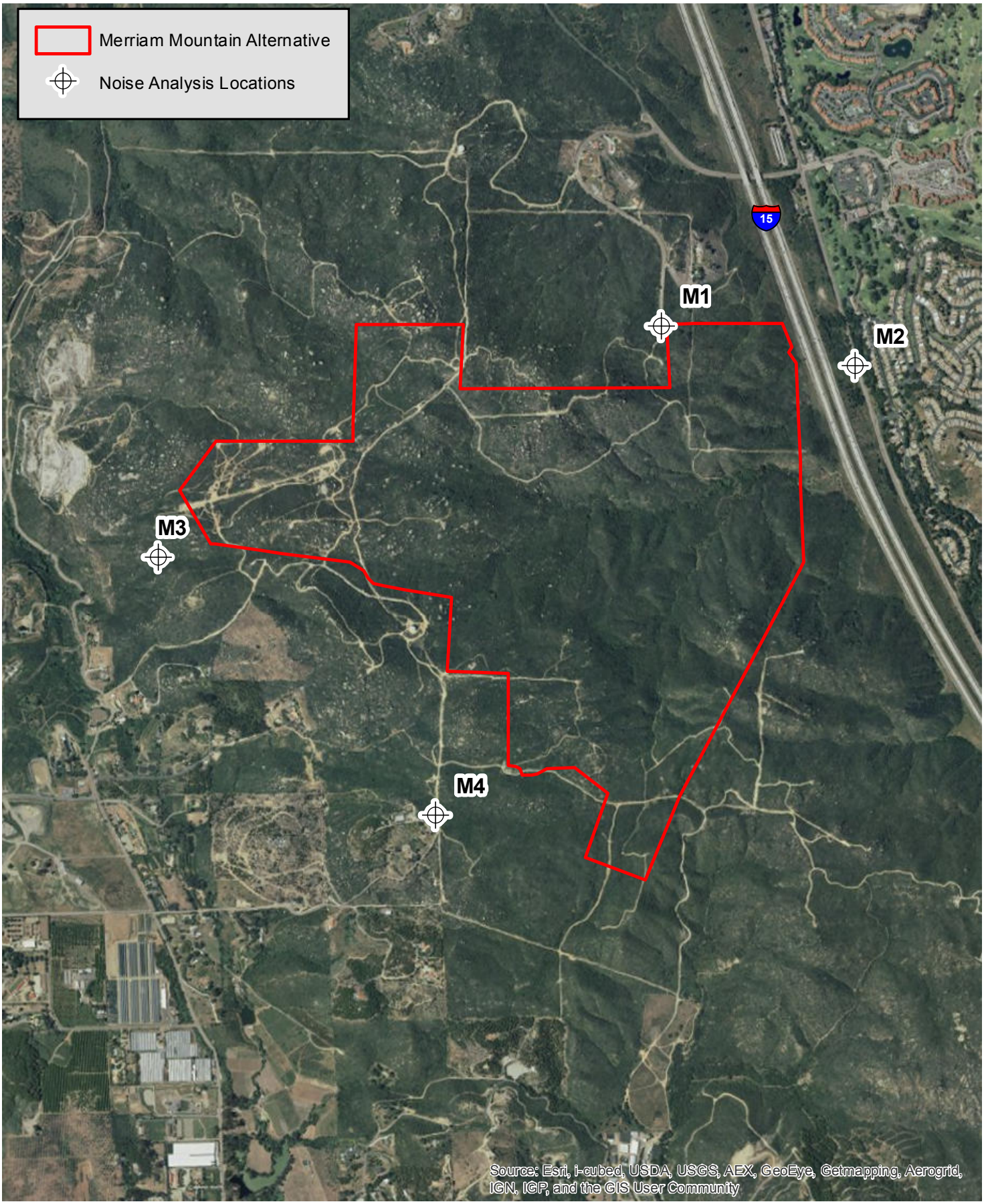
*Criterion: An alternative would result in a significant adverse effect if noise from the alternative's noise sources, other than traffic noise on public roadways, would exceed 62.5 dBA $L_{eq}$ at a residential use property line.*

### Construction Noise Impacts (Initial)

**Impact Statement Merriam NOISE-1: Initial construction activity associated with the Merriam Mountain Alternative would result in maximum construction noise levels at the nearest residential property line with implementation of design features of 61 dBA, which is less than the 62.5 dBA noise standard. Therefore, no significant adverse effects would occur.**

As is typical in the industry, the landfill would be developed in phases. The first phase of the landfill would be developed as part of the initial construction, along with the access road, ancillary facilities, borrow/stockpile area(s), and desilting basins. Distances to sensitive receptor locations are show in Table 4.11-23, *Merriam Mountain Alternative Distance to Sensitive Receptor Locations for Construction Activities*.

During the construction of the access road, there could be of crane, grader, dozer, excavator, water truck, loader, and compactor. Detailed noise calculations for construction activities are provided in Appendix K of this EIS. Based on these maximum impact conditions and the specified types of equipment, and the estimated peak noise levels generated by these equipment, the $L_{eq}$ noise level produced by construction activities on the Merriam Mountain Alternative site is estimated to be approximately 60 dBA at the closest residential property line (located approximately 600 feet from west of the access road construction site). As the access road construction-related noise would not exceed 62.5 dBA criterion at the nearest residential property line, no significant adverse effect would occur.




N

0 1,500 3,000 Feet

**Merriam Mountain Alternative - Noise Analysis Locations**

**Gregory Canyon**

Source: Aerial Express, 2010; PCR Services Corporation, 2012.

FIGURE

**4.11-8**

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**Table 4.11-23**

**Merriam Mountain Alternative Distance to Sensitive Receptor Locations for Construction Activities**

| | Distance to Receptors (feet) | | | |
|---|---|---|---|---|
| **Receptor** | **Access Road** | **Borrow/Stock Piles** | **Ancillary facilities** | **Landfill Operation** |
| Closest Residential Property Line | 650 | 1,700 | 800 | 1,600 |

*Source: PCR Services Corporation, 2012*

The use of borrow/stockpile areas (located approximately 1,700 feet (Receptor M3 and M4) from the eastern residential property lines) during initial construction would involve heavy earth moving equipment such as scrapers that could generate noise levels of 57 dBA at a distance of 1,700 feet. As noise levels would not exceed the 62.5 dBA criterion along the western property line adjacent to Receptor Location M3 and M4, initial construction generated noise levels would not result in significant adverse effects at these locations.

The ancillary facilities area would be located approximately 800 feet from the nearest residential property line near Location M1. During the construction of ancillary facilities, heavy earth moving equipment such as grader would generate noise levels of 61 dBA at a distance of 800 feet. As the ancillary facilities construction-related noise would not exceed the 62.5 dBA criterion at the nearest residential property line, no significant adverse effects would occur.

Mitigation Measures

With implementation of the design features that are incorporated into the Merriam Mountain Alternative, this alternative would not result in significant adverse noise effects during initial construction. No mitigation measures are proposed.

### Long-Term Noise Impacts (Operational)

**Impact Statement Merriam NOISE-2: Long-term operational noise associated with the Merriam Mountain Alternative would expose nearby residential uses to noise levels of 63.5 dBA including implementation of the design features, which would exceed the criterion of 62.5 dBA for residential uses. Mitigation measures, such as a reduction in the size or number of construction equipment and installation of a berm or sound barrier, as necessary are proposed to reduce noise levels to 62.5 dBA. With implementation of the proposed mitigation measures, impacts from periodic construction and landfill operations would be below the criterion. Blasting would be infrequent, but would cause noise levels to exceed 62.5 dBA at the nearest residential property line, which would result in a significant adverse effect.**

The nearest residences located near the Merriam Mountain Alternative are scattered to the east, west, and southwest of the site. These locations, which are representative of the nearest residential property lines, range between approximately 1,600 and 4,500 feet from the landfill footprint and range between approximately 1,300 and 4,500 feet from the potential borrow/stockpile areas. Operational noise impacts are divided into the following noise sources; ancillary facilities, borrow/stockpile area operation, landfill working face, and rock crushing/tire shredding.

### Ancillary Facilities Area

The ancillary facilities would be located in the northern portion of the site. As with the Applicant's Proposed Alternative, vehicles would enter the ancillary facilities area and would pass through the fee booth and scales. An administrative office building would be located adjacent to the booths. Other uses within the ancillary facilities area would include a recyclable drop-off area and a hazardous materials storage area.

The proposed flare station would be located a minimum distance of 900 feet from the closest residential property line adjacent to nearby off-site residences (see Figure 3-46 of this EIS for the location of the flare station). Noise levels generated by the flare station would be minor when compared to other project-generated noise sources within the site and would not exceed the standard of 62.5 dBA at the nearest residential property line. The flare station would not be installed until landfill gas is generated at levels that warrant the installation of the system. A noise verification specifically for this component of the facilities area would be conducted as part of the design process to ensure compliance with County established noise limits and standards. A sound wall at the base of the flare station and/or silencers on the equipment would be installed, as necessary. Any necessary adjustments would be made to the system to ensure compliance with the noise standards.

### Recycling Drop-Off Noise

The alternative would include a recycling drop-off facility for source separated materials. The proposed recycling drop-off facility would be located a minimum distance of 900 feet from the closest property line adjacent to nearby off-site residences. As shown in Table 4.11-24, *Merriam Mountain Alternative Landfill Operation Noise Levels at Property Line Individual and Combined Noise Levels*, a noise level of 65 dBA at 30 feet would be reduced to 35 dBA at 900 feet from the closest residential property line. As recycling drop-off related noise levels would not exceed the standard of 62.5 dBA at the nearest residential property line, no significant adverse noise effect on the surrounding residents would occur.

### Landfill Working Face

At most, nine (9) pieces of equipment which could include three dozers, three compactors, one grader and two scrapers may be in operation at the landfill working face at any one time. The landfill would have two separate working faces, one for commercial vehicles and one for smaller private vehicles. At its initial phase, the landfill would be depressed below the surrounding terrain. However, as the landfill reaches its vertical capacity, the final elevation would be higher than some of the surrounding areas and the natural shielding effect would be diminished or eliminated. Therefore, the noise levels projected at the top elevations would be considered maximum impact conditions. Detailed noise calculations for construction activities are provided in Appendix K of this EIS.

As shown in Table 4.11-24, it is estimated that the noise levels generated by the landfill working face activities alone would range from approximately 49 dBA $L_{eq}$ at Location M3 to 58 dBA $L_{eq}$ at Locations M1 and M2. These noise levels would fall below the 62.5 dBA $L_{eq}$ criterion.

### Borrow/Stockpile Area Operation

The Merriam Mountain Alternative would have four borrow/stockpile areas that would encompass approximately 46 acres. Two borrow/stockpile areas would be located on the western portion of the site adjacent to the landfill footprint and two borrow/stockpile areas would be located in the southern portion of

**Table 4.11-24**

**Merriam Mountain Landfill Operation Noise Levels at Property Line [a]**
**Individual and Combined Noise Levels**

| Location No./Operation [A] | Approximate Distance Between Location & Operation (feet) | Noise Levels $L_{eq}$ (DBA) |
|---|---|---|
| **Location M1 (Ambient 56.4)** | | |
| Ancillary Facility | 900 | 45 |
| Recycling Drop-Off | 900 | 35 |
| Landfill Working Face | 1,600 | 58 |
| Borrow/Stockpile Areas | 3,500 | 53 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location M1 Total From the Gopher Canyon Road Alternative** | -- | 61 |
| **Location M1 Total With Ambient** | | 62 |
| **Location M 2 (Ambient N/A)** | | |
| Ancillary Facility | 1,100 | 45 |
| Recycling Drop-Off | 1,100 | 34 |
| Landfill Working Face | 1,600 | 58 |
| Borrow/Stockpile Areas | 4,500 | 51 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location M2 Total From the Gopher Canyon Road Alternative** | -- | 60 |
| **Location M2 Total With Ambient** | | 60 |
| **Location M 3 (Ambient N/A)** | | |
| Ancillary Facility | 8,000 | 36 |
| Recycling Drop-Off | 8,000 | 16 |
| Landfill Working Face | 4,500 | 49 |
| Borrow/Stockpile Areas | 1,700 | 59 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location M3 Total from the Gopher Canyon Road Alternative** | -- | 61 |
| **Location M3 Total with Ambient** | | 61 |
| **Location M4 (Ambient N/A)** | | |
| Ancillary Facility | 6,300 | 37 |
| Recycling Drop-Off | 6,300 | 19 |
| Landfill Working Face | 2,500 | 54 |
| Borrow/Stockpile Areas | 1,300 | 57 |
| Rock Crushing or Tire Shredding | 1,500 | 54 |
| **Location M3 Total from the Gopher Canyon Road Alternative** | -- | 60 |
| **Location M3 Total with Ambient** | | 60 |

[a] *Noise levels represent nearest residential property lines (Figure 4.11-8)*

*Source: PCR Services Corporation, 2012*

the site to the south of the footprint. The potential borrow/stockpile areas could have a height on the order of 100 to 140 feet above existing grades. Based on this assumption, the noise level would be 62 dBA at 1,300 feet near Locations M4. It is assumed that a maximum impact condition would be when scrapers are

operating at the designated edge of the borrow/stockpile area located at the northeastern portion of the site. In this location, the nearest residential property line would be located 1,300 feet from the borrow/stockpile area. It is estimated that the noise levels generated at the borrow/stockpile activities would be 57 dBA at the locations closest to the Merriam Mountain Alternative site with the implementation of design features (Table 4.11-24) as the 5-foot high berm along the western boundaries of the borrow/stockpile area located near M4 would provide minimum of 5 dB noise reduction at the nearest residential property lines.[19] As shown in Table 4.11-24, noise from the borrow/stockpile areas would be 57 dBA, which would be below the criterion.

### Rock Crushing/Tire Shredding Operations

Rock crushing and tire shredding are proposed as part of the alternative and would occur within the southwestern portion of the landfill footprint. The rock crushing operation would primarily generate noise due to the trucks hauling the crushed rock from the rock crushing area. By itself, the rock crushing operation would generate an $L_{eq}$ noise level of 54 at a distance of 1,500 feet, which was the minimum distance necessary to ensure the Applicant's Proposed Alternative would not generate total operational noise (without periodic construction) levels in excess of the standards. The tire shredder would be brought on-site approximately once every six months or when tire volumesnecessitate. The predominant noise sources from the tire shredding operation are the engine and the cutting blades. Noise levels from the tire shredding operation would be comparable to that of the rock crushing operation. To maintain the 62.5 $L_{eq}$ at the property boundary a mitigation measure is proposed to ensure that the tire shredding and rock crushing occur at a minimum of 1,500 feet from Receptors M1 through M4 and that tire shredding and rock crushing operations do not occur at the same time.

### Periodic Construction

This section addresses the construction impacts associated with periodic construction including the excavation and blasting to open a new phase or cell. The nearest residences are located to the east and west of the site. The nearest residential property lines are located approximately 1,600 feet from the landfill footprint and 1,700 feet from the Borrow/Stockpile areas. Assuming maximum impact conditions (the maximum amount of construction equipment being used at the edge of the landfill), construction activities could generate a one-hour $L_{eq}$ noise level of approximately 58 dBA at the nearest residential property line located 1,600 feet from the landfill, which would not exceed the 62.5 dBA standard.

Blasting would be required during the landfill construction phases to fracture the underlying rock structure and ease the removal of and access final footprint elevations. Blasting noise consists largely of low frequency noise components. The human ear is less sensitive to low frequency noises than it is to high frequency noises, and the A-weighted noise scale which has a frequency correction that correlates overall sound pressure levels with the frequency response of the human ear weights the noise levels accordingly. The nearest residential property line is estimated to be located approximately 1,600 feet from the potential blasting operation. The anticipated maximum noise level associated with landfill-related blasting activities at 1,600 feet is 57.2 dBA ($L_{max}$). Therefore, blasting noise would not exceed the 62.5 dBA $L_{eq}$ standard at the nearest residential property line.

[19] *Highway Noise Barrier Design Handbook, FHWA, February 2000.*

### Total Combined Landfill Noise at the Nearest Residential Property Lines (Without Periodic Construction)

Because various activities would occur simultaneously at the landfill footprint and the borrow/stockpile areas, evaluation of the combined noise levels with ambient noise is necessary to determine the total noise effect at the three analysis locations (Figure 4.11-8). The closest points are estimated to range from 1,600 to 4,500 feet away from the landfill working face and between 1,300 and 4,500 feet from the stockpile/borrow areas. The rock crusher and tire shredder are portable and would be located no closer than 1,500 feet from the property line.

Table 4.11-24 summarizes the potential total landfill noise levels at the nearest receptors from all of the potential landfill-related noise sources. The total combined landfill noise due to all landfill and rock crushing activities operating simultaneously would be greater than noise due to individual landfill operation. Total landfill and rock crushing operations including ambient noise would result in noise levels ranging between approximately 60 dBA to 62 dBA, which is below the noise criterion of 62.5 dBA $L_{eq}$ at the property line.

### Total Combined Landfill Noise at the Nearest Residential Property Lines (With Periodic Construction)

As previously discussed, periodic construction activities could generate a one-hour $L_{eq}$ noise level of approximately 58 dBA at the closest residential property line. Due to the logarithmic nature of the decibel unit, the maximum noise level from periodic construction would not substantially change when added to the operational noise. In other words, the sum of the maximum periodic construction noise (58 dBA) and the maximum landfill operational noise level (62 dBA) would be 63.5 dBA (e.g., 58 dBA + 62 dBA = 63.5 dBA). Since periodic construction and landfill operational noise levels could exceed 62.5 dBA $L_{eq}$ at the property line, the applicant would implement the proposed mitigation measures to reduce the noise levels to below 62.5 dBA $L_{eq}$. The blasting noise level of 57.2 dBA combined with the highest measured operational and periodic construction noise level of 63.5 dBA would be 64.4 dBA. No feasible mitigation measures are available to reduce noise from blasting combined with operational and periodic construction noise to below 62.5 dBA.

#### Mitigation Measures

With the implementation of the mitigation measures proposed below, the Merriam Mountain Alternative would not result in significant adverse noise effects. No feasible mitigation measures are available to reduce blasting noise to below the criterion. While occurring infrequently, noise from blasting would cause a significant adverse effect.

**MM Merriam NOISE-1: Rock Crushing/Tire Shredding Location.** Rock crushing and tire shredding shall be located a minimum of 1,500 feet from a residential property line unless other forms of attenuation, such as berms or acoustical curtains, are used to reduce combined landfill noise levels to below 62.5 $L_{eq}$.

**MM Merriam NOISE-2: Rock Crushing/Tire Shredding Timing.** The operator shall ensure that rock crushing and tire shredding not occur at the same time.

**MM Merriam NOISE-3: Tire Shredding Monitoring.** Tire shredding operations shall be monitored the first time such activity is conducted on-site to ensure that noise level do not exceed the thresholds. If the noise levels exceed the criterion, the applicant shall implement noise abatement measures, which may include such measures as equipment silencers, enclosures, noise baffling, and/or berms. If the criterion is not exceeded, no additional action beyond monitoring shall be required.

**MM Merriam NOISE-4: Noise Monitoring.** The operator shall monitor noise levels at the property lines adjacent to residential uses in the first year of the initial construction and whenever construction operation changes. If noise levels exceed 62.5 dBA $L_{eq}$ at the property line, implement some or all of the following measures to reduce noise levels to below 62.5 dBA $L_{eq}$:

- Build temporary noise barriers or berms between construction activities and residences.
- Reduce the amount or size of construction equipment.

If the 62.5 dBA $L_{eq}$ criterion is not exceeded, no action beyond monitoring shall be necessary.

### Traffic Noise

*Criterion: An alternative would result in a significant adverse effect if traffic noise on public roadways would exceed an exterior level of 60 dBA CNEL for single-family residential uses.*

**Impact Statement Merriam NOISE-3: Traffic noise associated with the Merriam Mountain Alternative would increase the noise levels at residences with existing noise levels in excess of 60 dBA CNEL. Therefore, traffic would result in a significant adverse noise effect.**

Operation of the proposed landfill would generate additional traffic on public roadways serving the landfill, and could, therefore, increase noise levels along these roadways. For the purpose of this impact analysis, the maximum impact traffic estimates were used to analyze the future traffic-related noise levels associated with the project. Although it is expected that once the landfill is opened, the daily volume of trucks may vary, the total number of trips generated by the landfill amounts to 673 truck trips and 32 passenger vehicle trips.[20]

A comparison of the estimated 60 CNEL contours under the Future No Federal Action and Future with Merriam Mountain Alternative conditions shows that the Merriam Mountain Alternative would not increase the number of residences that would be exposed to exterior noise levels in excess of 60 CNEL. The residences that are already located within the 60 CNEL contour would continue to be exposed to significant adverse noise effects under Future No Federal Action and Future with Merriam Mountain Alternative traffic conditions. However, the residences that are located along Lawrence Welk Drive would be impacted by future traffic noise and would be impacted by noise from alternative-generated traffic.

[20] *Traffic Impact Analysis, Gregory Canyon Landfill, Merriam Mountain South Off-Site Alternative. Linscott, Law & Greenspan, Engineers. 2012.*

Table 4.11-25, *Estimated Future Cumulative Traffic-Related Noise Levels with the Merriam Mountain Alternative*, presents the future traffic noise levels with the Merriam Mountain Alternative at 100 feet from the centerline of each of the roadways, as well as estimated distances to the 60, 65, and 70 CNEL contours. Figure 4.11-9, *Future Traffic Noise Levels with Merriam Mountain Alternative - 60 CNEL*, illustrates the approximate location of the 60 CNEL contour for the future condition with the Merriam Mountain Alternative. The projections do not take into account any barriers or topography that may reduce noise levels. Table 4.11-25 also shows that future traffic noise levels with the Merriam Mountain Alternative along Mountain Meadow Road and Champagne Boulevard would be in excess of 60 CNEL.

**Table 4.11-25**

**Estimated Future Cumulative Traffic-Related Noise Levels with the Merriam Mountain Alternative**

| | Estimated Future Cumulative Noise Levels @ 100 ft from Roadway (CNEL, dBA) | Estimated Distance to CNEL Contour from Centerline of Roadway (feet)[a] | | |
|---|---|---|---|---|
| | | 70 CNEL | 65 CNEL | 60 CNEL |
| **Deer Spring Road** | | | | |
| Between Twin Oaks Valley Road and I-15 SB Ramps | 65.5 | 25 | 115 | 397 |
| **Mountain Meadow Road** | | | | |
| Between Champagne Boulevard and High Mountain Drive | 63.4 | 4 | 61 | 243 |
| **Champagne Boulevard** | | | | |
| Between Mountain Meadow Road and Lawrence Welk Drive | 62.4 | 4 | 48 | 186 |
| **Lawrence Welk Drive** | | | | |
| Between Champagne Boulevard and Lawrence Welk Court | 56.0 | -11 | -1 | 30 |

[a] The estimated noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels.

*Source: PCR Services Corporation, 2012*

Although the majority of the noise on most of the roads would come from other traffic sources, the Merriam Mountain Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. In community noise assessments, noise level increases greater than 3 dBA are often considered significant. However, since the Deer Spring Road, Mountain Meadow Road, and Champagne Boulevard corridors are existing degraded noise environments with noise levels exceeding 60 CNEL at existing residences and the alternative would increase the noise levels, even by a small margin, the alternative would have a significant adverse noise effect on the existing residences.

Mitigation Measures

There are no feasible mitigation measures to reduce traffic noise to below the criterion. With implementation of the design features that are incorporated into the Merriam Mountain Alternative, this alternative would result in significant adverse effects regarding traffic noise.

### Vibration

*Criterion: An alternative would result in a significant adverse effect if vibration levels from the alternative's vibration sources would exceed the U.S. Bureau of Mines RI 8507 standards, which are adopted in the San Diego County Water Authority design procedure manual 02229-3 (February 1995).*

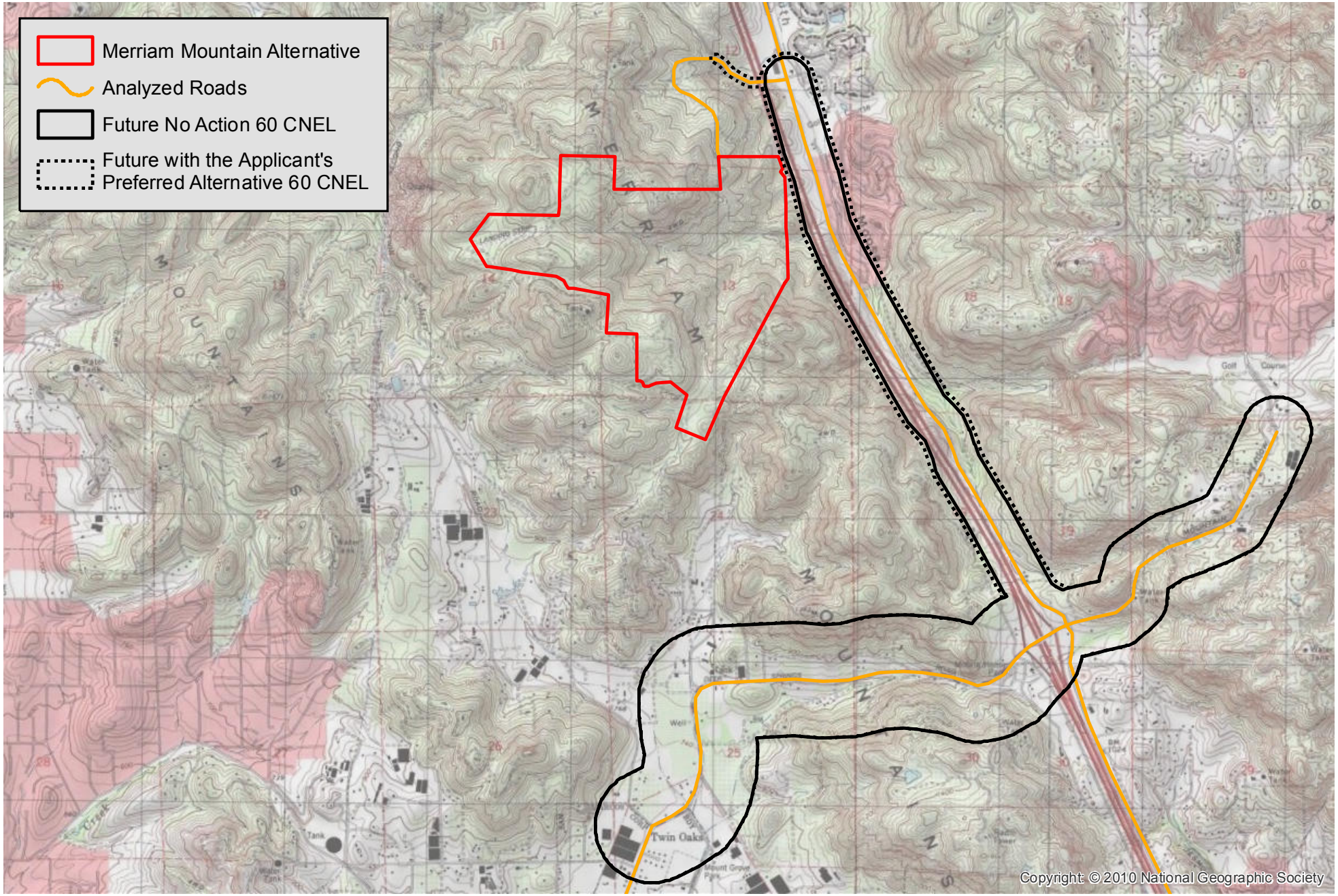
**Impact Statement Merriam NOISE-4: Blasting associated with the Merriam Mountain Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards. Therefore, no significant adverse vibration effects to nearby residences would occur.**

The Merriam Mountain site is designated Semi-Rural Residential, (SR-4), Rural Lands (RL-20), Specific Plan Area, Public/Semi-Public Facilities, and Public Agency Lands in the County's General Plan. The Merriam Mountain Alternative site is undeveloped, with the exception of several paved and dirt access roads that traverse the site. The site is located in the middle of the Merriam Mountain range and a significant amount of land surrounding the site is also vacant. No known utilities or utility easements transect the site.

The impact analysis is based on the previously conducted tests by Ogden Environmental and Energy Services (Ogden, 1996) as well as supplemental vibration impact modeling conducted by Investigative Science and Engineering (ISE, 1998). As discussed previously for the Applicant's Proposed Alternative, impacts are expected if blasting occurs inside the influence zone for the respective frequency and maximum velocities. No impacts are expected outside this zone. For a groundborne vibrational wave with a 15 Hz primary component, the distance traveled by the wave would be 165 feet before diminishing to a level of 0.75 inches per second as set by the RI 8507 threshold (Table 4.11-11). A dominant blast frequency of 18 Hz would result in a distance of 155 feet before the blast wave drops below the RI 8507 threshold. The vibration technical report calculates the open face maximum amount of explosives per eight millisecond delay as being 34 pounds. Confined blasts should be scaled down by approximately a factor of nine (approximately four pounds of explosive per eight millisecond delay) to reduce excess vibration levels. No impacts are expected, provided confined blasting occurs at scaled velocity/charge ratios equal to or greater than the identified value of nine.

#### Impacts to Nearby Residences

Applying a margin of safety to the values discussed above gives an acceptable blast-receptor separation distance of approximately 230 feet. Since the nearest residential property line is approximately 1,600 feet from the landfill footprint and closest possible blasting point, no significant adverse ground motion effects would occur to the nearest residences. Written notice would be provided to residents within a one-mile radius of the blast site within 24 hours of the blasting. In summary, blasting operations would not produce significant adverse effects to nearby sensitive receptors as applicable criteria would not be exceeded.




N

0 3,000 6,000 Feet

**Future Traffic Noise Levels with Merriam Mountain Alternative - 60 CNEL**

**Gregory Canyon**

Source: USGS Topographic Series (San Marcos, Valley Center, CA); PCR Services Corporation, 2012.

FIGURE

**4.11-9**

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#### Pre-Blasting Construction Operations

In addition to the direct effects of blasting, preparation for blasting would require drilling and the movement of vehicles. However, vehicular activity would be similar to that associated with the Applicant's Proposed Alternative. Since these levels are below the applicable criteria, no impacts are expected. Additionally, operation of pneumatic drills and hammers associated with blasting would occur at the blast site. Since this type of machinery produces vibration levels far below those set for the influence zone, no significant adverse effects are expected.

Mitigation Measures

With implementation of the design features that are incorporated into the Merriam Mountain Alternative, this alternative would not result in significant adverse effects regarding vibration. No mitigation measures are proposed.

## 4.11.8 EAST OTAY MESA ALTERNATIVE

### 4.11.8.1 Affected Environment

#### Existing Noise Levels

#### Ambient Noise Levels

Measurements of the existing ambient noise levels were performed at one location along the Paseo De La Fuente (E3) due to limited access to the site. See Figure 4.11-10, *East Otay Mesa Alternative - Noise Analysis Locations* for the ambient noise measurement location (E3) and sensitive receptor locations (E1 and E2). Measurements were performed on July 10, 2012, by PCR Services Corporation using the Larson-Davis Model 820 noise monitor. A 15-minute measurement was taken at location E3 during daytime hours (12:00 P.M. to 1:00 P.M.). Typical noise sources included birds, the rustling of trees, and noise from nearby power plant. The noise level 49.7 dBA, $L_{eq}$ was recorded.

#### Estimated Existing Roadway Noise Levels

Estimates of existing roadway noise levels in terms of CNEL were computed for the roadways that would serve the site and are shown in Table 4.11-26, *East Otay Mesa Alternative Estimated Existing Traffic Noise Levels*. The values do not take into account the possible effects of existing noise barriers or topography. The table indicates that areas along Siempre Viva Road have an estimated existing noise level in excess of 65 CNEL which exceeds the County Noise Element's limits of 60 CNEL.

### 4.11.8.2 Design Features

As with the Applicant's Proposed Alternative, the East Otay Mesa Alternative would include design features that would avoid, minimize, and reduce adverse noise levels at noise sensitive receptors, such as: limiting construction, drilling, and blasting activities to the hours designated by local, state, or federal ordinances; using construction equipment and trucks that are properly tuned and have noise muffling equipment that meets or exceeds applicable EPA standards; conducting drilling and blasting by state-licensed contractors; monitoring of noise levels at the property lines adjacent to residential uses in the first year of the initial

**Table 4.11-26**

**East Otay Mesa Alternative Estimated Existing Traffic Noise Levels**

| Roadway Segment | Existing CNEL (dBA) at Referenced Distances from Roadway Right-of-Way [a] | |
|---|---|---|
| | 25 Feet | 50 Feet |
| **Siempre Viva Road** | | |
| Between SR-905 NB Ramps and Paseo de las America | 72.0 | 70.3 |
| Between Paseo de las America and Michael Faraday Drive | 66.8 | 65.0 |
| Between Michael Faraday Drive and Enrico Fermi Drive | 64.9 | 63.2 |
| Between East of Enrico Fermi Drive | 54.5 | 52.4 |

[a] *Calculated based on existing traffic volumes.*

*Source: PCR Services Corporation, 2012*

construction and whenever the construction operation changes; and providing written notice to residents within a one-mile radius of blast sites at least 24 hours in advance of any blasting on-site.

## 4.11.8.3 Environmental Consequences and Mitigation Measures

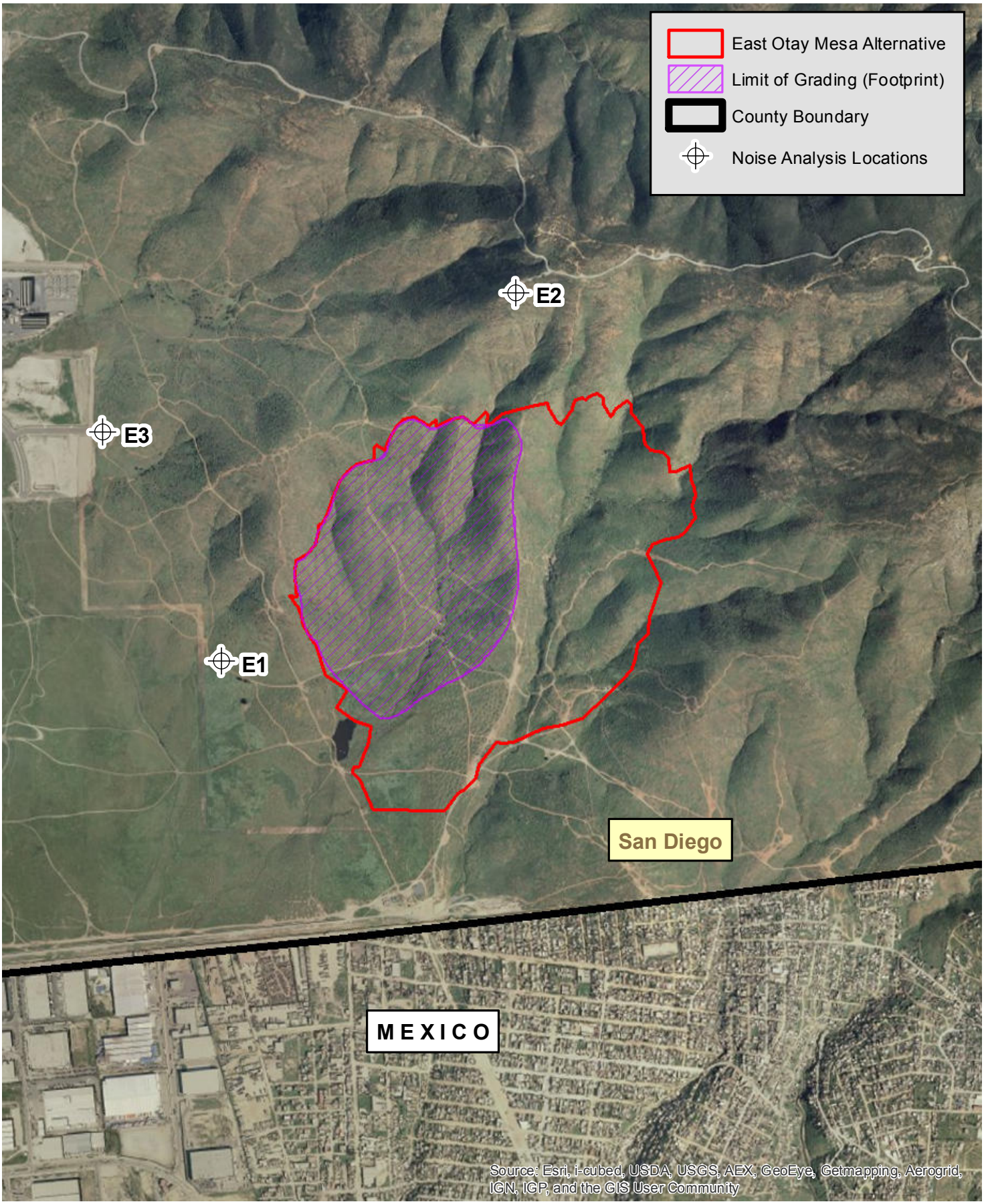
*Criterion: An alternative would result in a significant adverse effect if noise from alternative's noise sources, other than traffic noise on public roadways, would exceed 62.5 dBA $L_{eq}$ at a residential property line.*

### Construction Noise Impacts (Initial)

**Impact Statement East Otay NOISE-1: Initial construction activity associated with the East Otay Mesa Alternative would result in construction noise levels at the nearest residential property line with implementation of design features of 56 dBA, which is less than the 62.5 dBA noise standard. No significant adverse effects would occur.**

As is typical in the industry, the landfill would be developed in phases. The first phase of the landfill would be developed as part of the initial construction, along with the access road, ancillary facilities, borrow/stockpile area(s), and desilting basins. There are no current residential uses within 5,000 feet from the landfill boundary. However, according to East Otay Mesa Specific Plan, future residential uses could be located approximately 1,000 feet from the site. Therefore, a 1,000-foot distance to future sensitive receptor locations are shown in Table 4.11-27, *East Otay Mesa Alternative Distance to Future Potential Sensitive Receptor Locations for Construction Activities*.

During the construction of the access road, there could be of grader, dozer, water truck, and compactor. Detailed noise calculations for construction activities are provided in Appendix K of this EIS. Based on these maximum impact conditions and the specified types of equipment, and the estimated peak noise levels generated by these equipment, the $L_{eq}$ noise level produced by construction activities on the East Otay Mesa Alternative site is estimated to be approximately 56 dBA at the closest future potential residential property line (located approximately 1,000 feet from the access road construction site). As the access road construction-related noise would not exceed 62.5 dBA criterion at the nearest residential property line, no significant adverse effect would occur.




N

0 1,500 3,000 Feet

**East Otay Mesa Alternative - Noise Analysis Locations**

**Gregory Canyon**

Source: Aerial Express, 2010; PCR Services Corporation, 2012.

FIGURE

**4.11-10**

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**Table 4.11-27**

**East Otay Mesa Alternative Distance to Future Potential Sensitive Receptor Locations for Construction Activities**

| | Distance to Receptors (feet) | | | |
|---|---|---|---|---|
| **Receptor** | **Access Road** | **Borrow/Stock Piles** | **Ancillary facilities** | **Landfill Operation** |
| Closest Future Potential Residential Property Line | 1,000 | 1,500 | 1,000 | 1,000 |

*Source: PCR Services Corporation, 2012*

The use of borrow/stockpile areas located approximately 1,500 feet from future potential residential property lines (Location E2) west of the site during initial construction would involve heavy earth moving equipment such as scrapers that could generate noise levels of 58 dBA at a distance of 1,500 feet. As noise levels would not exceed the 62.5 dBA criterion along the northern property line adjacent to Receptor Location E2, initial construction generated noise levels would not result in a significant adverse effect. The ancillary facilities area would be located approximately 2,000 feet from a nearest future potential residential property line. During the construction of ancillary facilities, heavy earth moving equipment such as grader would generate noise levels of 53 dBA at a distance of 2,000 feet. As the ancillary facilities construction-related noise would not exceed 62.5 dBA criterion at the nearest residential property line.

Mitigation Measures

With implementation of the design features that are incorporated into the East Otay Mesa Alternative, this alternative would not result in significant adverse noise effects during initial construction. No mitigation measures are proposed.

### Long-Term Noise Impacts (Operational)

**Impact Statement East Otay NOISE-2: Long-term operational noise associated with the East Otay Mesa Alternative would be 63 dBA at the nearest residential property line with implementation of the design features, which would exceed the noise standard of 62.5 dBA. Mitigation is proposed to monitor, reduce the size or number of construction equipment, and install a berm or sound barrier, as necessary to reduce noise levels to 62.5 dBA. With implementation of the proposed mitigation measures, no significant adverse noise effects from periodic construction and landfill operations would occur. Blasting would be infrequent, but would cause noise levels to exceed 62.5 dBA at the nearest residential property line, which is considered a significant adverse effect.**

The nearest future potential residences located near the East Otay Mesa Alternative would be scattered to the west and north of the site. These locations, which are representative of the nearest residential property lines, would be approximately 1,000 feet from the landfill footprint and be approximately 1,500 feet from the potential borrow/stockpile areas. Operational noise impacts are divided into the following noise sources; ancillary facilities, borrow/stockpile area operation, landfill working face, and rock crushing/tire shredding.

### Ancillary Facilities Area

The ancillary facilities would be located in the northern portion of the site. As with the Applicant's Proposed Alternative, vehicles would enter the ancillary facilities area and would pass through the fee booth and scales. An administrative office building would be located adjacent to the booths. Other uses within the ancillary facilities area would include a recyclable drop-off area and a hazardous materials storage area.

The flare station, which would burn methane collected in the gas system, is a potential noise source and would operate 24 hours a day. The proposed flare station would be located a minimum distance of 2,000 feet from the closest future potential residential property line (see Figure 3-49 of this EIS for the location of the flare station). Noise levels generated by the flare station would be minor when compared to other alternative-generated noise sources within the site and would not exceed the standard of 62.5 dBA at the nearest residential property line. The flare station would not be installed until landfill gas is generated at levels that warrant the installation of the system. A noise verification specifically for this component of the facilities area would be conducted as part of the design process to ensure compliance with County established noise limits and standards. A sound wall at the base of the flare station and/or silencers on the equipment would be installed, as necessary. Any necessary adjustments would be made to the system to ensure compliance with the noise standards.

### Recycling Drop-Off Noise

The alternative would include a recycling drop-off facility for source separated materials. No sorting, or cleaning would be done to the materials at the site. The proposed recycling drop-off facility would be located a minimum distance of 2,000 feet from the closest property line adjacent to nearby off-site future potential residences. As shown in Table 4.11-28, *East Otay Mesa Alternative Landfill Operation Noise Levels at Property Line Individual and Combined Noise Levels*, noise level of 65 dBA at 30 feet would be reduced to 29 dBA at 2,000 feet from the closest future potential residential property line. The recycling drop-off related noise levels would not exceed the standard of 62.5 dBA at the nearest residential property line.

### Landfill Working Face

At most, nine (9) pieces of equipment which could include three dozers, three compactors, one grader and two scrapers may be in operation at the landfill working face at any one time. The landfill would have two separate working faces, one for commercial vehicles and one for smaller private vehicles. At its initial phase, the landfill would be depressed below the surrounding terrain. However, as the landfill reaches its vertical capacity, the final elevation would be higher than some of the surrounding areas and the natural shielding effect would be diminished or eliminated. Therefore, the noise levels projected at the top elevations would be considered maximum impact conditions. The alternative would include ten-foot high berms along the northern and western edges of the landfill working face to block the line of sight to the nearest future potential residences and property lines north and west of the landfill. Detailed noise calculations for construction activities are provided in Appendix K of this EIS.

As shown in Table 4.11-28, it is estimated that the noise levels generated by the landfill working face activities alone would range from approximately 52 dBA $L_{eq}$ at Location E1 and Location E2. These noise levels would fall below the 62.5 dBA $L_{eq}$ criterion.

**Table 4.11-28**

**East Otay Mesa Alternative Landfill Operation Noise Levels at Property Line [a]**
**Individual and Combined Noise Levels**

| Location No./Operation [a] | Approximate Distance Between Location & Operation (feet) | Noise Levels $L_{eq}$ (DBA) |
|---|---|---|
| | **Location E1 (Ambient N/A)** | |
| Ancillary Facility | 2,000 | 42 |
| Recycling Drop-Off | 2,000 | 29 |
| Landfill Working Face | 1,000 | 52 |
| Borrow/Stockpile Areas | 3,500 | 43 |
| Rock Crushing or Tire Shredding | 700 | 61 |
| **Location E1 Total From the East Otay Mesa Alternative** | -- | 62 |
| **Location E1 Total With Ambient** | | 62 |
| | **Location E2 (Ambient N/A)** | |
| Ancillary Facility | 4,500 | 28 |
| Recycling Drop-Off | 4,500 | 21 |
| Landfill Working Face | 1,000 | 52 |
| Borrow/Stockpile Areas | 1,500 | 50 |
| Rock Crushing or Tire Shredding | 700 | 61 |
| **Location E2 Total From the East Otay Mesa Alternative** | -- | 62 |
| **Location E2 Total With Ambient** | | 62 |

[a] *Noise levels represent nearest future potential residential property lines*

*Source: PCR Services Corporation, 2012*

## Borrow/Stockpile Area Operation

The conceptual borrow/stockpile area identified encompasses approximately 46.5 acres and is located in the northern portion of canyons east of the landfill footprint. A potential stockpile in this area could have a height up to 250 feet above existing grades. The borrow/stockpile areas are assumed to require 10 scrapers. Based on this assumption, the noise level would be 50 dBA at 1,500 feet. It is assumed that a maximum impact condition would be when scrapers are operating at the designated edge of the borrow/stockpile area located at the northeastern portion of the site approximately 1,500 feet from the nearest residential property line. It is estimated that the noise levels generated at the borrow/stockpile activities would be 50 dBA at the locations closest to the East Otay Mesa Alternative site with the implementation of the design feature (Table 4.11-28) since 10-foot high berm along the western and northern boundaries of the borrow/stockpile area located near E1 and E2, respectively, would provide minimum of 10 dB noise reduction at the nearest residential property lines.[21] As shown in Table 4.11-28, noise from the borrow/stockpile areas would be 50 dBA, which would be below the criterion.

[21] *Highway Noise Barrier Design Handbook, FHWA, February 2000.*

### Rock Crushing/Tire Shredding Operations

Rock crushing and tire shredding are proposed as part of the alternative and would occur within the southwestern portion of the landfill footprint (Figure 4.11-10). The analysis provides for transport of excess aggregate off-site for sale.[22]

The rock crushing operation would primarily generate noise due to the trucks hauling the crushed rock from the rock crushing area. Based on a noise analysis for a similar rock crushing operation (Arroyo Trabuco Sand and Gravel Operation), noise levels that would be generated by the rock crushing operation were calculated. By itself, the rock crushing operation would generate an $L_{eq}$ noise level of 61 at a distance of 700 feet. The tire shredder would be brought on-site approximately once every six months or when tire volumes necessitate. The predominant noise sources from the tire shredding operation are the engine and the cutting blades. Noise levels from the tire shredder would be comparable to that of the rock crushing operation. To maintain the 62.5 dBA $L_{eq}$ at the property boundary a mitigation measure is proposed to ensure that the tire shredding and rock crushing occurs at a minimum of 1,500 feet from Receptors E1 and E2 and that tire shredding and rock crushing operations do not occur at the same time.

### Periodic Construction

This section addresses the construction impacts associated with periodic construction including the excavation and blasting to open a new phase or cell. The nearest residences are located to the east, west, and southwest of the site. The nearest residential property lines are located approximately 1,000 feet from the landfill footprint and 1,500 feet from the borrow/stockpile areas.

Assuming maximum impact conditions (the maximum amount of construction equipment being used at the edge of the landfill), construction activities could generate a one-hour $L_{eq}$ noise level of approximately 61.5 dBA at the nearest future potential residential property line located 1,000 feet from the landfill, which would not exceed the 62.5 dBA standard.

Blasting would be required during the landfill construction phases to fracture the underlying rock structure and ease the removal of and access final footprint elevations. Blasting noise consists largely of low frequency noise components. The human ear is less sensitive to low frequency noises than it is to high frequency noises, and the A-weighted noise scale which has a frequency correction that correlates overall sound pressure levels with the frequency response of the human ear weights the noise levels accordingly. The nearest future potential residential property line is estimated to be located approximately 1,000 feet from the potential blasting operation. The anticipated maximum noise level associated with landfill-related blasting activities at 1,000 feet is 61.3 dBA ($L_{max}$). Therefore, blasting noise by itself would not exceed the 62.5 dBA $L_{eq}$ standard at the nearest residential property line.

### Total Combined Landfill Noise at the Nearest Residential Property Lines (Without Periodic Construction)

Because various activities would occur simultaneously at the landfill footprint and the borrow/stockpile areas, evaluation of the combined noise levels with ambient noise is necessary to determine the total noise

[22] *A Major Use Permit is required for the exportation or sale of aggregate material and would be obtained if necessary. However, the noise analysis assumes the exportation of rock since this represents a maximum impact scenario.*

effect at the three analysis locations (Figure 4.11-10). The closest points are estimated to be approximately 1,000 feet away from the landfill working face and between 1,500 and 3,500 feet from the stockpile/borrow areas. The rock crusher and tire shredder are portable and would be located no closer than 1,500 feet from the property line.

Table 4.11-28 summarizes the potential total landfill noise levels at the nearest receptors from all of the potential landfill-related noise sources. The total combined landfill noise due to all landfill and rock crushing activities operating simultaneously would be greater than noise due to individual landfill operation. Total landfill and rock crushing operations including ambient noise would result in noise levels of approximately 62 dBA, which is below the noise criteria of 62.5 dBA $L_{eq}$ at the property line. Therefore, no significant adverse effects with respect to noise would occur during operation.

### Total Combined Landfill Noise at the Nearest Residential Property Lines (With Periodic Construction)

As previously discussed, periodic construction activities could generate a one-hour $L_{eq}$ noise level of approximately 61.5 dBA at the closest residential property line. Due to the logarithmic nature of the decibel unit, the sum of the maximum periodic construction noise (61.5 dBA) and the maximum landfill operational noise level (62 dBA) would be 64.8 dBA (e.g., 61.5 dBA + 62 dBA = 64.8 dBA). Since periodic construction and landfill operational noise levels could exceed 62.5 dBA $L_{eq}$ at the property line, the applicant would implement the proposed mitigation measures to reduce the noise levels to below 62.5 dBA $L_{eq}$. The blasting noise combined with the highest measured operational noise level of 64.8 dBA would be 66.4 dBA. No feasible mitigation measures are available to reduce noise from blasting combined with operational and periodic construction noise to below 62.5 dBA.

#### Mitigation Measures

With the implementation of the mitigation measure proposed below, the East Otay Mesa Alternative would not result in significant adverse noise effects, with the exception of noise from blasting. No feasible mitigation measures are available to reduce blasting noise to below the criterion. While occurring infrequently, noise from blasting would cause a significant adverse effect.

**MM East Otay NOISE-1: Rock Crushing/Tire Shredding Location.** Rock crushing and tire shredding shall be located a minimum of 1,500 feet from a residential property line unless other forms of attenuation, such as berms or acoustical curtains, are used to reduce combined landfill noise levels to below 62.5 $L_{eq}$.

**MM East Otay NOISE-2: Rock Crushing/Tire Shredding Timing.** The operator shall ensure that rock crushing and tire shredding not occur at the same time.

**MM East Otay NOISE-3: Tire Shredding Monitoring.** Tire shredding operations shall be monitored the first time such activity is conducted on-site to ensure that noise level do not exceed the thresholds. If the noise levels exceed the criterion, the applicant shall implement noise abatement measures, which may include such measures as equipment silencers, enclosures, noise baffling, and/or berms. If the criterion is not exceeded, no additional action beyond monitoring shall be required.

**MM East Otay NOISE-4: Noise Monitoring.** The operator shall monitor noise levels at the property lines adjacent to residential uses in the first year of the initial construction and whenever construction operation changes. If noise levels exceed 62.5 dBA $L_{eq}$ at the property line, implement some or all of the following measures to reduce noise levels to below 62.5 dBA $L_{eq}$:

- Build temporary noise barriers or berms between construction activities and residences.
- Reduce the amount or size of construction equipment.

If the 62.5 dBA $L_{eq}$ threshold is not exceeded, no action beyond monitoring shall be necessary.

### Traffic Noise Impacts

*Criterion: An alternative would result in a significant adverse effect if traffic noise on public roadways would exceed 60 dBA CNEL for exterior single-family residential uses.*

**Impact Statement East Otay NOISE-3: Traffic noise associated with the East Otay Mesa Alternative would increase the noise levels at residences with existing exterior noise levels in excess of 60 dBA CNEL. Therefore, significant adverse traffic noise effects would occur.**

Operation of the proposed landfill would generate additional traffic on public roadways serving the landfill, and could, therefore, increase noise levels along these roadways. For the purpose of this impact analysis, the maximum impact traffic estimates were used to analyze the future traffic-related noise levels associated with the project. Although it is expected that once the landfill is opened, the daily volume of trucks may vary, the total number of trips generated by the landfill amounts to 596 truck trips and 64 passenger vehicle trips.[23]

A comparison of the estimated 60 CNEL contours under the Future No Federal Action and Future with East Otay Mesa Alternative conditions shows that the East Otay Mesa Alternative would not increase the number of residences that would be exposed to exterior noise levels in excess of 60 CNEL. The future residences that may already be located within the 60 CNEL contour would continue to be exposed to significant adverse noise effects under Future No Federal Action and Future with East Otay Mesa Alternative traffic conditions. However, future residences that may be located along Siempre Viva Road would be impacted by future traffic noise and would be impacted by noise from landfill-generated traffic.

Table 4.11-29, *Estimated Future Cumulative Traffic-Related Noise Levels with the East Otay Mesa Alternative*, presents the future traffic noise levels with the East Otay Mesa Alternative at 100 feet from the centerline of each of the roadways, as well as estimated distances to the 60, 65, and 70 CNEL contours. Figure 4.11-11, *Future Traffic Noise Levels with East Otay Mesa Alternative – 60 CNEL*, illustrates the approximate location of the 60 CNEL contour for the future condition with the East Otay Mesa Alternative. The projections do not take into account any barriers or topography that may reduce noise levels. Table 4.11-29 also shows that future traffic noise levels with the East Otay Mesa Alternative along Siempre Viva Road would be in excess of 60 CNEL.

[23] *Traffic Impact Analysis, Gregory Canyon Landfill, East Otay Mesa Off-Site Alternative. Linscott, Law & Greenspan, Engineers, 2012.*

**Table 4.11-29**

**Estimated Future Cumulative Traffic-Related Noise Levels with the East Otay Mesa Alternative**

| | Estimated Future Cumulative Noise Levels @ 100 ft from Roadway (CNEL, dBA) | Estimated Distance to CNEL Contour from Centerline of Roadway (feet)[a] | | |
|---|---|---|---|---|
| | | 70 CNEL | 65 CNEL | 60 CNEL |
| **Siempre Viva Road** | | | | |
| Between SR-905 NB Ramps and Paseo de las America | 71.1 | 134 | 489 | 1611 |
| Between Paseo de las America and Michael Faraday Drive | 67.6 | 48 | 205 | 703 |
| Between Michael Faraday Drive and Enrico Fermi Drive | 67.1 | 40 | 180 | 624 |
| East of Michael Faraday Drive | 62.9 | 7 | 56 | 211 |
| To Access Road | 62.5 | 5 | 49 | 191 |

[a] *The estimated noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels.*

*Source: PCR Services Corporation, 2012*

Although the majority of the noise on most of the roads would come from other traffic sources, the East Otay Mesa Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. In community noise assessments, noise level increases greater than 3 dBA are often considered significant. However, since the Siempre Viva Road corridor is an existing degraded noise environments with noise levels exceeding 60 CNEL at areas zoned for future residential use and the alternative would increase the noise levels, even by a small margin, the alternative would result in a significant adverse effect with respect to noise to future residences.

### Mitigation Measures

There are no feasible mitigation measures to reduce traffic noise to below the criterion. With implementation of the design features that are incorporated into the East Otay Mesa Alternative, this alternative would result in significant adverse effects regarding traffic noise.

## Vibration

*Criterion: An alternative would result in a significant adverse effect if vibration levels from the alternative's vibration sources would exceed the U.S. Bureau of Mines RI 8507 standards, which are adopted in the San Diego County Water Authority design procedure manual 02229-3 (February 1995).*

**Impact Statement East Otay NOISE-4: Blasting associated with the East Otay Mesa Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards. Therefore, no significant adverse vibration effects would occur to nearby residences.**

The East Otay Mesa Alternative site is currently designated Public/Semi Public Lands (Solid Waste Facility) in the San Diego County General Plan. The impact analysis is based on the previously conducted tests by Ogden Environmental and Energy Services (Ogden, 1996) as well as supplemental vibration impact modeling conducted by Investigative Science and Engineering (ISE, 1998). As discussed previously for the Applicant's Proposed Alternative, impacts are expected if blasting occurs inside the influence zone for the respective frequency and maximum velocities. No impacts are expected outside this zone. For a groundborne vibrational wave with a 15 Hz primary component, the distance traveled by the wave would be 165 feet before diminishing to a level of 0.75 inches per second as set by the RI 8507 threshold (Table 4.11-11). A dominant blast frequency of 18 Hz would result in a distance of 155 feet before the blast wave drops below the RI 8507 threshold. The vibration technical report calculates the open face maximum amount of explosives per eight millisecond delay as being 34 pounds. Confined blasts should be scaled down by approximately a factor of nine (approximately four pounds of explosive per eight millisecond delay) to reduce excess vibration levels. No impacts are expected, provided confined blasting occurs at scaled velocity/charge ratios equal to or greater than the identified value of nine.

#### Impacts to Nearby Residences

Applying a margin of safety to the values discussed above gives an acceptable blast-receptor separation distance of approximately 230 feet. Since the nearest residential property lines are approximately 1,000 feet or more from the site, no significant adverse ground motion effects would occur to the nearest residences. Written notice would be provided to residents within a one-mile radius of the blast site within 24 hours of the blasting. In summary, blasting operations would not produce significant adverse effects to nearby sensitive receptors since the criteria would not be exceeded.

#### Pre-Blasting Construction Operations

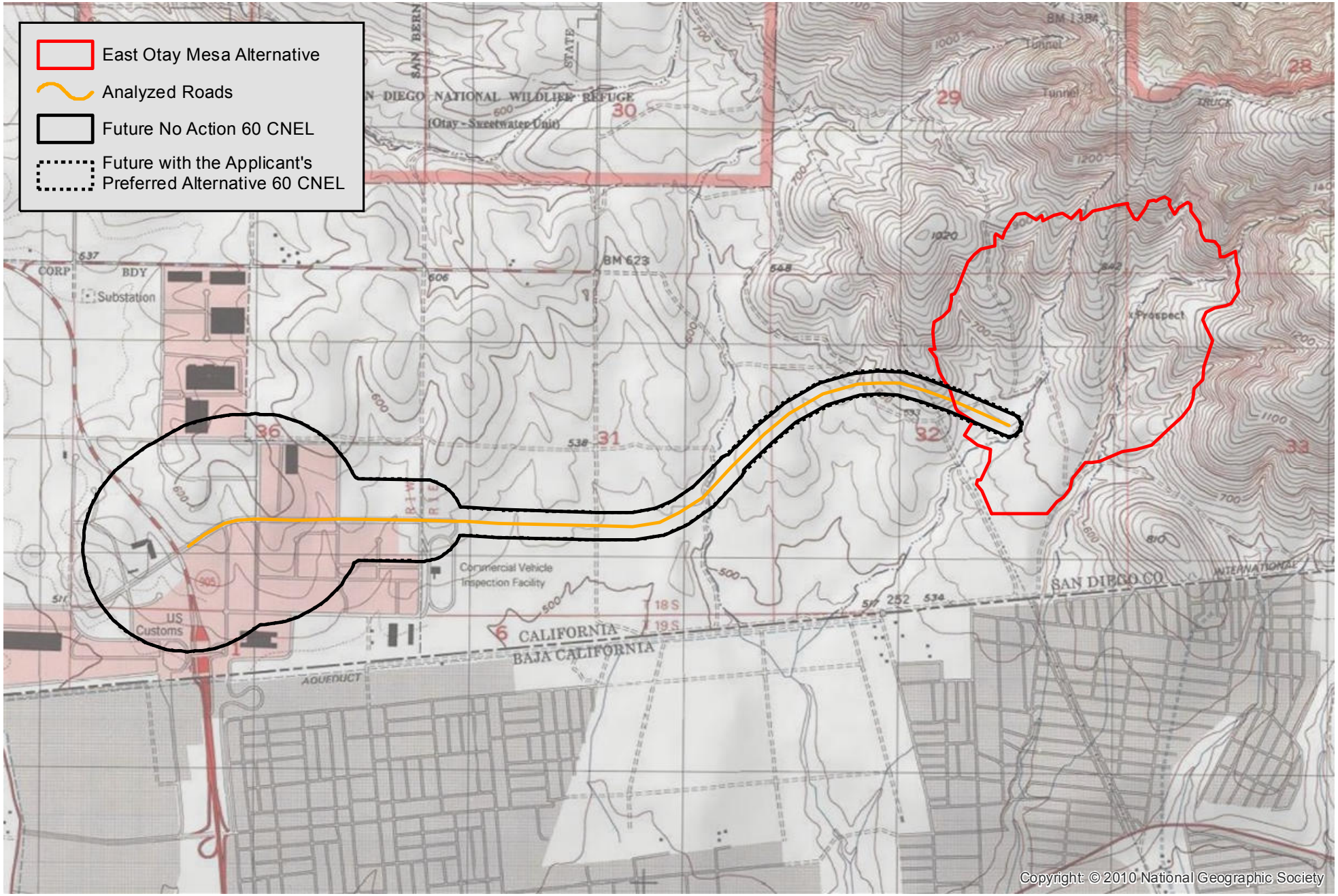
In addition to the direct effects of blasting, preparation for blasting would require drilling and the movement of vehicles. However, vehicular activity would be similar to that associated with the Applicant's Proposed Alternative. Since these levels are below the applicable threshold criteria, no impacts are expected. Additionally, operation of pneumatic drills and hammers associated with blasting would occur at the blast site. Since this type of machinery produces vibration levels far below those set for the influence zone, no significant adverse effects are expected.

### Mitigation Measures

With implementation of the design features that are incorporated into the East Otay Mesa Alternative, this alternative would not result in significant adverse effects regarding vibration. No mitigation measures are proposed.

## 4.11.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

The following discussion summarizes the information contained in Section 4-6 of the Sycamore Landfill Master Development Plan Revised Final EIR and the Addendum to the Sycamore Landfill Acoustical Analysis Report. (Helix Environmental Planning, Inc., 2012). Also referenced are the Acoustical Test Report for 9439 Leticia Drive, City of Santee and Acoustical Analysis, Mast Boulevard Widening (BRG Consulting).




0 2,000 4,000 Feet

**Future Traffic Noise Levels with East Otay Mesa Alternative - 60 CNEL**

FIGURE **4.11-11**

**Gregory Canyon**

Source: USGS Topographic Series (Otay Mesa, CA); PCR Services Corporation, 2012.

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## 4.11.9.1 Affected Environment

### Existing Noise Levels

#### Ambient Noise Levels

Existing ambient noise levels of regulatory interest are those at the boundary of Sycamore Canyon Alternative site, and in the residential area nearest the landfill entrance. A 24-hour measurement was made at a boundary location remote from all the existing landfill operations. The ambient noise levels at the site boundary ranged from 35 dBA $L_{eq}$ in the early morning hours to 50 dBA $L_{eq}$ at mid-day.

Sound measuring instruments were placed at two locations off the southeast corner of Mast Boulevard and West Hills Parkway. There is a six-foot-high sound wall between the two locations, as well as a grade differential of about 12 feet. One instrument was placed near the existing homes, while the other instrument was placed northwest of the sound wall, on the Mast Boulevard side. Sound level measurements were conducted over a 24-hour period commencing at 12:00 P.M., Tuesday, October 4, 2005 and ending at 12:00 P.M., Wednesday, October 5, 2005. The sound level measurement outside the wall was 68 dBA CNEL, while the sound level near the existing homes was measured at 56 dBA CNEL, a difference of 12 dBA.

An updated ambient noise survey was conducted in the site area as part of the addendum to the 2007 Acoustical Analysis Report (Helix, 2012). Ambient noise surveys typically include recording a "one-hour" equivalent sound level measurement ($L_{eq}$, A-weighted) for at least one noise-sensitive location on or near a site. During the on-site noise measurement, start and end times are recorded and vehicle counts are made for cars, medium trucks (double-tires/two axles), and heavy trucks (three or more axles) for the corresponding road segment(s). Supplemental sound measurements of one hour or less in duration are often made to further describe the noise environment of the site. Four noise measurements were conducted in the site area to show current noise levels and verify the accuracy of the computer noise models used to determine potential noise levels at on-site sensitive habitat and nearby sensitive land uses. The noise measurement locations (S) are depicted as S1 through S4 on Figure 4.11-12, *Sycamore Canyon Expansion Alternative - Noise Analysis Locations*, and described in Table 4.11-30, *Sycamore Canyon Expansion Alternative Ambient Noise Measurement Levels*. All measurement locations have a direct line-of-sight to the adjacent roads. Noise levels ranged from 71 dBA $L_{eq}$ at the location on West Hills Parkway to 55 dBA $L_{eq}$ at the location on the western extent of Rumson Drive.

#### Existing Noise Environment Near Landfill Operations

Measurements were conducted near the landfill working face for a period of four hours while landfill operations were in progress (BRG Consulting, 2008). These measurements recorded both noise levels from landfill working face equipment (graders, bulldozers and compactors) and noise from the trucks hauling the solid waste for disposal. The three measurement locations were spread out over 200 feet centered on and parallel to the active landfill area at a nominal setback of 200 feet. The 15 minute average noise levels were highest opposite and closest to the center of the landfill operations. The 15 minute average levels ranged from 73 to 75 dBA $L_{eq}$. By combining four 15-minute periods, the hourly levels were also found to range from 73 to 75 dBA $L_{eq}$. Currently, landfill operations are located below the elevation of, and some distance from, existing adjacent ridgelines. These ridgelines serve as sound barriers between landfill operations and adjacent lands.

**Table 4.11-30**

**Sycamore Canyon Expansion Alternative Ambient Noise Measurement Levels**

| Measurement | | | One-Hour Noise Levels (dBA, $L_{eq}$)[A] |
|---|---|---|---|
| Location [a] | Description | Date/Time | $L_{eq}$ |
| S1 | Mast Boulevard between West Hills Parkway and the western driveway access to West Hills Park | 9/19/11 (11:10 A.M. to 11:25 A.M.) / Monday | 67 |
| S2 | On-site Haul Road, approximately 0.5 mile north of Mast Boulevard | 9/19/11 (11:45 A.M. to 12:50 P.M.) / Monday | 69 |
| S3 | West Hills Parkway, approximately 300 feet north of Carlton Oaks Drive | 9/19/11 (12:26 P.M. to 12:41 P.M.) / Monday | 71 |
| S4 | Rumson Drive, near the homes at the west end of the roadway | 10/14/11 (12:16 P.M. to 12:31 P.M.) / Friday | 55 |

[a] *Monitoring locations are shown on Figure 4.11-12.*

*Source: Helix 2012 / Sycamore Landfill Master Development Plan, City of San Diego, May 2012*

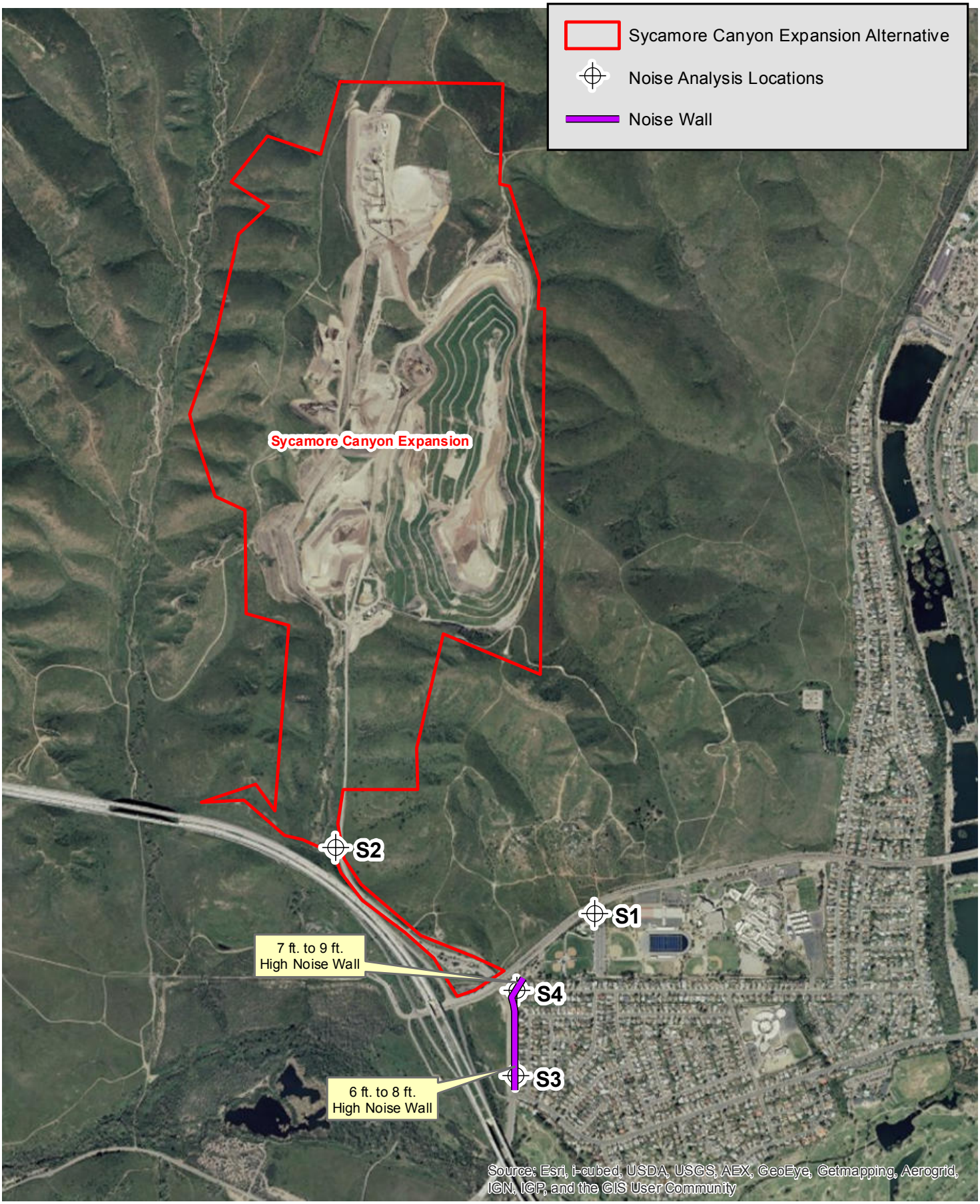
### Estimated Existing Roadway Noise Levels

A residential area in Santee, located southeast of Mast Boulevard and West Hills Parkway, is the closest noise-sensitive land use to the existing and proposed waste haul truck landfill access route from SR52 (along Mast Boulevard to the landfill entrance). The two nearest homes to the landfill entrance are located approximately 243 feet from the turn lane into the landfill along Rumson Drive. Figure 4.11-12 depicts the landfill entrance, Mast Boulevard, West Hills Parkway, and locations of residences. There is a six- to nine-foot-high sound barrier along the perimeter of the residential area, on top of an earth berm, with the location shown in Figure 4.11-12. The wall varies in height above grade because the topography is sloping, while the columns of concrete blocks used for the wall are at a level height.

Traffic volume data for medium trucks (double-tires/two axles) and heavy trucks (three or more axles) for each corresponding road segment(s) were gathered during the ambient noise measurements conducted by Helix. The measured traffic volumes and compositions are shown in Table 4.11-31, *Traffic Counts During Ambient Noise Measurements*. These counts were taken in order to prepare a noise level model for predicting future sound levels based on increases in both landfill-related and non-landfill-related traffic. Note that for the measurement on Rumson Drive, no traffic count was possible due to visual obstruction caused by the adjacent sound barrier and berm.

The observed 15-minute traffic volumes in Table 4.11-31 were extrapolated to an "overall" 60-minute traffic volume that was used to compute the hourly noise levels listed in Table 4.11-32, *Noise Level Comparison*, below.

Because the calculated noise levels shown on Table 4.11-32 are less than 3 dBA from the measured noise levels, a correction to the noise computer model is not required. While no comparison calculation was possible for the noise measurement taken on Rumson Drive, the ambient measurement is considered a valid prediction of noise levels at the homes on Rumson Drive because the other calibration calculations verify the




N

0 750 1,500 Feet

**Sycamore Canyon Expansion Alternative - Noise Analysis Locations**

**Gregory Canyon**

Source: Aerial Express, 2010; PCR Services Corporation, 2012.

FIGURE

**4.11-12**

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**Table 4.11-31**

**Traffic Counts During Ambient Noise Measurements**

| Roadway and Posted Speeds | Duration | | Auto | MT [a] | HT [b] | Total |
|---|---|---|---|---|---|---|
| Mast Boulevard, 40 mph | Measured | 15 minutes | 134 | 1 | 0 | 135 |
| | Overall | 60 minutes | 536 | 4 | 0 | 540 |
| On-site Landfill Access Road, 35 mph | Measured | 15 minutes | 4 | 0 | 25 | 29 |
| | Overall | 60 minutes | 16 | 0 | 100 | 116 |
| West Hills Parkway, 45 mph | Measured | 15 minutes | 109 | 3 | 1 | 113 |
| | Overall | 60 minutes | 436 | 12 | 4 | 452 |

[a] *MT = Medium Trucks, trucks with two axles, one of which has more than two tires*

[b] *HT = Heavy Trucks, trucks with three or more axles*

*Source: Helix, 2012*

**Table 4.11-32**

**Noise Level Comparison**

| Roadway | Measured Noise Level | Calculated Noise Level | Difference | Correction Applied? |
|---|---|---|---|---|
| Mast Boulevard | 66.7 dBA $L_{eq}$ | 64.2 dBA $L_{eq}$ | 2.5 dBA $L_{eq}$ | None |
| On-site Haul Road | 69.4 dBA $L_{eq}$ | 66.9 dBA $L_{eq}$ | 2.5 dBA $L_{eq}$ | None |
| West Hills Parkway | 70.8 dBA $L_{eq}$ | 68.0 dBA $L_{eq}$ | 2.8 dBA $L_{eq}$ | None |

[a] *The calculated noise level for this segment was 65.8 dBA $L_{eq}$, however when the considerable "ambient" background noise from the nearby freeway was added, a result of 68.0 dBA $L_{eq}$ was obtained.*

*Source: Helix, 2012.*

accuracy of the computer noise model used in this analysis. Thus, Table 4.11-32 shows that the measured noise levels are an adequate baseline for assessing future impacts.

## 4.11.9.2 Design Features

The Sycamore Canyon Expansion Alternative would incorporate the following design features outlined in the Revised Final EIR for noise:

- The landfill operator would implement a Noise Mitigation Plan that considers public input. Measures in the NMP would undergo review by members of the public who requested review, City DSD, etc. Ongoing meetings with the public would occur.
- Noise levels of on-site equipment would be controlled by the installation and proper maintenance of mufflers on all motorized vehicles.
- Noise from landfill construction and operations would be attenuated for sensitive receptors to the east by 8- to 10-foot soil berms sited at the east-facing perimeter of landfill lifts visible to neighborhoods east of the landfill.
- Temporary berm construction activities would be managed by SLI to comply with applicable Noise Ordinance limits.

- The landfill operator would, to the extent practicable, limit tractor work constructing east facing berms on weekends, and would not perform such work prior to 8:00 AM on any day unless required by extenuating circumstances.

The analysis for the Sycamore Canyon Expansion Alternative, as outlined in the August 2012 Revised Final EIR for noise, is also based on the following assumptions:

- Lands designated Open Space in the East Elliott Community Plan are assumed to support residential receptors.
- Modeling for evening and nighttime truck traffic noise assumed 10 and 44 truck trips per hour, respectively

### 4.11.9.3 Environmental Consequences and Mitigation Measures

Unlike the other alternatives, which are located in the County of San Diego, the Sycamore Canyon Expansion Alternative is located in the City of San Diego. The nearest existing noise-sensitive receptors are single-family homes within the City of Santee. Therefore, the analysis of potential noise impacts are assessed with respect to the City of San Diego and City of Santee criteria, as outlined in subsection 4.11.2.1 above. This section summarizes the analysis contained in the Revised Final EIR for the Sycamore Landfill Master Development Plan.

*Criterion: An alternative would result in a significant adverse effect if noise from alternative's noise sources would result in temporary construction noise which exceeds noise levels identified in SDMC Section 59.0404, including temporary construction noise that exceeds an average sound level greater than 75 dBA $L_{eq}$ at a sensitive receptor during the 12-hour period from 7:00 A.M. to 7:00 P.M. (construction is generally prohibited between the hours of 7:00 P.M. and 7:00 A.M.).*

#### Construction Noise Impacts

**Impact Statement Sycamore NOISE-1: Construction activity associated with the Sycamore Canyon Expansion Alternative would not result in noise levels in excess of applicable standards at the nearest residential property line. Therefore, no significant adverse effects would occur.**

#### Construction of Expansion

Construction of the perimeter access roads and drainage channel associated with the landfill expansion, as well as excavation for ancillary facilities (i.e., sedimentation basin, maintenance facilities, scales and administrative offices), would require the use of various types of equipment that have an average sound level of 80 to 85 dB at 50 feet and maximum sound levels from the noisiest equipment of up to 96 dBA at 50 feet, such as a tractor or dozer.[24] Such sound levels would diminish with increasing distance, at a rate of -6 dBA per doubling of distance.

The nearest existing noise-sensitive receptors are single-family homes within the City of Santee, approximately 240 feet southeast of the center of the Mast Boulevard/West Hills Parkway intersection and

[24] *BRG Consulting, 2008.*

0.75 mile from the landfill itself (see Figure 5.3-1 in the Sycamore Landfill Master Development Plan Revised Final EIR). Residentially-zoned vacant land in the City of San Diego surrounds the alternative site.

The proximity of existing residential development and residentially-zoned parcels relative to the site boundary is shown in Figure 4.11-12. In general, the nearest residential properties are located 350 to 800 feet or more from the proposed ancillary facilities. These distances would result in substantial reduction in anticipated noise levels at the residential property lines. For example, construction equipment with a peak noise level (i.e., 1-minute or less duration) of 96 dBA $L_{eq}$ at 50 feet would be perceived as 90 dBA $L_{eq}$ at 100 feet, 84 dBA $L_{eq}$ at 200 feet, 78 dBA $L_{eq}$ at 400 feet, and 72 dBA $L_{eq}$ at 800 feet away. These values are for short term operational impacts of less than 1-minute duration; the hourly average ($L_{eq}$) noise of most equipment is 7 to 15 dBA less than this peak value. Therefore, with the exception of the administrative offices, construction of the ancillary facilities would be in compliance with the 75 dBA $L_{eq}$ construction noise criterion established by the City of San Diego Noise Ordinance. Because the administrative offices construction site is located within 100 feet of a residentially zoned parcel, it is possible that some construction activities at that site would exceed 75 dBA $L_{eq}$ during construction. However, no significant adverse noise effect to sensitive receptors would be anticipated at that location because there are no residences currently on that parcel and no residential development is anticipated prior to administrative office construction.

The closest existing sensitive receptors to the site are the homes located on Rumson Drive, located approximately 500 feet southeast of the proposed administrative office building site. As stated above, sound levels would be approximately 78 dBA $L_{eq}$ at a distance of 400 feet from construction equipment. This value is for short term operational impacts of less than 1-minute duration; the hourly average ($L_{eq}$) noise of most equipment is 7 to 15 dBA less than this peak value (63 to 71 dBA $L_{eq}$). Thus, based on the modeling/forecasts, construction noise levels at these residences would be below the Noise Ordinance limits. Furthermore, intervening traffic noise from Mast Boulevard and West Hills Parkway, in addition to the presence of a 7- to 9-foot high noise wall between the homes and the roadways, would reduce the effects of construction noise experienced at the residences.

The widening of Mast Boulevard would use construction equipment typical of that used for roadway construction and would not exceed the construction noise ordinance limit of 75 dBA $L_{eq}$ averaged over an 8-hour period (per the City of Santee Noise Ordinance) at residential properties within the City of Santee (see Appendix K of this EIS). Construction would occur between the hours of 7:00 A.M. and 7:00 P.M., Monday through Saturday, the standard construction hours identified in the City Noise Ordinance. As a result, there would be no significant adverse noise effects from roadway widening.

### Transmission Line Relocation

Transmission line relocation would generally occur between the hours of 7:00 A.M. and 7:00 P.M., Monday through Saturday, the standard construction hours identified in the City Noise Ordinance. The transmission line relocation would occur in the proximity of the residentially zoned properties that are currently undeveloped on the west side of the landfill. The transmission line relocation would require various types of equipment with a range of maximum sound levels from 78 to 92 dBA $L_{eq}$ at 50 feet from the construction equipment, similar to the effects described above for construction of the landfill ancillary facilities. As a result, noise from the temporary, short-term construction activities associated with transmission line relocation, which would occur over a period of less than two years, could exceed construction noise limits of

the Noise Ordinance of 75 dBA $L_{eq}$ for some residentially zoned areas near transmission line tower locations. Although sound levels could increase by up to 75 dBA $L_{eq}$ within 400 feet of specific tower locations during construction, no existing or anticipated future residents would be impacted by the short-term noise level increases and no significant adverse noise effect would occur. Furthermore, SDG&E personnel would utilize Project Protocol 60 to minimize, to the extent feasible, unnecessary construction vehicle idling time, and consequently nearby noise levels.[25]

Mitigation Measures

With implementation of the design features that are incorporated into the Sycamore Canyon Expansion Alternative, this alternative would not result in significant adverse effects due to construction noise. No mitigation measures are proposed.

*Criterion: An alternative would result in a significant adverse effect if according to the City's Significance Determination Thresholds, an significant adverse noise effect would result from an alternative if:*

- *Noise from alternative's noise sources would result in temporary construction noise which exceeds noise levels identified in SDMC Section 59.0404, including temporary construction noise that exceeds an average sound level greater than 75 dBA $L_{eq}$ at a sensitive receptor during the 12-hour period from 7:00 A.M. to 7:00 P.M. (construction is generally prohibited between the hours of 7:00 P.M. and 7:00 A.M.);*
- *Noise from alternative's noise sources would expose single-family residential properties to exterior noise levels exceeding 57.5 dBA $L_{eq}$ from 7:00 A.M. to 7:00 P.M., 52.5 dBA $L_{eq}$ from 7:00 P.M. to 10:00 P.M., and 50 dBA $L_{eq}$ from 10:00 P.M. to 7:00 A.M.;*
- *Noise from alternative's noise sources would expose institutional uses (i.e., schools) to exterior noise levels exceeding 60 dBA $L_{eq}$ from 7:00 A.M. to 7:00 P.M., 55 dBA $L_{eq}$ from 7:00 P.M. to 10:00 P.M., and 52.5 dBA $L_{eq}$ from 10:00 P.M. to 7:00 A.M.;*
- *Noise from alternative's noise sources would expose commercial uses to exterior noise levels exceeding 65 dBA $L_{eq}$ from 7:00 A.M. to 7:00 P.M., 60 dBA $L_{eq}$ from 7:00 P.M. to 7:00 A.M.; and/or*
- *Noise from alternative's noise sources would expose single-family residential dwellings to interior sound levels exceeding 45 dBA $L_{eq}$.*

*The project would result in potentially significant land use – noise compatibility noise impacts if it places land uses within areas exceeding the following noise levels:*

- *Open space, parks and recreational uses are incompatible with exterior noise levels above 65 dBA CNEL;*

[25] *SDG&E has established Project Protocols for development projects. Protocol 60 is as follows: To the extent feasible, unnecessary construction vehicle and idling time would be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warmup times following startup that limit their availability for use following startup. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project would apply a "common sense" approach to vehicle use, if a vehicle is not required for use immediately or continuously for construction activities, its engine would be shut off. Construction foremen would include briefings to crews on vehicle use as a part of preconstruction conferences. Those briefings would include discussion of a "common sense" approach to vehicle use.*

- *Single-family residential uses are incompatible with exterior noise levels above 65 dBA CNEL and interior noise levels above 45 dBA CNEL;*
- *Institutional uses (i.e., educational facilities) are incompatible with exterior noise levels above 65 dBA CNEL and interior noise levels above 45 dBA CNEL; and*
- *Offices, sales and commercial service uses are incompatible with exterior noise levels above 75 dBA CNEL and interior noise levels above 50 dBA CNEL.*

*For residential areas in the City of Santee, the land use compatibility criterion is 60 dBA CNEL.*

### Long-Term Noise Impacts (Operational)

**Impact Statement Sycamore NOISE-2: Long-term operational noise associated with the Sycamore Canyon Expansion Alternative would expose nearby residential uses to operational noise levels at the nearest residential property line of 76.1 dBA Leq with implementation of the design features, which would exceed the City of San Diego noise standard of 65 dBA. No significant adverse noise effects would occur at noise sensitive property lines in the City of Santee. Mitigation is proposed to limit construction activity near residential property lines and to increase the height of a berm or sound barrier, as necessary to reduce noise levels. However, because it may not be feasible to implement an effective noise barrier which would reduce truck noise exposure to below the criteria, significant adverse effects would occur.**

Primary noise sources associated with landfill operations at Sycamore Canyon Expansion Alternative include waste disposal; accessory operations such as aggregate processing, construction and demolition (C&D) materials processing, enhanced green materials/wood processing, composting and truck movements.

#### Aggregate Processing

The currently-approved aggregate processing operations would continue on the site and no change to this operation would occur as a result of the landfill expansion. Thus, aggregate processing would not result in an increase in ambient noise levels at any of the landfill property lines. The noise from truck traffic attributable to the aggregate operations is increased in the noise analysis provided below.

#### Waste Disposal

The landfill working area would encompass approximately 10 acres at a time, with the active face estimated at approximately 500 by 800 feet in size. The locations of these operations would move periodically, as working areas are filled. Cross-sections of existing and proposed topography were prepared for six locations along the western, eastern, and southern landfill boundaries, in order to estimate anticipated landfill noise levels at those points. The specific cross-section diagrams are shown in the figures from the Revised Final EIR, Section 4-6 Noise, which are provided in Appendix K of this EIS.

The Sycamore Canyon Expansion Alternative includes a request to operate up to 24 hours per day. Hourly average landfill operation sound levels at 100 feet would be approximately 81 dBA, no matter what the time of day. The only potential difference between daytime, evening and nighttime operations would be the need for the use of portable lighting/generator units, determined in the Revised Final EIR to have typical noise levels of 66 dBA at 32 feet. At 100 feet, the noise level of such a generator would be approximately 55 dBA.

Generator noise would be approximately 26 dBA less than the 81 dBA sound level of daytime landfill operations; thus, while there would be a small increase in sound levels as a result of generator use, it would be less than levels associated with the other operational noise levels, and has been excluded as a major source in the noise level calculations provided in the analysis (BRG Consulting, 2008).

Noise measurements of the existing landfill operations provide a basis for projecting noise levels of future landfill operations. Table 4.11-33, *Projected Average Sound Levels at the Landfill Property Line Under Existing and Without and With Expansion*, provides the projected sound levels at the boundary between the residentially-zoned properties and landfill grading limits under with and without expansion conditions for the six cross-section locations, as compared to existing ambient sound levels. To be conservative, the sound levels contained in the table and cross-sections do not take into account the eight to ten-foot high soil and rock berms proposed along the eastern edge of landfill operations. As shown in Table 4.11-33, operational average sound levels at the cross-section locations along the site boundaries would range from 67.1 to 76.1 dBA when landfill operations are higher in elevation than existing topographic barriers (i.e., existing adjacent ridgelines). Average sound levels at the property line would increase by more than three decibels when landfill operations would be located near the planned limits of grading or filling, which would exceed the City of San Diego Noise Ordinance criteria at the residential boundary.

**Table 4.11-33**

**Projected Average Sound Levels at the Landfill Property Line Under Existing and Without and With Expansion**

| Cross Section [a] | Existing Day/Evening/ Night Minimum Ambient Sound Levels (dBA $L_{eq}$) | Average Sound Levels With Expansion (dBA $L_{eq}$) | Projected Increase (dBA) Above No Activity Limits | Sig | Projected Average Sound Level (dBA $L_{eq}$ MDP With Berm (Height) | Noise Reduction From Berm (dBA $L_{eq}$) | Sig With Mitigation |
|---|---|---|---|---|---|---|---|
| A | 41/41/35 | 76.1 | +16.1 | Yes | 57.5(20) | -2.5 | No |
| B | 41/41/35 | 66.6 | +6.6 | Yes | 47.7(20) | -12.3 | No |
| C | 41/41/35 | 76.1 | +16.1 | Yes | 60.0(20) | -0.0 | No |
| D | 41/41/35 | 72.2 | +12.2 | Yes | 52.4(20)/54.5(15) | -7.6/-5.5 | No |
| E | 41/41/35 | 76.1 | +16.1 | Yes | 54.7(20)/56.8(15) | -5.3/-3.2 | No |
| F | 41/41/35 | 67.1 | +7.1 | Yes | 54.0(20) | -6.0 | No |

[a] *Cross Section locations can be inspected in the exhibits of the Noise Section of Sycamore Landfill MP FEIR in Appendix K of this EIS*

*Source: BRG Consulting, 2008, PCR Services Corporation, 2012*

Table 4.11-33 also provides the average sound levels at the property line for each of the six cross sections for day, evening and night-time operations, with and without the use of 15- to 20-foot-high sound barriers (soil and rock berms) during landfill operations. As shown in the table, without noise berms, average sound levels at the property lines would range from 66.6 to 76.1 dBA. Night operations near the landfill boundary would have the potential to exceed the Noise Ordinance limits (57.5 dBA $L_{eq}$) unless they are conducted more than 200 feet from the property line. These impact zones where potential nighttime impacts could occur due to

landfill operations are depicted in Figure 4.11-13, *Landfill Operations of Haul Vehicle Noise*. As shown in Table 4.11-33, the use of a 15- to 20-foot high berm would reduce the potential for night-time noise impacts. The incorporation of MM Sycamore NOISE-1 to reduce landfill operational noise when it is situated near the property line would reduce the impacts to below the criterion.

However, berm construction could exceed the Noise Ordinance construction noise limits of up to 75 dBA at the residential property line for up to 12 hours per day. The activity would be temporary (one to four weeks in each area where the berm would be constructed), construction noise levels would not be constant, and during construction, some of the equipment noise would be blocked by the partly constructed berm. Additionally, unless and until residential uses develop on adjacent properties, no actual noise impact would occur since no sensitive receptors would be present within range of elevated construction noise levels. Therefore, there would be no significant adverse noise effect to sensitive receptors as a result of noise berm construction.

### Accessory Operations

Various accessory operations would be added and/or enhanced under the Sycamore Canyon Expansion Alternative. Construction and demolition (C&D) processing operations would presort loads that are mostly wood waste, and other loads including large amounts of concrete, asphalt and other inert materials to be disposed. This process would be conducted on top of a previously-landfilled area near the current active face. The existing green waste processing would remain in the western half of the landfill and would increase over time, converting green waste to a form suitable for use in erosion control or as alternative daily cover used in the landfill operation. The grinding operation would usually be located near the working face. In addition to continuation of the existing green materials processing and introduction of composting, the operations would include wood and excess dimensional lumber processing recovered from the C&D processing operation. Similar to the noise impacts associated with waste disposal, these accessory operations would use the same equipment and have the same potential to result in sound levels that exceed the applicable Noise Ordinance limits for residential boundaries (62.5, 60.0 and 57.5 dBA $L_{eq}$ during the day, evening and night, respectively). MMs Sycamore NOISE-1 through NOISE-4 are proposed to reduce impacts.

### Truck Movements

The truck haul routes would vary with time as the landfill operations move from place to place and as the elevation of the landfill increases. The haul trucks would come no closer to the property line than the landfill operations, a minimum of 150 feet from the nearest property line. The existing peak measured sound level of 69 dBA $L_{eq}$ at 40 feet would increase to 76 dBA $L_{eq}$ at 40 feet because of the increase in equipment associated with a larger landfill operation (BRG Consulting. 2008). The truck route may not always have a sound barrier positioned between the route and the property line. Without a noise barrier, the trucks could come within 200 feet in the evening time period and 150 feet in the daytime period without exceeding the Noise Ordinance limits. During the nighttime period, trucks would need to maintain a distance exceeding 325 feet from the property line to meet the 57.5 dBA $L_{eq}$ nighttime noise limit.

While truck movement along the haul routes may be restricted to certain distances from the landfill disposal area boundary, truck movement along the southerly 2,800 feet of landfill access road between the scale area and the landfill entrance (intersection of Mast Boulevard and West Hills Parkway) cannot be restricted due to its proximity to the property line. The access road would become a private road therefore, noise impacts

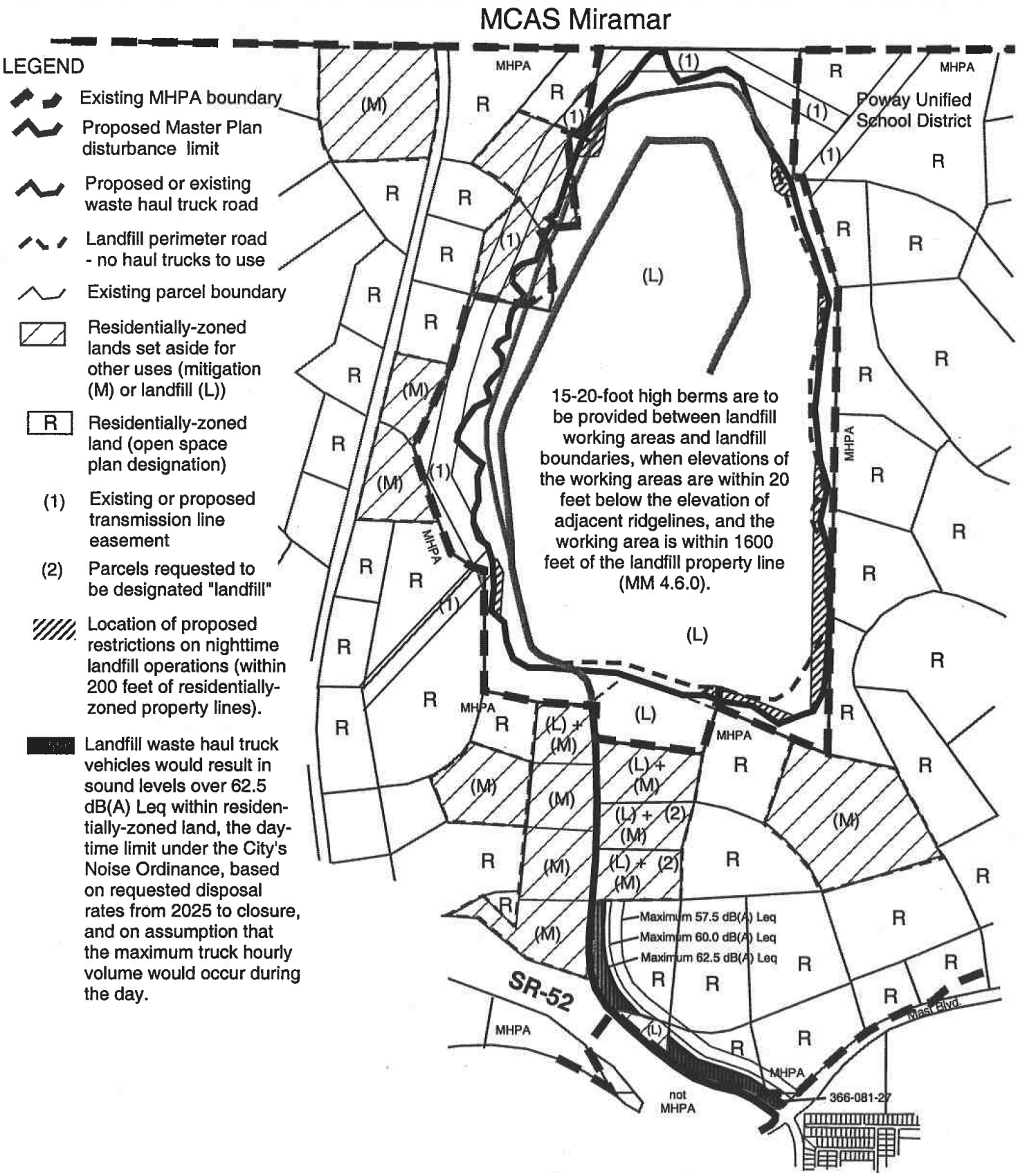
from vehicles traveling along this access road are compared against the City's Noise Ordinance property line sound level limits (see Table 5.3-2 in the Sycamore Landfill Master Development Plan Revised Final EIR). These limits would be 62.5 dBA from 7:00 A.M. to 7:00 P.M., 60 dBA from 7:00 P.M. to 10:00 P.M., and 57.5 dBA from 10:00 P.M. to 7:00 A.M. for the undeveloped residential parcels along the access road (zoned RS-1-8), which would be the arithmetic mean between residential and industrial uses. Based on these limits, the off-site residentially-zoned parcels adjacent to the access road (specifically, parcels 366-081-26, 366-081-42, 366-081-46, and 366-081-48) may experience noise impacts from on-site truck traffic using the access road should residential uses be developed there (which is considered unlikely, as discussed in the East Elliott Community Plan).

Noise impacts would occur when daytime noise levels would exceed 62.5 dBA $L_{eq}$, evening noise levels would exceed 60 dBA $L_{eq}$, or nighttime noise levels would exceed 57.5 dBA $L_{eq}$. The noise levels created by traffic along the landfill access road during buildout (2035) were estimated using an hourly average of 44 heavy trucks during the nighttime hours, a maximum hourly average of 10 heavy trucks during the evening hours, and a peak hourly average of 384 heavy trucks during daytime hours (Helix 2012). The daytime 2035 scenario is considered to be the maximum impact scenario. During daytime hours, the noise zone would extend approximately 165 feet into the adjacent residentially-zoned parcels based on the 62.5 dBA $L_{eq}$ limit. The anticipated noise levels would have the potential to create significant adverse effects to any future residential development on portions of the four off-site residentially-zoned parcels adjacent to the landfill access road.

### Land Use - Noise Compatibility Impacts

The General Plan Noise Compatibility Guidelines are set forth to ensure that developments proposed in areas where existing or future noise levels exceed or would exceed the compatible noise level thresholds are identified and proper noise mitigation measures are proposed as necessary to meet the noise guidelines. The alternative site area is primarily zoned industrial, and would be rezoned industrial where portions of the site are currently zoned residential. Per the City of San Diego's General Plan Noise Element, the alternative would result in significant adverse effects with regard to land use – noise compatibility if the off-site property line noise level limit of 75 dBA CNEL for industrially-zoned areas is exceeded. This 75 dBA property-line noise-level limit (during all times of the day) is applicable to all new and future industrial property lines for all property-to-property noise impacts.

The new noise sources that would occur with the alternative would not pose land use – noise compatibility issues to existing, noise-sensitive uses off-site. Landfill operations may generate noise that could expose nearby residences, educational facilities, or parks to levels above the land use – noise compatibility guidelines, particularly where these uses are located in close proximity to the landfill. However, the landfill operations would not be a substantial departure from the existing operations at the landfill, nor would it result in significant adverse construction or operational noise effects above the 75 dBA property-line noise-level limit to nearby sensitive receptors. The closest existing residential development to the site are the residences located approximately 500 feet southeast of the proposed administrative offices. Thus, land use – noise compatibility impacts would not occur.




N

0 1400 Feet

**Landfill Operations of Haul Vehicle Noise**

**Gregory Canyon**

Source: Gordon Bricken, 2003; BRG Consulting, Inc., 2007.

FIGURE

**4.11-13**

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### Conclusion

In compliance with the City of San Diego Noise Ordinance, construction activities would be limited to between the hours of 7:00 A.M. and 7:00 P.M., and would not increase noise levels over 75 dBA $L_{eq}$ at noise-sensitive receptors. Construction of ancillary facilities at the sedimentation basins, maintenance facilities and scales would comply with Noise Ordinance construction procedures and limits. Therefore, no significant adverse effects with respect to noise are anticipated during construction of these facilities. Although sound levels at a residentially-zoned parcel adjacent to the proposed administrative office facilities site may exceed the 75 dBA $L_{eq}$ criterion, no noise impact would occur since no residents are expected to be present during the proposed construction period. Therefore, no significant adverse effects would occur.

As shown in Table 4.11-33, landfill operations would comply with the limits of the Noise Ordinance for 24-hour operation at all six cross sections with the use of 15- to 20-foot berms, except at night at cross section C where the projected 60 dBA sound level would be 2.5 dBA higher than the City's nighttime 57.5 dBA $L_{eq}$ limit within 200 feet of the property line. This is considered a significant adverse effect. Waste haul truck noise within the landfill operations area may exceed Noise Ordinance limits in residentially zoned parcels when haul routes are located within 325 feet of the property line during nighttime hours. Near the landfill access road, heavy truck noise would result in significant adverse noise effects at a 165-foot-wide portion of four parcels closest to the landfill access road during daytime hours.

### Transmission Line Relocation

While the alternative would relocate existing towers and lines the inspection and maintenance of the lines would be similar to levels that occur on site and would not involve the use of heavy equipment. Noise from long-term operation and maintenance of the relocated transmission lines would not change from noise levels at the existing transmission lines. SDG&E Project Protocol 9 would be implemented as part of the alternative to reduce the potential for impacts due to increased operational noise.[26]

There is no residential development in close proximity to the relocated transmission line easement. The nearest existing residential developments to the transmission line easement within the City of San Diego are the Tierrasanta and San Carlos communities, both located 3.2 miles or more from the transmission line relocation, and on the far side of intervening ridges that block sound. Hourly average $L_{eq}$ construction noise levels of 89 dBA at 50 feet would diminish to less than 50 dBA at such distances, which would be far below the City of San Diego's 75 dBA construction noise limits. Existing housing in Santee is located from 1.0 to 1.5 miles from the transmission line route and also would not be exposed to significant adverse construction noise effects due to distance from proposed construction activities and intervening topography.

Transmission line construction activities would not result in significant increases in ambient sound levels in areas that contain existing or proposed residential uses, and therefore, no significant adverse noise effects would occur. Operation of the transmission lines is not expected to result in a significant adverse effect to ambient noise levels.

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[26] *SDG&E has established Project Protocols for development projects. Protocol 9 is as follows: A bundled configuration of the conductors would be used on the 230kV line and relocated 69kV and 138kV lines to limit the audible noise, radio interference, and television interference due to corona. Caution would be exercised during construction to try to avoid scratching or nicking the conductor surface, which may provide points for corona to occur. In addition to the bundled configuration conductors, special hardware design would also be used to limit corona potential.*

Mitigation Measures

**MM Sycamore NOISE-1: Berm.** The applicant shall increase the height of the proposed eastern berm to construct 15- to 20-foot high noise barrier berms made with soil, or of soil and rock alone (on the eastern side), between the landfill excavation area (working face) and the nearest property line when the working face is within 1,600 feet of that boundary, and the working face elevation is above, or less than 20 feet below, existing topographic barriers between the working face and the boundary.

**MM Sycamore NOISE-2: Nighttime Operations.** Nighttime landfill operations shall be prohibited within 200 feet of the nearest residential property line (see Figure 5.3-2 in the Sycamore Landfill Master Development Plan Revised Final EIR) if the residential parcel(s) adjacent to the landfill has/have been developed.

**MM Sycamore NOISE-3: Nighttime Truck Movement.** Nighttime heavy truck movement on on-site haul routes shall be prohibited within 325 feet of the nearest residential property line (see Figure 5.3-2 in the Sycamore Landfill Master Development Plan Revised Final EIR) if the residential parcel(s) adjacent to the landfill has/have been developed.

**MM Sycamore NOISE-4: Adjacent Future Residential Development.** Any future development of residentially-zoned parcels adjacent to the existing landfill access road would require environmental review by the City of San Diego and a Community Plan Amendment. In the event such review includes a noise analysis that identifies any landfill truck traffic noise that would exceed City Noise Ordinance limits at the proposed residential use, the applicant shall work with the developer of the residential use to identify feasible noise mitigation measures that would reduce the noise levels to below the criteria. If the residential development subsequently is approved by the City, the applicant shall provide the proposed noise mitigation at no cost to the developer.

MM Sycamore NOISE-1 would reduce impacts from operational noise sources to below the criteria, with the exception of Cross Sections C and E. For these areas, MM Sycamore NOISE-2 and NOISE-3 would be required to reduce projected landfill operations and heavy truck noise levels at the property line to 57.5 dBA $L_{eq}$ or less during nighttime hours, as applicable.

Under MM Sycamore NOISE-4, the applicant would work with the developer of the future residential use to identify feasible noise mitigation measures that would reduce the noise levels from haul trucks using the landfill access road to less than significant. Due to topography and other factors, it may not be feasible to implement an effective noise barrier which would reduce truck noise exposure to below the criteria. Because it is impossible to definitely conclude today if there would be a feasible means to implement a noise mitigation measure, this would be considered a significant adverse effect.

### Traffic Noise

*Criterion: An alternative would result in a significant adverse effect if traffic noise impacts may be significant if the alternative would:*

- *Expose single-family or multi-family housing to exterior traffic noise levels that exceed 65 dBA CNEL at exterior useable areas (with the exception of residential front yards or balconies, unless the balconies*

*are part of the usable open space calculation for multifamily units) and interior traffic noise levels that exceed 45 dBA CNEL;*

- *Expose institutional uses to exterior traffic noise levels that exceed 65 dBA CNEL at exterior useable areas and interior traffic noise levels that exceed 45 dBA CNEL;*
- *Expose open space, parks and recreational uses to exterior traffic noise levels that exceed 65 dBA CNEL at exterior useable areas;*
- *Expose office uses to exterior traffic noise levels that exceed 70 dBA CNEL at exterior useable areas and interior traffic noise levels that exceed 50 dBA CNEL;*
- *Expose commercial, retail, or industrial uses to exterior traffic noise levels that exceed 75 dBA CNEL at exterior useable areas; and/or*
- *Increase noise levels by at least 3 dBA where noise levels currently exceed the traffic noise thresholds.*

*For residential areas in the City of Santee, the land use compatibility criterion is 60 dBA CNEL.*

**Impact Statement Sycamore NOISE-3: Traffic noise associated with the Sycamore Canyon Expansion Alternative would not increase the noise levels at residences in excess of 60 dBA CNEL. Therefore, no significant adverse traffic noise effects would occur.**

Transportation noise standards are applicable to noise impacts anticipated along public roads and highways and for off-site uses. Alternative-related traffic increases would occur off-site on SR 52, where alternative-generated traffic increases would represent less than two percent of total traffic on the freeway at the alternative's maximum daily trips. This increase would result in imperceptible increases in highway noise levels. Projected landfill-related traffic on West Hills Parkway and on Mast Boulevard east of West Hills Parkway would represent less than one percent and four percent, respectively, of total future traffic on those streets; as such, increases in traffic noise on these roadways resulting from the alternative would not result in significant adverse noise effects. Therefore, traffic noise impacts are analyzed from the existing residential area located southeast of the landfill entrance in the City of Santee, where noise levels are anticipated to be greater due to proximity to roads travelled by landfill traffic.

Transportation noise impacts to the nearby residences on the west end of Rumson Drive were evaluated using the traffic volumes in Table 5 of the Addendum to the Acoustical Analysis Report (Helix, 2012; Appendix K) for the existing and buildout traffic scenarios (with and without the project traffic). Noise impacts for the residences were calculated at a representative building that would experience the maximum noise impacts from the alternative and nearby roadways (i.e., Mast Boulevard and West Hills Parkway) – the home on the north side of street at the western terminus of Rumson Drive. Table 4.11-34, *Off-Site Sensitive Receiver Noise Levels Without Noise Shielding from Mast Boulevard*, presents the predicted noise levels at off-site sensitive receivers under all four scenarios, without factoring in noise shielding from Mast Boulevard.

The existing noise-shielding structures, a five-foot-high earthen berm and eight-foot-high wall, were taken into consideration when calculating noise. It was determined that those structures would result in a noise level decrease of at least 5 CNEL, as shown in Table 4.11-35, *Off-Site Sensitive Receiver Noise Levels With Noise Shielding from Mast Boulevard*.

**Table 4.11-34**

**Off-Site Sensitive Receiver Noise Levels Without Noise Shielding From Mast Boulevard**

| | Project Scenario Noise Level (CNEL) | | | |
|---|---|---|---|---|
| **Receiver Location** | **Existing Without Alternative** | **Existing Plus Alternative Buildout** | **Buildout Without Alternative** | **Buildout Plus Alternative** |
| Homes at West End of Rumson Drive | 59.6 | 61.5 | 60.8 | 62.0 |

*Source: Helix, 2012.*

**Table 4.11-35**

**Off-Site Sensitive Receiver Noise Levels With Noise Shielding From Mast Boulevard**

| | Project Scenario Noise Level (CNEL) | | | |
|---|---|---|---|---|
| **Receiver Location** | **Existing Without Project** | **Existing Plus Project Buildout** | **Buildout Without Project** | **Buildout Plus Project** |
| Homes at West End of Rumson Drive | 54.6 | 56.5 | 55.8 | 57.0 |

*Source: Helix, 2012.*

As shown in the above tables, significant adverse effects with respect to traffic noise would not occur at the off-site residences at the west end of Rumson Drive. The exterior noise levels at the back of both homes would remain below the City of San Diego 65 dBA CNEL and City of Santee 60 dBA CNEL thresholds in all traffic scenarios. The interior noise levels in the home (15 CNEL lower than the exterior noise levels at the school and at the fronts of the home) would be below the 45 CNEL limit in all scenarios.

Transportation sound level increases at the residential area nearest a public road that would carry landfill traffic (Mast Boulevard) would not exceed the 65 dBA CNEL limit used by the City of San Diego, nor the 60 dBA CNEL criterion used by the City of Santee; therefore, no significant adverse effects to noise levels from transportation would occur.

Traffic related to transmission line relocation (such as materials delivery, specialized construction and crew trucks traveling to and from pull sites, staging areas, etc.) would be short term and temporary. Such traffic would occur throughout the day, primarily outside of peak commuting times, would involve fewer than 200 vehicle trips per day during peak construction periods, and would not result in a substantial increase in existing traffic (or traffic-related noise). Transmission line related construction traffic is considered negligible when added to the existing daily traffic on freeways and arterial roadways, and it would not cause the established level of service standard for roads or highways in the area to be exceeded. Since a doubling of traffic results in an increase of traffic noise by only three dB, and a difference of three dB is barely perceptible to most humans, the increase in noise associated with transmission line construction traffic also would be negligible.

Mitigation Measures

With implementation of the design features that are incorporated into the Sycamore Canyon Expansion Alternative, this alternative would not result in significant adverse effects regarding traffic noise. No mitigation measures are proposed.

### Vibration

*Criterion: An alternative would result in a significant adverse effect if vibration levels from the alternative's vibration sources would exceed the U.S. Bureau of Mines RI 8507 standards, which are adopted in the San Diego County Water Authority design procedure manual 02229-3 (February 1995).*

**Impact Statement Sycamore NOISE-4: Blasting associated with the Sycamore Canyon Expansion Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards. Therefore, no significant adverse vibration effects to nearby residences would occur.**

The Sycamore Canyon Expansion Alternative site is primarily designated as Industrial Employment in the City of San Diego General Plan, although sections of the site are designated as Park, Open Space, and Recreation (see Figure 5.1-1 in the Sycamore Landfill Master Development Plan Revised Final EIR). A small area at the southeast corner of the property along SR 52 is designated as Commercial Employment, Retail, and Services. The alternative would include the relocation of an expired easement and on-site electrical transmission lines to the periphery of the landfill site.

The impact analysis is based on the previously conducted tests by Ogden Environmental and Energy Services (Ogden, 1996) as well as supplemental vibration impact modeling conducted by Investigative Science and Engineering (ISE, 1998). As discussed previously for the Applicant's Proposed Alternative, impacts are expected if blasting occurs inside the influence zone for the respective frequency and maximum velocities. No impacts are expected outside this zone. For a groundborne vibrational wave with a 15 Hz primary component, the distance traveled by the wave would be 165 feet before diminishing to a level of 0.75 inches per second as set by the RI 8507 threshold (Table 4.11-11). A dominant blast frequency of 18 Hz would result in a distance of 155 feet before the blast wave drops below the RI 8507 threshold. The vibration technical report calculates the open face maximum amount of explosives per eight millisecond delay as being 34 pounds. Confined blasts should be scaled down by approximately a factor of nine (approximately four pounds of explosive per eight millisecond delay) to reduce excess vibration levels. No impacts are expected, provided confined blasting occurs at scaled velocity/charge ratios equal to or greater than the identified value of nine.

#### Impacts to Nearby Residences

Applying a margin of safety to the values discussed above gives an acceptable blast-receptor separation distance of approximately 230 feet. Since the nearest residential property lines are approximately 240 feet or more from the site, no significant adverse ground motion effects would occur to the nearest residences. Written notice would be provided to residents within a one-mile radius of the blast site within 24 hours of the blasting. In summary, blasting operations would not produce significant adverse effects to nearby sensitive receptors as the applicable threshold criteria would not be exceeded.

### Pre-Blasting Construction Operations

In addition to the direct effects of blasting, preparation for blasting would require drilling and the movement of vehicles. However, vehicular activity would be similar to that associated with the Applicant's Proposed Alternative. Since these levels are below the applicable threshold criteria, no impacts are expected. Additionally, operation of pneumatic drills and hammers associated with blasting would occur at the blast site. Since this type of machinery produces vibration levels far below those set for the influence zone, no significant adverse effects are expected.

## Mitigation Measures

The Sycamore Canyon Expansion Alternative would not result in significant adverse effects regarding vibration. No mitigation measures are proposed.

# 4.12 PUBLIC SERVICES
# 4.12.1 LAW ENFORCEMENT

## INTRODUCTION

This section describes law enforcement services and facilities that serve the alternative sites and evaluates the ability of the service providers to provide law enforcement services to these sites. This section is based on correspondence with the San Diego County Sheriff's Department (SDSD) and information provided in the County of San Diego Final EIR for the County's General Plan Update, the East Otay Mesa Business Park Specific Plan (September 2010), the City of San Diego General Plan Update Final Program EIR, and the Sycamore Landfill Master Plan Revised Final EIR (August 2012). With the exception of the Sycamore Canyon Expansion Alternative, which is served by the City of San Diego Police Department (SDPD), primary law enforcement services for the alternatives would be provided by the SDSD.

## 4.12.1.1 REGULATORY FRAMEWORK

This subsection provides regulatory framework for the County of San Diego as the City of San Diego does not have plans or regulations relative to law enforcement.

### Law Enforcement Facilities Master Plan

In 2005, the SDSD completed a two-year planning effort that resulted in a Law Enforcement Facilities Master Plan (LEEMP). The plan was prepared to guide facility decisions and development over the next 15 years. The plan addresses the location, design, condition, and command alignment of existing facilities, and analyzes various factors which could affect future service levels. The plan identifies areas anticipated for growth based on population projections prepared by the San Diego Association of Governments (SANDAG), and incorporates crime and calls-for-service data, as well as numerous other factors to provide a reasonable basis for distributing staff and facilities. The LEFMP calls for a number of new facilities and the replacement or renovation of older buildings that no longer support the law enforcement mission.

## 4.12.1.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on law enforcement services and facilities.

### 4.12.1.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. An alternative would have a significant adverse effect on law enforcement services if the alternative would create the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.

#### 4.12.1.2.2 Methodology

The analysis identifies service providers, station availability, and existing service levels for each of the alternative sites based on correspondence with the SDSD and information provided in the County of San Diego Final EIR for the County's General Plan Update, the East Otay Mesa Business Park Specific Plan, the City of San Diego General Plan Update Final Program EIR, and the Sycamore Landfill Master Plan Revised Draft EIR. The section evaluates the likely need for law enforcement services generated by the uses associated with the alternative. Further, the analysis describes the alternative's site security features that would reduce potential impacts on demand for services and provides a conclusion regarding impacts on law enforcement services and facilities. Potential impacts to law enforcement services and facilities are evaluated for both the effects of increased demand due to indirect population increases resulting from additional employment; and increased demand associated with the landfill activities. The part of the analysis addressing the population characteristics and distribution of landfill employees is based on information provided in the Joint Technical Document (JTD) and the Sycamore Landfill Master Plan Revised Final EIR. The analysis considers whether there is a resulting increase in demand for law enforcement that would exceed the capacity of existing facilities and services, thus requiring new governmental facilities construction of which could cause an impact on the environment.

### 4.12.1.3 APPLICANT'S PROPOSED ALTERNATIVE

#### 4.12.1.3.1 Affected Environment

**Regional Setting**

The SDSD is the chief law enforcement agency in the County of San Diego. It has a service area of approximately 4,200 square miles and serves a population of over 870,000 people. Approximately 448,700 of these residents are located in the unincorporated areas of the County, while the remainder are located in nine cities that contract with the SDSD for services.

The SDSD has approximately 4,000 employees, 800 vehicles, and a fleet of helicopters. Sheriff's stations are equipped with marked patrol and volunteer patrol vehicles and a variety of unmarked detective and undercover vehicles. The SDSD operates eight major detention facilities and provides security for 171 courtrooms and ten courthouses throughout the County. The SDSD facilities located in unincorporated areas provide general law enforcement patrol, crime investigation, and crime prevention services. Additional services include reserve personnel, explorer cadets, homicide investigators, gang task force, special weapons and tactics (SWAT) unit, bomb/arson investigation, and aerial support to regional enforcement agencies including helicopter and fixed-wing aircraft support. The department maintains emergency mutual aid agreements with most law enforcement agencies throughout the State of California. The agreements take effect when requests for assistance are made by member agencies during major emergencies after all local resources have been exhausted. The unincorporated County relies on the California Highway Patrol (CHP) officers for traffic enforcement on highways and local roads.

To effectively serve this extensive geographic area, the SDSD Law Enforcement Services Bureau operations are organized under a system of command stations, substations, offices and storefronts. A separate rural enforcement area addresses the special needs of outlying areas patrolled by resident deputies. The operational structure is flexible, and areas may be realigned in order to provide better response to citizen calls for service, to ensure a balance of resources, and to be more responsive to community needs. The SDSD

Law Enforcement Services Bureau has further been divided into beat districts which serve the unincorporated County.

The SDSD staffing goals and facility plans are based upon population. Generally, the SDSD has a goal of providing one patrol position per 10,000 residents. The SDSD does not have adopted response time standards because deputies respond to calls for service while they are already out on patrol and the response time would vary depending on the deputy's current location, the deputy's availability, and the type of call.[1]

## Local Setting

The Gregory Canyon site is currently vacant except for a temporary storage yard located south of SR 76 on the eastern portion of the site. The remainder of the site is unoccupied. Historically, two dairies occupied the site and 25 residences were located on the property. The residences and structures associated with the dairies have been vacated and the residences have been boarded up.

The Gregory Canyon site is located within Sheriff's Beat 801 of the Valley Center Substation within the San Marcos Sheriff's Command in the unincorporated County. The Valley Center Substation, located at 28201 North Lake Wohlford Road, Valley Center, is located approximately ten miles southeast of the Gregory Canyon site. It serves a population of approximately 21,870 people and an area of 333.6 square miles. The substation staffs 26 sworn officers and three professional staff members with three to four officers on duty per shift.[2]

The Valley Center Substation average response time for priority one and priority two calls is 21.6 minutes. The average response time for priority three and priority four calls is 38.4 minutes.[3] Priority one is considered the highest priority and includes officer assistance and/or vehicular pursuit calls. Priority two calls include injured persons, bomb threats, robbery in progress, rape, carjacking, and stolen vehicles. Priority three calls include assaults, prowlers, disturbances, tampering with vehicles, and burglary alarms. Priority four calls are the lowest priority calls and include security checks, traffic stops, harassing phone calls, illegal dumping, abandoned vehicles, and animal noise disturbances. Response times vary greatly between command areas. Typically, response times in urbanized or built-out areas are lower than areas that are rural, and characterized by spaced or scattered development patterns. There are no written agreements between the Valley Center Substation and other stations or substations for shared responsibility as assistance is given upon request or perceived need on an informal basis.

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1 *County of San Diego. October2010. San Diego General Plan Update.*

2 *William D. Gore, Sheriff, Michael R. Barnett, Captain of San Marcos Station, San Diego County Sheriff's Department, letter correspondence, December 12, 2011.*

3 *Ibid.*

### 4.12.1.3.2 Design Features from the Gregory Canyon EIR

The following design features would be implemented to enhance site security and reduce potential crime at the site:

#### Construction

- The perimeter of the construction site would be secured with locked fencing where practical, using fencing/enclosures around trailers and material storage areas, areas used to store hazardous materials, poisons, solvents, explosives, flammables, etc., tool and equipment areas and tool boxes and supply sheds.
- Possible entry points to the site would be strictly limited and controlled with easily seen "No Trespassing" and/or warning signs that would be prominently displayed on fencing on the perimeter of the construction site.
- Security lighting would be provided for the office trailer(s), equipment storage trailer(s), material storage yard and any equipment storage areas. These areas would be illuminated to a minimum of one foot-candle at ground level. If appropriate, lighting systems triggered by a motion detector or a passive infrared sensor would be included.

#### Operation

- Entry to the landfill during business hours would be controlled by site personnel at the entrance facility, which would be the single point of public access to the site. Visitors to the site would be required to check-in at the administrative office. Unauthorized access to the site would be controlled by posting “No Trespassing” signs around the site perimeter at locations where unauthorized entry could occur.
- Lockable gates would be installed on the access road on the north side of the bridge and at the ancillary facilities area. Access would be limited by perimeter fencing and/or topographical constraints around the landfill footprint.
- Security lighting would be provided around the buildings in the ancillary facilities area.

### 4.12.1.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on law enforcement services if the alternative would create the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.*

**Impact Statement Gregory LAW-1: The Applicant’s Proposed Alternative would not result in an increase in population that would contribute to the demand for law enforcement services; nor result in an increase in activity at the Gregory Canyon site that would necessitate surveillance or notable site visits from law enforcement so as to require the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities to support additional services. Therefore, no significant adverse effects to law enforcement services would occur.**

### Short-Term (Construction) Impacts

Initial construction of the Applicant's Proposed Alternative would last approximately nine to twelve months and would create up to 35 temporary construction jobs. If the First San Diego Aqueduct Relocation Option were to be implemented, there would be some sharing of site workers; but there could be an increase of a few more workers. Construction workers would be drawn from an existing work pool, and would work at the site for only short durations, with turnover as subphases of construction proceed. Therefore, there would be no notable population growth associated with the initial construction activities that would increase demand for law enforcement services, as a function of population size.

Construction activities would be typical of construction sites and would not attract people or involve events that would require additional law enforcement services during construction hours. The site would be shut down and secured when construction activities are not occurring. A number of design features would be implemented to enhance site security, and to prevent unlawful trespass, vandalism or theft of construction materials, as indicated above. Site access would be restricted and "No Trespassing" signs would be posted around the site perimeter. Lockable gates and perimeter fencing would be installed. Office trailers, equipment storage units, and material storage areas would be locked and enclosed and equipped with security lighting. These design features, would reduce the necessity for responses from the SDSD. Therefore, the Applicant's Proposed Alternative would not result in an increase in services that would require new or physically altered governmental facilities, or result in the need for new or physically altered governmental facilities to serve the Gregory Canyon site. Thus, no significant adverse short-term effects to law enforcement services or facilities are anticipated from the initial construction of the Applicant's Proposed Alternative.

### Long-Term (Operational) Impacts

No residential uses are proposed that would bring new population to the area and increase the demand for law enforcement services or the need for new or physically altered governmental facilities. At full operation of the landfill an estimated 22 full-time employees would be employed at the facility. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance. It is expected that the majority of employees would be drawn from the existing labor pool in the region, which are part of the population currently receiving law enforcement services from the SDSD. Therefore, there would be no notable population growth associated with project operations that would increase demand for law enforcement services, as a function of population size; and the Applicant's Proposed Alternative would not negatively impact the SDSD staffing goals, facility plans, acceptable service ratios, or low response times.

The Gregory Canyon site is currently unsecured and contains degraded, vacant buildings and open space areas that can attract illegal entry to the site and potential vandalism. Implementation of the landfill would secure the site. Solid waste management facilities generally do not represent a significant source of criminal activity. There is little incentive for criminal activity, activities are carried out under tight site security during the day and sites are secured at night. Further, as discussed in subsection 4.15.2.2.2 in the Transportation section of this EIS, primary causes of accidents on SR 76 are due to such factors as high speeds, alcohol and driver error. Trucks are not notable contributors to roadway accidents.

Further, there would be a number of design features implemented during the operational phase to enhance site security and reduce the potential need for law enforcement services, as indicated above. These features include restricted site access, controlled site entry, posting of "No Trespassing" signs, fencing and security lighting. The use of these site security measures would increase the level of safety and security, as well as reduce the potential for law enforcement services at the site. Thus, no notable increase in the demand for law enforcement services would occur and no significant long-term adverse effects to law enforcement services or facilities are anticipated from the operation of the landfill.

Mitigation Measures

The Applicant's Proposed Alternative would not have a significant impact on law enforcement services or facilities. No mitigation measures are proposed.

## 4.12.1.4 NO FEDERAL ACTION ALTERNATIVE

### 4.12.1.4.1 Affected Environment

The No Federal Action Alternative would provide a conservation bank at the Gregory Canyon site. Solid waste disposal would continue to occur generally as it does under existing conditions until in-county capacity is exhausted. As such, the affected environment for the No Federal Action Alternative is the same as described above for the Applicant's Proposed Alternative.

### 4.12.1.4.2 Design Features

No design features relative to the provision of law enforcement services or facilities would occur under the No Federal Action Alternative.

### 4.12.1.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on law enforcement services if the alternative would create the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.*

**Impact Statement No Action LAW-1: The No Federal Action Alternative would not result in an increase in population that would contribute to the demand for law enforcement services; nor result in an increase in activity at the Gregory Canyon site that would necessitate surveillance or notable site visits from law enforcement so as to require the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities to support additional services. Therefore, no adverse effects to law enforcement services would occur.**

The implementation of the No Federal Action Alternative would not generate housing, or population. The No Federal Action Alternative would provide a few employment opportunities for site preparation activities. Occasional site visits by maintenance workers and biologists for required maintenance or monitoring would occur. Such site workers would be few, involved at the site for only a short duration, and would be drawn

from an existing labor pool. Therefore, the No Federal Action Alternative would not meaningfully increase the need for law enforcement services base on population growth.

The nature of the site activities under the No Federal Action Alternative would not generate new activity at the Gregory Canyon site, beyond the occasional employee activities. These activities would not attract people to the site nor involve activities that would require law enforcement services. Therefore, there would be no need for new or physically altered governmental facilities to support additional site services. Thus, no adverse effects to law enforcement services would occur.

Mitigation Measures

No impacts to law enforcement services or facilities would occur under the No Federal Action Alternative. No mitigation measures are proposed.

## 4.12.1.5 ASPEN ROAD ALTERNATIVE

### 4.12.1.5.1 Affected Environment

The Aspen Road site is primarily vacant, undeveloped land. A few rural residences, buildings, and trailers are located on the site. The western portion of the site is developed with a majority of the rural residences. Agricultural uses are also located on the eastern and western portions of the site.

The SDSD provides law enforcement services and the CHP provides all traffic enforcement and accident investigation services for the Aspen Road site. Specifically, the Aspen Road site is located within Sheriff's Beat 389 of the Fallbrook Substation within the Vista Sheriff's Command in the unincorporated County. The Fallbrook Substation, located at 388 East Alvarado Street, Fallbrook, is located approximately four miles southwest of the Aspen Road site. It serves a population of approximately 53,648 people and an area of 137 square miles. The substation staffs 36 sworn officers and four professional staff members with four to five officers on duty per shift. The average response time for priority one and priority two calls is 9.7 minutes. The Fallbrook Substation average response time for priority three and priority four calls is 19.9 minutes. There are no written agreements between the Fallbrook Substation and other stations or substations for shared responsibility.[4]

### 4.12.1.5.2 Design Features

As with the Applicant's Proposed Alternative, design features to enhance site security and reduce potential crime at the Aspen Road site would be implemented during construction and operation. Design features for the Aspen Road Alternative would include fencing, lockable gates, controlled site access, posting of "No Trespassing" signs, and security lighting as described above for the Applicant's Proposed Alternative.

[4] *Ibid.*

### 4.12.1.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on law enforcement services if the alternative would create the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.*

**Impact Statement Aspen LAW-1: The Aspen Road Alternative would not result in an increase in population that would contribute to the demand for law enforcement services; nor result in an increase in activity at the Aspen Road site that would necessitate surveillance or notable site visits from law enforcement so as to require the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities to support additional services. Therefore, no significant adverse effects to law enforcement services would occur.**

#### Short-Term (Construction) Impacts

As with the Applicant's Proposed Alternative, initial construction of the Aspen Road Alternative would create up to 35 temporary construction jobs and workers would be drawn from an existing work pool, and would work at the site for only short durations, with turnover as subphases of construction proceed. Therefore, there would be no notable population growth associated with the initial construction activities that would increase demand for law enforcement services, as a function of population size.

As with the Applicant's Proposed Alternative, construction activities would be typical of construction sites and would not attract site population or involve events that would require additional law enforcement services during construction hours. The site would be shut down and secured when construction activities are not occurring. As with the Applicant's Proposed Alternative, the implementation of design features would reduce the necessity for responses from the SDSD. Therefore, no significant adverse effects to law enforcement services during initial construction would occur under the Aspen Road Alternative.

#### Long-Term (Operational) Impacts

Under the Aspen Road Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation) and would be drawn from the existing labor pool in the region. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance. Therefore, there would be no notable population growth associated with project operations that would increase demand for law enforcement services, as a function of population size; and no impacts to the SDSD staffing goals, facility plans, acceptable service ratios, or low response times would occur from implementation of the Aspen Road Alternative.

The Aspen Road site is currently unsecured and contains rural residences, buildings, trailers, and open space areas that can attract illegal entry to the site and potential vandalism. Implementation of the landfill would eliminate the need for law enforcement services associated with the existing uses on the site, and would result in a secured site that would include safety and security features. As indicated previously, solid waste management facilities generally do not represent a significant source of criminal activity due to nature of the activity and security features as discussed under the Applicant's Proposed Alternative. There is little incentive for criminal activity as activities are carried out under tight site security during the day and sites are secured at night. Further, as ensured through appropriate design and County plan review requirements,

the proposed haul route for the Aspen Road Alternative site would not include roadways with dangerous curves. Thus, it would be expected that the landfill would not increase accidents in the area.

As indicated above, the alternative would include a number of design features that would be implemented during the operational phase to enhance site security and reduce the potential need for law enforcement services. The use of these site security measures would increase the level of safety and security, as well as reduce the potential need for law enforcement services at the site. Thus, no notable increase in the demand for law enforcement services would occur and no significant long-term adverse effects to law enforcement services or facilities are anticipated from the operation of the landfill.

Mitigation Measures

The Aspen Road Alternative would have no significant adverse effects on law enforcement services or facilities. No mitigation measures are proposed.

## 4.12.1.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.12.1.6.1 Affected Environment

The Gopher Canyon Road site is generally undeveloped with a few existing residences and a water storage tank located on the western portion of the site. The Panoramic Estates, a gated residential subdivision with 35 lots, has been approved on the remainder of the site. Infrastructure, including roads, sidewalks, and curbs have been completed for the subdivision. A small portion of the eastern site of the site contains National Quarries.

The SDSD provides law enforcement services and the CHP provides all traffic enforcement and accident investigation services for the Gopher Canyon Road site. Specifically, the Gopher Canyon Road site is located within Sheriff's Beat 325 of the Vista Station within the Vista Sheriff's Command in the unincorporated County. The Vista Station, located at 325 South Melrose, Suite 210, Vista, is located approximately four miles southwest of the Gopher Canyon Road site. Other SDSD facilities including the North County Courthouse, Bonsall Storefront, Vista East Storefront, Vista South Office, Vista Village Storefront, Vista West Office, and the Vista Detention Facility are located within two to five miles of the Gopher Canyon Road site. The sstation serves a population of approximately 18,255 people and an area of 18.9 square miles. The Vista Station provides contract city law enforcement services and thereby serves as the police department for the respective cities. At each of those stations, the vast majority of station personnel and on-duty deputies are dedicated to the law enforcement contract and there are typically two non-contract patrol units available. The substation staffs 98 sworn officers (ten are for unincorporated County patrol) and 14 professional staff members with eleven to twelve officers on duty per shift. The Vista Station average response time for priority one and priority two calls is 14.4 minutes. The average response time for priority three and priority four calls is 31.2 minutes. There are no written agreements between the Vista Station and other stations or substations for shared responsibility.[5]

[5] *Ibid.*

## 4.12.1.6.2 Design Features

As with the Applicant's Proposed Alternative, design features to enhance site security and reduce potential crime at the Gopher Canyon Road site would be implemented during construction and operation. Design features for the Gopher Canyon Road Alternative would include fencing, lockable gates, controlled site access, posting of "No Trespassing" signs, and security lighting as described above for the Applicant's Proposed Alternative.

## 4.12.1.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on law enforcement services if the alternative would create the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.*

**Impact Statement Gopher LAW-1: The Gopher Canyon Road Alternative would not result in an increase in population that would contribute to the demand for law enforcement services; nor result in an increase in activity at the Gopher Canyon Road site that would necessitate surveillance or notable site visits from law enforcement so as to require the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities to support additional services. Therefore, no significant adverse effects to law enforcement services would occur.**

### Short-Term (Construction) Impacts

As with the Applicant's Proposed Alternative, initial construction of the Gopher Canyon Road Alternative would create up to 35 temporary construction jobs and workers would be drawn from an existing work pool, and would work at the site for only short durations, with turnover as subphases of construction proceed. Therefore, there would be no notable population growth associated with the initial construction activities that would increase demand for law enforcement services, as a function of population size.

As with the Applicant's Proposed Alternative, construction activities would be typical of construction sites and would not attract site population or involve events that would require additional law enforcement services during construction hours. The site would be shut down and secured when construction activities are not occurring. As with the Applicant's Proposed Alternative, the implementation of design features would reduce the necessity for responses from the SDSD. Therefore, no significant adverse effects to law enforcement services during initial construction would occur under the Gopher Canyon Road Alternative.

### Long-Term (Operational) Impacts

Under the Gopher Canyon Road Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation) and would be drawn from the labor pool in the region. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance. Therefore, there would be no notable population growth associated with project operations that would increase demand for law enforcement services, as a function of population size; and no impacts to the SDSD staffing goals, facility plans, acceptable service ratios, or response times would occur under the Gopher Canyon Road Alternative.

The Gopher Canyon Road site is currently unsecured and contains a few rural residences, a water storage tank, infrastructure, National Quarries, and open space areas. Implementation of the landfill would eliminate the need for law enforcement services associated with the existing uses on the site, and would result in a secured site that would include safety and security features. Solid waste management facilities generally do not represent a significant source of criminal activity. There is little incentive for criminal activity as activities are carried out under tight site security during the day and sites are secured at night. Further, the proposed haul route for the Gopher Canyon Road Alternative site would not include roadways with dangerous curves. Thus, it would be expected that the landfill would not increase accidents in the area.

The alternative would include a number of design features that would be implemented during the operational phase to enhance site security and reduce the potential need for law enforcement services. The use of these site security measures would increase the level of safety and security, as well as reduce the potential need for law enforcement services at the site. Thus, no notable increase in the demand for law enforcement services would occur and no significant long-term adverse effects to law enforcement services or facilities are anticipated from the operation of the landfill.

Mitigation Measures

The Gopher Canyon Road Alternative would have no significant adverse effects on law enforcement services or facilities. No mitigation measures are proposed.

## 4.12.1.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.12.1.7.1 Affected Environment

The Merriam Mountain site is undeveloped, with the exception of several paved and dirt access roads that traverse the site. The site is located in the middle of the Merriam Mountain range and a significant amount of land surrounding the site is also vacant.

The SDSD provides law enforcement services and the CHP provides all traffic enforcement and accident investigation services for the Merriam Mountain site. Specifically, the Merriam Mountain site is located within Sheriff's Beat 326 of the San Marcos Station within the San Marcos Sheriff's Command in the unincorporated County. The San Marcos Station, located at 182 Santar Place, San Marcos, is located approximately five miles south of the Merriam Mountain site. Other SDSD facilities including the Vista East Storefront, Vista South Office, and Vista Village Storefront are located within four to five miles of the Merriam Mountain site. The San Marcos Station serves a population of approximately 33,405 people and an area of 72.3 square miles. The San Marcos Station provides contract city law enforcement services and thereby serves as the police department for the respective cities. At each of those stations, the vast majority of station personnel and on-duty deputies are dedicated to the law enforcement contract and there are typically between two and four non-contract patrol units available. The substation staffs 96 sworn officers (17 are for unincorporated County patrol) and eight professional staff members with six to seven officers on duty per shift. The San Marcos Station average response time for priority one and priority two calls is 19.7 minutes. The average response time for priority three and priority four calls is 37.5 minutes. There are no

written agreements between the San Marcos Station and other stations or substations for shared responsibility.[6]

## 4.12.1.7.2 Design Features

As with the Applicant's Proposed Alternative, design features to enhance site security and reduce potential crime at the Merriam Mountain site would be implemented during construction and operation. Design features for the Merriam Mountain Alternative would include fencing, lockable gates, controlled site access, posting of "No Trespassing" signs, and security lighting as described above for the Applicant's Proposed Alternative.

## 4.12.1.7.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on law enforcement services if the alternative would create the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.*

**Impact Statement Merriam LAW-1: The Merriam Mountain Alternative would not result in an increase in population that would contribute to the demand for law enforcement services, nor result in an increase in activity at the Merriam Mountain site that would necessitate surveillance or notable site visits from law enforcement so as to require the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities to support additional services. Therefore, no significant adverse effects to law enforcement services would occur.**

### Short-Term (Construction) Impacts

As with the Applicant's Proposed Alternative, initial construction of the Merriam Mountain Alternative would create up to 35 temporary construction jobs. Construction workers would be drawn from an existing work pool, and would work at the site for only short durations, with turnover as subphases of construction proceed. Therefore, there would be no notable population growth associated with the initial construction activities that would increase demand for law enforcement services, as a function of population size.

As with the Applicant's Proposed Alternative, construction activities would be typical of construction sites and would not attract site population or involve events that would require additional law enforcement services during construction hours. The site would be shut down and secured when construction activities are not occurring. As with the Applicant's Proposed Alternative, the implementation of design features would reduce the necessity for responses from the SDSD. Therefore, no significant adverse effects to law enforcement services during initial construction would occur under the Merriam Mountain Alternative.

### Long-Term (Operational) Impacts

Under the Merriam Mountain Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation) and would be drawn from the labor pool in the region. After

[6] *Ibid.*

closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance. Therefore, there would be no notable population growth associated with project operations that would increase demand for law enforcement services, as a function of population size; and no impacts to the SDSD staffing goals, facility plans, service ratios, or response times would occur under the Merriam Mountain Alternative.

The Merriam Mountain site is currently unsecured and undeveloped and contains open space areas. Implementation of the landfill would eliminate the need for law enforcement services that may be associated with the site, and would result in a secured site that would include safety and security features. Solid waste management facilities generally do not represent a significant source of criminal activity. There is little incentive for criminal activity as activities are carried out under tight site security during the day and sites are secured at night. Further, the proposed haul route for the Merriam Mountain Alternative site would not include roadways with dangerous curves. Thus, it would be expected that the landfill would not increase accidents in the area.

The alternative would include a number of design features that would be implemented during the operational phase to enhance site security and reduce the potential need for law enforcement services. The use of these site security measures would increase the level of safety and security, as well as reduce the potential need for law enforcement services at the site. Thus, no notable increase in the demand for law enforcement services would occur and no significant adverse long-term effects to law enforcement services or facilities are anticipated from the operation of the landfill.

Mitigation Measures

The Merriam Mountain Alternative would have no significant adverse effects on law enforcement services or facilities. No mitigation measures are proposed.

## 4.12.1.8 EAST OTAY MESA ALTERNATIVE

### 4.12.1.8.1 Affected Environment

The East Otay Mesa Alternative site and surrounding areas are undeveloped and feature rugged and steep natural slopes at the foothills of the San Ysidro Mountains. Lands surrounding the site are currently used for institutional confinement and power generation. The East Otay Mesa Business Park Specific Plan area is located immediately west of the East Otay Mesa Alternative site. The site is located approximately ¼ mile from the international border with Mexico and close to the Otay Mesa Point of Entry (POE) border crossing. The U.S. Customs and Border Patrol currently patrol the area by foot, all-terrain vehicles, and helicopters.

The SDSD provides law enforcement services and the CHP provides all traffic enforcement and accident investigation services for the East Otay Mesa Alternative site. Specifically, the site is located within Sheriff's Beat 726 of the Imperial Beach Station within the Imperial Beach Command in the unincorporated County. The Imperial Beach Station, located at 845 Imperial Beach Boulevard, Imperial Beach, is located approximately 12.5 miles west of the East Otay Mesa Alternative site. Other law enforcement facilities including the SDSD East Mesa/George F. Bailey Detention Facility and the City of San Diego Police Border Storefront are located 1.3 miles and 7.7 miles respectively, from the East Otay Mesa Alternative site. Occasionally, there are Sheriff's ail vehicles in the area transporting prisoners to the jail facilities. The

Imperial Beach Station serves a population of one residence of six people and an area of 12.54 square miles. There are two deputies per shift assigned patrol duties for the Imperial Beach command. During the 2011 calendar year, 21 calls for service were received for Beat 726. There are no written agreements between the Imperial Beach Station and other stations or substations for shared responsibility.[7]

Sheriff's Beat 877 of the Campo Substation is located immediately east of the East Otay Mesa Alternative site. There are three deputies per shift assigned patrol duties for the Campo Substation with one deputy responsible for Beat 877. The Campo Substation serves a population of approximately 1,665. During the 2011 calendar year, 778 calls for service were received for Beat 877.[8]

## 4.12.1.8.2 Design Features

As with the Applicant's Proposed Alternative, design features to enhance site security and reduce potential crime at the East Otay Mesa Alternative site would be implemented during construction and operation. Design features for the East Otay Mesa Alternative would include fencing, lockable gates, controlled site access, posting of "No Trespassing" signs, and security lighting as described above for the Applicant's Proposed Alternative.

## 4.12.1.8.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on law enforcement services if the alternative would create the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.*

**Impact Statement East Otay LAW-1: The East Otay Mesa Alternative would not result in an increase in population that would contribute to the demand for law enforcement services, nor result in an increase in activity at the East Otay Mesa Alternative site that would necessitate surveillance or notable site visits from law enforcement so as to require the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities to support additional services. Therefore, no significant adverse effects to law enforcement services would occur.**

### Short-Term (Construction) Impacts

As with the Applicant's Proposed Alternative, initial construction of the East Otay Mesa Alternative would create up to 35 temporary construction jobs. Construction workers would be drawn from an existing work pool, and would work at the site for only short durations, with turnover as subphases of construction proceed. Therefore, there would be no notable population growth associated with the initial construction activities that would increase demand for law enforcement services, as a function of population size.

[7] *William D. Gore, Sheriff, Roy W. Heringer, Captain of San Marcos Station, San Diego County Sheriff's Department, letter correspondence, May 4, 2012.*

[8] *Ibid.*

As with the Applicant's Proposed Alternative, construction activities would be typical of construction sites and would not attract site population or involve events that would require additional law enforcement services during construction hours. The site would be shut down and secured when construction activities are not occurring. As with the Applicant's Proposed Alternative, the implementation of design features would reduce the necessity for responses from the SDSD. Therefore, no significant adverse effects to law enforcement services during initial construction would occur under the East Otay Mesa Alternative.

**Long-Term (Operational) Impacts**

Under the East Otay Mesa Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation) and would be drawn from the labor pool in the region. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance. Therefore, there would be no notable population growth associated with project operations that would increase demand for law enforcement services, as a function of population size; and no impacts to the SDSD staffing goals, facility plans, service ratios, or response times would occur under the East Otay Mesa Alternative.

The East Otay Mesa Alternative site is currently undeveloped and contains open space areas and is within about ¼ mile of the international border and a border crossing. The site is located immediately east of the East Otay Mesa Business Park Specific Plan area. Implementation of the landfill would eliminate the need for law enforcement services that may be associated with the site, and would result in a secured site that would include safety and security features. Solid waste management facilities generally do not represent a significant source of criminal activity. There is little incentive for criminal activity as activities are carried out under tight site security during the day and sites are secured at night. Further, the proposed haul route for the East Otay Mesa Alternative site would not include roadways with dangerous curves. Thus, it would be expected that the landfill would not increase accidents in the area.

The alternative would include a number of design features that would be implemented during the operational phase to enhance site security and reduce the potential need for law enforcement services. The use of these site security measures would increase the level of safety and security, as well as reduce the potential need for law enforcement services at the site. Thus, no notable increase in the demand for law enforcement services would occur and no significant long-term adverse effects to law enforcement services or facilities are anticipated from the operation of the landfill.

Mitigation Measures

The East Otay Mesa Alternative would have no significant adverse effects on law enforcement services or facilities. No mitigation measures are proposed.

## 4.12.1.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.12.1.9.1 Affected Environment

The City of San Diego Police Department (SDPD) serves a population of approximately 1,400,000 residents and an area of 372 square miles. The SDPD provides law enforcement services for the Sycamore Canyon site. The SDPD provides general law enforcement, patrol, traffic, crime investigation, and crime prevention

services. Additional services include air support unit, forensic science, harbor patrol, homicide, internal affairs, juvenile services, legal advisors, metro arson strike team, narcotics, neighborhood policing, school task force, and SWAT/special response team. The SDPD staffs approximately 2,100 sworn officers and approximately 600 support staff and non-sworn officers.

The SDPD has divided the neighborhoods of the City of San Diego into nine divisions. Specifically, the Sycamore Canyon site is located within the Eastern Neighborhood Division and SDPD Beat 312. The Eastern Division, located at 9225 Aero Drive, is located approximately 6.4 miles southwest of the Sycamore Canyon site. The Eastern Division serves a population of approximately 155,892 people and an area of 47.1 square miles.[9] Other law enforcement facilities including the SDPD East San Diego Storefront, Mira Mesa/Scripps Ranch Storefront, City Heights Storefront, and the Northeastern and MidCity Divisions are located between 6.3 miles and 8.3 miles from the Sycamore Canyon site.

The SDPD's response time goals are seven minutes for emergency priority calls, 14 minutes for priority one calls, 27 minutes for priority two calls, and 70 minutes for priority three and four calls. Priority E is the highest priority response level and calls involve an imminent threat to life such as serious injury collisions, ambulance needed, attempted suicide, and no detail accidents. Priority one response level is just beneath priority E in order of response level. Priority one calls involve serious crimes in progress and those in which there is a threat to life such as felony crimes in progress, lost children, child abuse, prowlers, minor injury collisions, disturbances involving weapons or violence, hazardous material spills, bomb threat evaluations, and 911 hang-ups.[10] Priority two calls include vandalism in progress and property crimes. Priority three calls include calls after a crime has been committed such as burglaries and noise calls (loud music and dogs barking). Priority four calls include nuisance calls such as children playing in the street or lost and found reports. The average response time for SDPD Beat 312 is 6.88 minutes for priority E calls and 11.3 minutes for priority one calls. The Beat 312 response times are slightly less than the citywide average response times for emergency calls (6.3 minutes) and priority one calls (11.1 minutes).

## 4.12.1.9.2 Design Features

All traffic enters the site from the landfill entrance intersection with Mast Boulevard. Unauthorized access to the site is controlled by a steel gate at the property boundary and at the scale facility. The gate is locked during non-operating hours. Gates, wire fencing, and topographic barriers surrounding the site restrict unauthorized access. A camera monitors and records gate to scale transactions 24 hours a day, while remote video cassette recorders log on a continuous basis. The landfill operator contracts with a private security firm to keep watch on the landfill and its equipment at night. As part of this arrangement, mobile light units operate all night at the equipment storage area. All design features created to enhance site security and reduce potential crime and necessity for responses from the SDPD would continue with implementation of the Sycamore Canyon Expansion Alternative.

## 4.12.1.9.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on law enforcement services if the alternative would create the need for new or physically altered governmental facilities, the construction of which could*

[9] *City of San Diego Police Department Website,* http://www.sandiego.gov/police/index.shtml*, accessed May 23, 2012.*

[10] *Sycamore Landfill Master Plan Revised Final EIR, City of San Diego, August 2012.*

*cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for law enforcement services.*

**Impact Statement Sycamore LAW-1: The Sycamore Canyon Expansion Alternative would result in an increase of ten employees, which would not contribute to the demand for law enforcement services. The increase in landfill activity would not result in an increase in criminal activity at the Sycamore Canyon site that would necessitate surveillance or notable site visits from law enforcement so as to require the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities to support additional services. Therefore, no significant adverse effects to law enforcement services would occur.**

The Sycamore Canyon Expansion Alternative would result in the expansion of the existing landfill capacity and increase of facility services. The Sycamore Canyon Expansion proposes to operate and maintain the landfill up to 24 hours per day, seven days per week. In terms of personnel, the landfill has 40 full-time employees at present. Construction workers would be drawn from an existing work pool, and would work at the site for only short durations during periodic construction activities. At full operation of the landfill, there would be a need for 10 additional full-time employees, resulting in a total of 50 full-time employees working at the facility. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance. Therefore, there would be no notable population growth associated with landfill operations that would increase demand for law enforcement services, as a function of population increase and no impacts to the SDPD staffing goals, facility plans, service ratios, or response times would occur under the Sycamore Canyon Expansion Alternative.

The periodic construction activities would be typical of construction sites and would not attract people or involve events that would require additional law enforcement services during construction hours. Solid waste management facilities generally do not represent a significant source of criminal activity. There is little incentive for criminal activity as activities are carried out under tight site security during the day and sites are secured at night. Further, as discussed in subsection 4.15.2.2.2 in the Transportation section of this EIS, primary causes of accidents are due to such factors as high speeds, alcohol and driver error. Trucks are not notable contributors to roadway accidents. Operations and safety measures of the existing landfill created to enhance site security and reduce potential crime and necessity for responses from the SDPD would continue and not change with implementation of the Sycamore Canyon Expansion Alternative. Thus, no notable increase in the demand for law enforcement services would occur and no significant adverse effects to law enforcement services or facilities are anticipated from periodic construction or operation of the landfill.

### Mitigation Measures

The Sycamore Canyon Expansion Alternative would not result in significant adverse effects on law enforcement services or facilities. No mitigation measures are proposed.

# 4.12 PUBLIC SERVICES
# 4.12.2 FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

## INTRODUCTION

This section describes fire protection and emergency medical services and facilities that serve the alternative sites and evaluates the ability of the service providers to provide services to these sites if developed as landfills. This section also identifies fire hazard conditions and potential causes of fire at the alternative sites, as well as potential effects on fire hazards associated with global climate change. The section is based on correspondence with the San Diego County Fire Authority, Deer Springs Fire Protection District (Deer Springs FPD), Vista Fire Protection District (Vista FPD), North County Fire Protection District (NCFPD), and San Diego Rural Fire Protection District (San Diego Rural FPD), as well as information provided in the County of San Diego Final EIR for the County's General Plan Update, the East Otay Mesa Business Park Specific Plan (September 2010), the City of San Diego General Plan Update Final Program EIR, and the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012). Issues regarding safety from potential fires and/or other hazardous conditions associated with the alternative landfills are addressed further in Section 4.8, Human Health and Safety, of this EIS.

## 4.12.2.1 REGULATORY FRAMEWORK

### 4.12.2.1.1 State

#### Landfill Regulations

Landfill regulations under CalRecycle and the SWRCB are found in the California CCR Title 27, Division 2, Solid Waste (CCR Title 27). These regulations address all phases of landfill operations with requirements to assure public safety and maintain the integrity of all roads, structures, utilities, gas monitoring and control systems and leachate collection and control systems. Among other provisions, 27 CCR Section 21600(b)(8)(B), requires that landfill operators identify procedures for handling burning waste and preventing landfill fires. Such identification is addressed in the permitting process (i.e. the SWFP for the landfill), which requires a demonstration that a landfill has been designed for and contains mechanisms to be consistent with the State regulations pursuant to CCR Title 27, Chapter 4.

Further, Section 4371, et. seq. of Chapter 5, Division 4, Part 2, and Section 44151, Division 30, Part 4 of the California Public Resources Code (PRC) addresses protection of forest lands as pertains to "rubbish dumps;" and guidelines for provision of solid waste facilities. These sections provide setback requirements for such facilities that are intended to reduce potential wildland fires.

#### Structural Building Regulations

State Regulations include: California Health and Safety Code, which regulates fire protection standards in buildings; CCR Title 24, which contains fire and life safety regulations and general construction building standards; California Fire Plan, which acts as the state's road map for reducing the risk of wildfire; PRC,

which designates State Responsibility Area (SRA) fire hazard severity; and SRA Fire Safe Regulations, which constitute basic wildland fire protection standards in California.

Every three years the State of California adopts a new California Fire Code, as part of the California Building Standards Code (CBSC). Under Health and Safety Code Section 17958 the CBSC becomes effective for the use of local jurisdictions. Pursuant to Health and Safety Code Sections 17958.5 and 17958.7 a county may adopt modifications or changes to the CBSC that are reasonably necessary because of local climatic, geological and topographical conditions.

## 4.12.2.1.2 Regional

### San Diego County Fire Code

Pursuant the provisions of California fire regulations, San Diego County Code of Regulatory Ordinances, Section 96.1.001 provides the County Fire Code, which is adopted for the protection of the public health and safety. It includes definitions, requirements for permits and inspection for installing or altering systems, regulations for the erection, construction, enlargement, alteration, repair, moving, removal, conversion, demolition, equipment use and maintenance of buildings and structures, including the installation, alteration or repair of new and existing fire protection systems and their inspection and provides penalties for violation of this code. It applies to all new construction and to any alterations, repairs, or reconstruction, provided for in the ordinance. The San Diego Code is based on the California Code with modifications necessary for the local conditions.

Sections of particular note for the development of a landfill are Section 96.1.503 (which modifies Section 503 of the State Code) regarding fire access roads; Section 96.1.508.2 (which modifies Section 508.2 of the State Code) regarding water supply for protection of buildings; Section 96.1.3301.2 (which modifies Section 3301.2 of the State Code) regarding blasting; and Section 96.1.4710 (which modifies Section 4710 of the California Fire Code) regarding construction methods for exterior wildfire exposure.

### San Diego County Fire Mitigation Fees Program

Division 10, Chapter 3 of the County Zoning and Land Use Regulations establishes a program for the payment of fire mitigation fees for new development. The fee program was established to provide for the construction or expansion of fire protection facilities and the acquisition of equipment. The program establishes appropriate fees for new development (i.e. construction requiring a building permit or other permit) and also allows a credit for land dedication or fire protection facilities or equipment that are donated to, and accepted by, a fire agency. In order to participate in the program the governing body of fire agencies wishing to implement the program must adopt a resolution making findings regarding the need for the mitigation fees and an agreement to comply with various conditions required operating the program. Service providers that provide services to the alternative sites participate in the program and collect fees during plan review for building permits.

### San Diego County General Plan

The San Diego County General Plan contains policies and goals to address development impacts regarding standards for the provision of fire and emergency medical services. The goals and policies pertaining to fire

hazards are addressed in Chapter 7, the Safety Element of the County's General Plan. An analysis of relevant goals and policies of the County's General Plan is provided in Section 4.10, Land Use and Planning, of this EIS.

Among the goals and standards included in Chapter 7, are response time goals for the provision of fire fighting services. The standards are presented in Table S-1 of Chapter 7, and include four levels of service based on the uses and density of the development being served. The recommended maximum response times range from 5 minutes in densely populated areas to more than 20 minutes in sparsely populated areas. The standard for limited semi-rural residential areas and rural lands (RL-20) and all commercial and industrial designations in the rural category is 20 minutes. As described in Table S-1, this travel time is designed to contain a fire to its foundation of origin, thereby minimizing the spread of structural fires to wildland areas. The travel time is considered appropriate for very low density residential areas, where full-time fire service is limited and where long access routes make it impossible to achieve shorter travel times.

### 4.12.2.1.3 Local

**City of San Diego Fire Code**

As applies only to the Sycamore Canyon Expansion Alternative due to its location within the City, Article 5, Fire Protection and Prevention of the City of San Diego Municipal Code and the City adopted California Fire Code (2007 Edition) serves as the City of San Diego Fire Code. The Fire Code is adopted to protect the public health and safety. It includes definitions, requirements for permits and inspection for installing or altering systems, regulations for the erection, construction, enlargement, alteration, repair, moving, removal, conversion, demolition, equipment use and maintenance of buildings and structures, including the installation, alteration or repair of new and existing fire protection systems and their inspection and provides penalties for violation of the code. The Code applies to all new construction and to any alterations, repairs, or reconstruction, provided for in the ordinance.

## 4.12.2.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on fire protection and emergency medical services.

### 4.12.2.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. An alternative would have a significant adverse effect on fire protection and emergency medical services if it would create the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.

### 4.12.2.2.2 Methodology

The analysis consists of a multi-step process to identify the ability of service providers to meet the needs of the alternatives for the provision of fire and emergency medical services. It includes the following steps:

- Identification of the service providers and facilities available to serve the site is based on information supplied by the service providers (San Diego County Fire Authority, CAL FIRE, Deer Springs FPD, Vista FPD, NCFPD, and San Diego Rural FPD); as well as information provided in the County of San Diego Final EIR for the County's General Plan Update, the East Otay Mesa Business Park Specific Plan, the City of San Diego General Plan Update Final Program EIR, and the Sycamore Landfill Master Development Plan Revised Final EIR;
- Identification of the potential causes of fire at the site and the nature of fire conditions in the area is based on review of the landfill activities, and review of historic landfill and wildfire characteristics;
- A description of the fire prevention and control measures incorporated into the alternative is based on information in the landfill design and the JTD for the Applicant's Proposed Alternative, including the following: design considerations, regulations regarding methane control, Hazardous Waste Exclusion Program (HWEP) for hazardous materials, and on-site fire-fighting resources. Those measures that are required under existing regulations and other design features of the Applicant's Proposed Alternative that would be typically included in landfill projects are assumed to be applicable at the alternative landfill sites;
- The ability of the alternatives to provide on-site fire-fighting response capabilities as a first provider is based on an evaluation of the applicable fire-fighting regulations and design features;
- A description of the residual fire impacts that would require assistance from the regional service providers, and information on their ability, agreements, and service levels regarding the provision of such services;
- A conclusion regarding the availability of potential responses from the nearby fire districts; and
- A discussion of global climate change as it relates to fire hazards.

## 4.12.2.3 APPLICANT'S PROPOSED ALTERNATIVE

### 4.12.2.3.1 Affected Environment

#### Regional

Fire protection and emergency medical services in San Diego County are provided by Fire Protection District (FPDs), County Service Areas (CSAs), volunteer stations, and California Department of Forestry and Fire Protection (CAL FIRE), with more than 2,800 firefighters. Generally, each agency is responsible for structural fire protection and wildland fire protection within their area of responsibility. However, mutual and automatic aid agreements enable non-lead fire agencies to respond to fire emergencies outside their district boundaries.

FPDs are independent service agencies with first-in fire fighting responsibilities within their jurisdictions. They maintain full time professional staff and equipment to serve their jurisdictions. FPDs that contain alternative sites within their boundaries and/or lie in the vicinity of service areas with mutual agreements include the NCFPD, Vista FPD, Deer Springs FPD, and San Diego Rural FPD.

CSAs are organized under the authority of the Board of Supervisors and are classified as special districts formed within the County to provide park maintenance, fire suppression services and paramedic services. Administrative oversight responsibility for fire prevention measures in all of the CSAs is by the San Diego

County Regional Fire Authority. The mission of the Fire Authority is to unify the administrative support, communications and training of rural fire agencies and extend "around the clock" protection in parts of the unincorporated county that previously had either limited, or part-time "on-call" protection. CSAs have defined boundaries and can participate in the County's Fire Mitigation Fee program, which funds facilities and equipment, but the CSAs lack the authority to adopt a fire code or provide official response to planning and building projects.

CAL FIRE is a statewide emergency response and resource protection department with a San Diego Unit headquartered at 2249 Jamacha Road in El Cajon. CAL FIRE has primary responsibility in responding to wildfires; and also responds to other emergency calls including structure fires, automobile accidents, medical aid, swift water rescues, civil disturbance, search and rescue, floods, and earthquakes. CAL FIRE participates with federal and local agencies to form a statewide mutual aid system; and contracts services, e.g. personnel to other service providers in the County. CAL FIRE is responsible for wildland fire protection on 1.2 million acres of SRA within the County; and for fire response services within over 50 percent of the unincorporated County's total land area. CAL FIRE operates numerous fire stations in the region.

### Local

The Gregory Canyon site is located in an area with limited but mixed types of development amidst large open space areas prone to occasional wildfire hazards due to population activity, natural vegetation and conducive climate conditions. Wildfire hazards can be exacerbated during times of drought, hot weather and strong Santa Ana winds, particularly during California's "fire season," which traditionally runs from June to October. Wildfires occur throughout the Southern California area; and notably during the 2007 fire season there was an unusually large number of wildfires, including wildfires that burned in the vicinity of the Gregory Canyon site in nearby Rice Canyon and up the canyon of the San Luis Rey River. Areas prone to wildfire hazard are designated as SRAs under the jurisdiction of CAL FIRE who rates the severity of potential fire hazard. Parts of the Gregory Canyon site respectively, as well as surrounding areas are designated as Moderate and Very High Fire Severity Zones.

The Gregory Canyon site is currently vacant except for a temporary storage yard located south of SR 76 on the eastern portion of the site. Historically, two dairies occupied the site and 25 residences were located on the property. The residences and structures associated with the dairies have been vacated and the residences have been boarded up.

One of the County's CSAs, CSA 135 – San Diego County Regional Fire Authority, is the primary service provider for the area in which the Applicant's Proposed Alternative is located. CSA 135 was created by the Board of Supervisors on June 25, 2008 by merging six volunteer fire companies to help protect the County's rural backcountry. Fire response services are provided by CSA 135 via contracts with CAL FIRE, volunteer fire companies, and (FPDs). Current service to this area is through an Amador contract with CAL FIRE. Current services in the area through the Amador agreement are provided by the Miller Station at 9127 West Lilac Road and the Rincon Station at 16971 Highway 76. The Miller Station is 6.6 miles from the site with a travel time of approximately 11.85 minutes. The Rincon Station is 12.3 miles from the site with a travel time of approximately 21.6 minutes. The Red Mountain Station at 3660 East Mission Road is 8.1 miles from the site with a travel time of approximately 14.4 minutes but there is no Amador agreement and it may close in nonfire season, winter months. These Stations staff Type III fire apparatus with a crew of three during fire

season and two during non-fire season 24 hours per day 7 days per week. At this time there are no new fire service expansions or new facilities planned in this area.[1]

The NCFPD is the closest FPD to the site. Although the site is not within the NCFPD's jurisdiction, it is within the district's sphere of influence; and as such could be considered for annexation should it be deemed desirable to do so in the future.

### 4.12.2.3.2 Design Features from the Gregory Canyon EIR

The proposed landfill would be designed to meet all regulatory requirements, inclusive of State and County regulations for the prevention and control of fires and related emergency conditions. The following design features, as accounted for in the regulations and the JTD would be included:

- No burning of refuse would be allowed.
- A firebreak would be provided between the refuse and the undisturbed natural areas surrounding the landfill, pursuant to CPR Section 4373. Refuse placed within 150 feet of the landfill perimeter would be in keeping with the following procedures: clearance of brush and vegetative debris from around the active disposal area, placement of soil cover regularly throughout the day, and at no time during operational hours would refuse be exposed for more than four hours.
- The application of daily and intermediate cover would be performed.
- Load checking for smoldering or burning wastes would be performed. Smoldering wastes would be separated if spotted.
- Covering of any fire with soil would occur.
- Extraction wells would be monitored for temperature and oxygen content. All equipment with internal combustion engines would be equipped with approved spark arrestors and any flammable debris would be removed from the under carriages and engine compartments of heavy equipment on a regular basis.
- Equipment with internal combustion engines would have spark arrestors.
- The removal of flammable debris from the under carriages and engine compartments of heavy equipment would occur on a regular basis.
- Fire extinguishers would be placed at the entrance facilities, in the administration and operations trailers, and in landfill equipment and vehicles.
- Hazardous materials, collected as part of the Hazardous Waste Exclusion Program, would be stored in fire proof containers located in the ancillary facilities area.
- Tires would be stored within the landfill footprint in compliance with the state and local fire codes, as well as 14 CCR, Section 17354. Tires would be shredded a minimum of every six months. The tire storage area would be limited in area, volume and height and separated from vegetation and other potential flammable materials by no less than 40 feet.

[1] *San Diego County Fire Authority; Ralph Steinhoff, Fire Services Coordinator. Letter dated December 14, 2011.*

- The risk of fire from blasting operations would be reduced through the use of a screening material placed above the blasting area that would prevent the escape of rock fragments, dust or other solid debris.
- Tire shredding would occur at a minimum of every six months.
- The landfill gas control system would be operated so as not to introduce excessive amounts of oxygen into the refuse prism.
- Site personnel would be trained to observe wildfires that may occur along the perimeter of the site and would help in suppression efforts.

### 4.12.2.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on fire protection and emergency medical services if the alternative would create the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.*

**Impact Statement Gregory FIRE-1: The Applicant's Proposed Alternative would not result in an increase in population that would contribute to demand for fire and emergency medical services; nor would it result in an increase in demand for service that could not be adequately provided from existing facilities. Therefore, there would be no need for construction of new or physically altered facilities which could cause significant environmental impacts. Therefore, no significant adverse effects to fire and emergency medical services would occur.**

The landfill would not add population to the area that would contribute to a demand for services. No residential uses are proposed and the landfill would employee 22 employees, most if not all of whom are expected to be drawn from the existing labor pool in the region. Therefore, there would be no notable population growth associated with operations that would increase demand for firefighting and emergency medical services.

The landfill would constitute a potential source of brush or refuse fires that could require firefighting responses. In addition, the site lies within an area designated as Moderate and Very High Fire Hazard Severity Zones. However, landfill operations would be carried out under regulations and with the incorporation of design features that would protect public safety and reduce the potential need for service provider responses. As further described below, risks from fire hazards associated with the landfill would be reduced through facility design and operation procedures, and the ability of on-site personnel to respond to safety threats.

First, the landfill activities would be limited to avoid potential fires and hazardous conditions. Burning of refuse would not be allowed at the landfill facility; and load checking for smoldering or burning wastes would be carried out, with separation of these wastes, if spotted, and covering of the fire with soil. Further, the dumping of hazardous materials would not be allowed. While municipal solid waste brought to the site may contain small quantities of technically hazardous waste from households and certain commercial, industrial and medical facilities, a HWEP would be implemented in compliance with State and Federal regulations. Implementation of the HWEP would ensure that safety measures are followed and fire and

safety hazards associated with hazardous wastes are minimized, including provision for storage of such materials in fire proof containers located in the ancillary facilities area. Also, the handling of tires which are a potential source of fuel for landfill fires would be carried out under procedures established in State and local fire codes, as well as 14 CCR, Section 17354. Tires would be shredded a minimum of every six months, the tire storage area would be limited in area, volume and height and separated from vegetation and other potential flammable materials by no less than 40 feet.

Second, the overall layout of the facility has been designed to reduce potential fire risks. Fire prevention and control measures incorporated into the Applicant's Proposed Alternative would include the use of a firebreak, which is the primary fire prevention measure, between the refuse and the undisturbed natural areas surrounding the landfill in accordance with the PRC Section 4373. Further, the SDG&E utility lines would be relocated to avoid the landfill prism and would provide a buffer area from site locations that might be susceptible to fires. The SDG&E gas line located underground in an easement parallel to SR 76 would also be sufficiently distant from the landfill prism as to be safe from potential fire there-in. The construction of components of the Applicant's Proposed Alternative in the vicinity of the gas line (e.g. the access road, bridge, and SR 76 improvements) would be undertaken following standard practices regarding the protection of in-place utilities during construction activities.

Water would be available for fire suppression from on-site water trucks and from the 20,000-gallon water tank located adjacent to the ancillary facilities area. The potential for subsurface fires would be reduced through the application of daily soil cover, which is placed on the refuse at the end of each day as a regular operations procedure. Such soil cover placement would limit the amount of oxygen available for combustion. Also, the gas control and monitoring system would be designed to maintain public safety. It would be operated so as not to introduce excessive amounts of oxygen into the refuse prism. The extraction wells would be monitored for temperature and oxygen content to determine if a subsurface fire is present. These features would substantially reduce the probability of a fire being ignited from methane gas. Further, all equipment with internal combustion engines would be equipped with approved spark arrestors and any flammable debris would be removed from the under carriages and engine compartments of heavy equipment on a regular basis. The risk of fire from blasting operations would be reduced through the use of a screening material placed above the blasting area that would prevent the escape of rock fragments, dust or other solid debris.

Third, operations would include personnel trained in the use of on-site equipment who would be capable of addressing most fire situations that could arise on the site. Site personnel would also be trained to watch for wildfires that may occur along the perimeter of the site and to help in suppression efforts if warranted. Fire extinguishers would be available at the entrance facilities and trailers and all landfill equipment would be equipped with fire extinguishers. Landfill surface fires that occur would be addressed with on-site fire extinguishers or by isolating the burning materials from any surrounding flammable materials and covering with soil using a dozer. In areas located outside of the landfill prism, e.g. the ancillary facilities area, or if necessary as a last resort elsewhere, water suppression would also be used.

Potential fire threats at the landfill site could also result from off-site sources such as spreading wildfires and/or lightning (due to direct lightning strike or perhaps as ball lightning).[2] The landfill would not be expected to exacerbate such impacts; nor present conditions worse than those that occur in wildland vegetated areas. As described above, the landfill would include non-vegetated buffer areas between itself and surrounding areas and site workers would be trained to watch for and respond to wildfires in the vicinity and/or provide look-out information to fire service providers. As a landfill, the site would be somewhat barren and covered with soil, which would not exacerbate and could reduce risks if a wildfire were to occur in the vicinity.[3] While methane on the site would be a potential fuel for fires, the methane on the site would be controlled through a system comprised of a landfill gas extraction well field, landfill gas conveyance lines, and a landfill gas treatment facility/flare system that would burn the landfill gasses in a controlled manner. While the methane system is not 100 percent effective and some methane may escape, the concentrations would be monitored via strict regulatory requirements and residuals would be at very low concentrations, likely below ignitable levels. Even if an ignition were to occur, fire potential would be limited due to the generally low concentrations and mixture with soil cover materials.

For the reasons stated above, emergency calls to service providers would be limited. The landfill would be operated in a manner that would reduce the potential for fires, and the operator would have procedures and trained personnel for responding to fires and emergency medical conditions on-site, which would reduce the need for a public service provider response. However, if public fire services were needed, such services would be provided through the providers in the area. As discussed above, the Applicant's Proposed Alternative is located within the boundaries of CSA 135 under the administration of the San Diego County Fire Authority; and fire response services would be provided by CSA 135 via contracts with CAL FIRE, volunteer fire companies, and FPDs. Current service to this area is through an Amador contract with CAL FIRE. The response time from the first-in station, the Miller Station, 6.6 miles from the site, has a travel time of approximately 11.85 minutes. This is within the 20 minute General Plan response time standard suggested for areas like that in which the Applicant's Proposed Alternative is located. The San Diego County Fire Authority has indicated that if the landfill project were approved, service would be provided subject to either an executed Developer Agreement or implementation of a Community Facilities District with the applicant.[4] Such agreements between developers and service agencies are standard and provide a mechanism for documenting the available resources to meet development needs and compliance with fire protection regulations. Further, the County Fire Authority has indicated the applicant may submit a short-form Fire Protection Plan application, with a technical report to address the unique nature of suppressing fires in landfill.[5] CSA 135 participates in the County Mitigation Fee program to collect fees for the improvement of services.

Therefore, given the fire prevention related design and operational procedures incorporated into the Applicant's Proposed Alternative, provisions for personnel trained in the use of on-site fire suppression

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[2] *Ball lightning refers to an unexplained atmospheric electrical phenomenon. The phenomenon has been reported as observations by large numbers of people as orbs of luminous spherical objects, usually in connection with thunderstorms. There is no agreed scientific basis for their occurrence.*

[3] *In a September 18, 2012 letter to the County of San Diego Department of Public Health, the County Fire Authority indicated "…that the landfill footprint would serve as a defensible space in the event of a wildfire due to the lack of dense vegetation, trees or other significant fuel source."*

[4] *San Diego County Fire Authority; Ralph Steinhoff, Fire Services Coordinator. Letter dated December 14, 2011.*

[5] *San Diego County Fire Authority; James Pine, Fire Marshal, Public Safety Group. Letter dated September 18, 2012.*

equipment, and fire stations located within adequate response distances, the Applicant's Proposed Alternative would not create the need for new or physically altered fire-fighting facilities, the construction of which could cause significant environmental impacts.

Mitigation Measures

The Applicant's Proposed Alternative would not result in a significant adverse effect regarding the provision of fire and emergency medical services. No mitigation measures are proposed.

## 4.12.2.4 NO FEDERAL ACTION ALTERNATIVE

### 4.12.2.4.1 Affected Environment

The No Federal Action Alternative would provide a conservation bank at the Gregory Canyon site and the remainder of the site would remain in permanent open space. Solid waste disposal would continue to occur generally as it does under existing conditions. As such, the affected environment for the No Federal Action Alternative is the same as described above for the Applicant's Proposed Alternative. Refer to Subsection 4.12.2.3.1 Affected Environment for a detailed description of the existing setting and fire service providers associated with the Gregory Canyon site.

### 4.12.2.4.2 Design Features

No design features relative to the provision of fire and emergency medical services or facilities would occur under the No Federal Action Alternative.

### 4.12.2.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on fire protection and emergency medical services if the alternative would create the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.*

**Impact Statement No Federal Action FIRE-1: The No Federal Action Alternative would not result in an increase in population that would contribute to demand for fire and emergency medical services; nor would it result in an increase in demand for service that could not be adequately provided from existing facilities. Therefore, there would be no need for construction of new or physically altered facilities which could cause significant environmental impacts. Therefore, the No Federal Action Alternative would not result in an adverse effect to fire and emergency medical services.**

Under the No Federal Action Alternative, there would be no site activity other than a small amount of grading and planting at the Gregory Canyon site. Such site activity would not meaningfully increase the likelihood that an emergency service call to the site would be necessary. Demand for fire services on the site would be generally equivalent to existing conditions on the site and would be responded to by the existing server providers, i.e. the San Diego Fire Authority via the services of CSA 135 and its mutual air/Amador contract partners. Additional facilities would not be required in order to maintain acceptable service ratios, response

times, or other performance objectives for fire services and/or emergency medical services. No adverse effects regarding fire protection and emergency medical services would occur.

Mitigation Measures

No adverse effects regarding fire protection and emergency medical services would occur. No mitigation measures are proposed.

## 4.12.2.5 ASPEN ROAD ALTERNATIVE

### 4.12.2.5.1 Affected Environment

#### Regional

The Aspen Road Alternative site is located in the unincorporated County area, which is serviced by a variety of FPDs, CSAs, volunteer stations, and CAL FIRE services. As described more fully in the discussion of the regional setting for the Applicants Proposed Alternative above, each agency is responsible for structural fire protection and wildland fire protection within their area of responsibility. However, mutual and automatic aid agreements enable non-lead fire agencies to respond to fire emergencies outside their district boundaries.

#### Local

The Aspen Road site is located in an area with limited but mixed types of development amidst large open space areas, prone to occasional wildfire hazards due to a mix of population activity, vegetation and conducive climate conditions. Wildfire hazards can be exacerbated during times of drought, hot weather and strong Santa Ana winds, particularly during California's "fire season," which traditionally runs from June to October. The Aspen Road Alternative site is located within a CAL FIRE SRA and is designated as Very High Fire Severity Zone.

The Aspen Road site is primarily vacant, undeveloped land. A few rural residences, buildings, and trailers are located on the site. The western portion of the site is developed with a majority of the rural residences. Agricultural uses are also located on the eastern and western portions of the site.

The Aspen Road site is located within the boundaries of the NCFPD. The NCFPD serves 92 squares miles and approximately 50,000 citizens. The District has 60 full time emergency medical services personnel, 9 support personnel, 20 reserve firefighters and 33 volunteer firefighters for a total of 122 personnel . It currently has 6 fire stations, 5 of which are staffed with career personnel, supplemented by reserve firefighters and one station has all volunteer staff. The District wide response times for providing services meet a standard of 8 minutes for a first arriving unit and 13 minutes for providing an effective response force 90 percent of the time in urban areas, 80 percent of the time in suburban areas and 70 percent of the time in rural areas.

The first-in station for the Aspen Road site is Fire Station #4, located at 4375 Pala Mesa Drive, approximately 7.5 miles from the landfill entrance. The District's estimated travel time to the alternative site from Station

#4, is 15 minutes. Station #4 is equipped with a medic engine, a brush truck and a medic ambulance. The District is negotiating with developers to possibly build a new Station #4 at its current site. The District is made up of 2 Divisions - Fallbrook and Rainbow. Fire service could also be provided from Station #6 located in Rainbow, which is located much closer to the site at approximately three to four miles. However, Station 6 in Rainbow is a volunteer station; and therefore, response times and level of service (certified firefighters) are not reliable. Station #6 would automatically be part of a response/dispatch, but would not be counted upon, and the District would send a full response from the fully staffed career fire stations.[6]

The NCFPD has both mutual aid and automatic aid agreements. It participates in the North Zone Master automatic aid agreement with numerous other Fire Departments, including Vista FPD in the vicinity of the alternative site. The NCFPD also has mutual aid agreements with Cal-Fire, Pala and Deer Springs FPDs. There is a CAL FIRE station located on East Mission and one at Red Mountain. The Red Mountain CAL FIRE station is seasonal and is currently closed. The NCFPD also participates in the County's Fire Mitigation Fee Program, which allows Fire Districts to assess fire mitigation fees at the time of plan review to pay for upgrades to facilities.

### 4.12.2.5.2 Design Features

The Aspen Road Alternative would be designed to meet all Fire Code and Landfill Regulations for the protection of the public from fire and emergency medical situation circumstances. Further, the Aspen Road Alternative would follow standard design practices for landfills that further contribute to public safety. The design features for the Aspen Road Alternative would be similar to those described for the Applicant's Proposed Alternative, above.

First, fire potential would be limited through the allowed activities at the site: the landfill would not allow the burning of refuse, haul truck loads would be checked for smoldering or burning wastes, dumping of hazardous materials would not be allowed (an HWEP program would be implemented for handling of hazardous materials that may be contained in municipal waste brought to the site), and tires would be handled pursuant to regulations that limit potential fire hazards.

Second, the overall landfill layout and procedures would include measures to reduce potential fire impacts. The landfill would include the use of a firebreak between the refuse and the undisturbed natural areas surrounding the landfill. Further, water storage would be maintained on site for fire-fighting, and daily cover soil would limit the amount of oxygen available for combustion. The gas control and monitoring system would be designed to reduce fire potential, and all equipment with internal combustion engines would be equipped with approved spark arrestors and any flammable debris would be removed from the under carriages and engine compartments of heavy equipment on a regular basis. The risk of fire from blasting operations would be reduced through the use of a screening material placed above the blasting area that would prevent the escape of rock fragments, dust or other solid debris.

Finally, operations would include personnel training and availability of on-site equipment to allow site workers to address most fire/emergency situations. Site personnel would be trained to address

[6] *North County Fire Protection District. March 30, 2012. e-mail correspondence from Sid Morel, Fire Marshall to PCR Services.*

fire/emergency situations and also to watch for wildfires that may occur along the perimeter of the site and help in suppression efforts of such situations. Fire extinguishers would be available at the entrance facilities and trailers and all landfill equipment would be equipped with fire extinguishers. Any surface fire that occurs would either be extinguished with on-site fire extinguishers or by isolating the burning materials from any surrounding flammable materials and covering with soil using a dozer.

### 4.12.2.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on fire protection and emergency medical services if the alternative would create the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.*

**Impact Statement Aspen FIRE-1: The Aspen Road Alternative would not result in an increase in population that would contribute to demand for fire and emergency medical services; nor would it result in an increase in demand for service that could not be adequately provided from existing facilities. Therefore, there would be no need for construction of new or physically altered facilities which could cause significant environmental impacts. However, a secondary emergency access road would be required to serve the site. Therefore, with the incorporation of a mitigation measure the Aspen Road Alternative would not result in a significant adverse effect to fire and emergency medical services.**

The Aspen Road Alternative would not add population to the area that would contribute to a demand for services. No residential uses are proposed and the landfill would employee 22 employees, most if not all of whom are expected to be drawn from the existing labor pool in the region. Therefore, there would be no notable population growth associated with operations that would increase demand for firefighting and emergency medical services.

The landfill would constitute a potential source of brush or refuse fires that could require firefighting responses. However, landfill operations would be carried out under regulations and with the incorporation of design features that would protect the public safety and that would reduce the potential need for service provider responses. A number of design features that would reduce the potential for demand from service providers would be implemented as described above. As indicated, the landfill would be operated in a manner that would reduce potential fires, and the operator would have procedures for responding to fires on-site.

Potential fire threats at the landfill site would also include off-site sources such as spreading wildfires and/or lightning. However, the landfill would not be expected to exacerbate such impacts; nor present conditions worse than those that occur in wildland vegetated areas. As also noted in the design features, numerous site design and site operation practices would reduce the potential impacts of such fires, including the use of buffer areas, site personnel trained to spot and respond to wildfires and the design of the methane gas control system which would limit potential contributions of methane as a fire fuel.

Because of the proposed operations and design features, the demand for service from public agencies is expected to be limited. However, if public fire services would be needed, such services could be provided

through the providers in the area. As indicated in the setting section above, firefighting and emergency medical services would be available to the site from the NCFPD. The estimated service time of 15 minutes from Station #4 would be within the County General Plan response time of 20 minutes for industrial uses in rural and semi-rural (SR-10) sites. The Aspen Road Alternative site and most of the surrounding area is designated as rural land; there is a small amount of SR-10 designated land to the east. Additional service could also be supported from the Volunteer Station #6 located in Rainbow, which is much closer to the site at approximately three to four miles. The NCFPD would also partner in service responses as needed through mutual aid and automatic aid agreements with numerous other Fire Departments such as Vista FPD, CAL FIRE, and Deer Springs FPD. Development of the Aspen Road Alternative would require plan review for compliance with all fire code regulation and the payment of fire mitigation fees, pursuant to the County's Fire Mitigation Fee Program for provision of new facilities.

In a letter regarding potential service to the Aspen Road site, the NCFPD noted the length of the site access road, which results in a dead end at the landfill site, exceeds a dead-end road length limit of 5,280 feet for parcels greater than 20 acres in size that is established in the Consolidated Fire Code. Given the site conditions, and the regulation, a secondary emergency access road would be provided in light of the input provided by NCFPD. A mitigation measure is provided to ensure the inclusion of a secondary emergency access road.

Given the ability of Aspen Road Alternative to address potential fire and emergency service impacts through design features and a mitigation measure, and the availability of public fire services, it is expected that the landfill would be adequately protected without individually creating a demand for services that would require new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services area.

Mitigation Measures

With the implementation of the mitigation measure to provide a secondary access road, the Aspen Road Alternative would not have a significant adverse effect on the provision of fire and emergency medical services.

**MM Aspen FIRE-1. Provision of Secondary Emergency Access**. The applicant shall provide a secondary emergency access road to the site. The location and design of the secondary emergency access shall be submitted to the NCFPD for review and approval prior to issuance of a building permit.

## 4.12.2.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.12.2.6.1 Affected Environment

#### Regional

The Gopher Canyon Road Alternative is located in unincorporated County area, which is serviced by a variety of FPDs, CSAs, volunteer stations, and CAL FIRE services. As described more fully, in the discussion of the regional setting for the Applicant's Proposed Alternative above, each agency is responsible for structural fire

protection and wildland fire protection within their area of responsibility. However, mutual and automatic aid agreements enable non-lead fire agencies to respond to fire emergencies outside their district boundaries.

### Local

The Gopher Canyon Road Alternative site is located in an area with limited but mixed types of development amidst large open space areas, prone to occasional wildfire hazards due to a mix of population activity, vegetation and conducive climate conditions. Wildfire hazards can be exacerbated during times of drought, hot weather and strong Santa Ana winds, particularly during California's "fire season," which traditionally runs from June to October. The site is located within a CAL FIRE SRA and is designated Very High Fire Severity Zone.

The Gopher Canyon Road Alternative site is generally undeveloped with a few existing residences and a water storage tank located on the western portion of the site. It is located in a combination rural/semi-rural area, which is generally characterized by agricultural and large-lot rural residential development, with quarries, day spas/resorts, and regional utility infrastructure in the surrounding area. Land to the east and northeast is in agricultural use. An approved residential subdivision with 35 lots, constructed infrastructure lies within the site.

The Gopher Canyon Road Alternative falls within the boundaries of two FPDs: Deer Springs FPD and Vista FPD, each of which is discussed below.

#### Deer Springs Fire Protection District

The Deer Springs FPD is an independent fire district that covers approximately 47 square miles of unincorporated San Diego County north of the City of Escondido. The population of the district is approximately 12,000. The district operates 3 fire stations 24 hours a day, 7 days a week, 365 days a year. Each station operates a type one engine with ALS medical capabilities, and specialized rescue equipment. Constant staffing of three personnel per engine is maintained on the district engines. A minimum of one person per engine is a licensed and locally accredited paramedic.

The nearest fire station to the proposed landfill entrance would be Station #11/District Headquarters located at 8709 Circle R Drive in Escondido, approximately four miles from the site entrance. The district also maintains a Brush Engine; however, this is only staffed under planned need due to significant fire conditions. The average response time in the district is 8.32 minutes. The district responded to 1,806 calls for service in 2011, the breakdown of call types is as follows: 51% medical assistance, 14% traffic collisions, 10% false alarms, 7% public service calls, 4% vegetation fires, 4% vehicle fires, and 10% for all other call types. There is no plan at this time to augment, reduce or otherwise modify the current level of service, nor is there any plan to add any additional equipment or facilities. The Deer Springs FPD participates in the North Zone master automatic aid agreement with numerous other Fire Departments: including Vista FPD and NCFPD in the vicinity of the alternative site. It also has mutual aid agreements with Cal-Fire, and NCFPD; and receives contracted personnel fire services from CAL FIRE. The Deer Springs FPD also participates in the County's Fire Mitigation Fee Program, which allows Fire Districts to assess fire mitigation fees at the time of plan review to pay for upgrades to facilities.

### Vista Fire Protection District

The Vista FPD contracts with the City of Vista Fire Department to provide services within the district. The approximate population served by the Vista Fire Department is 120,000. The Vista Fire Department's average response time for all emergency calls in 2011 was 4:49 minutes.

The Vista Fire Department has six stations that house five Type 1 structural engines, one quint aerial/engine combination, three advanced life support paramedic ambulances and a duty Battalion Chief. The nearest station to the Gopher Canyon Road Alternative site would be Station #3 at 1070 Old Taylor Street approximately four miles from the facility entrance. There are no planned improvements for facilities or personnel at this time. The department cross staffs three type-3 brush engines, a state medium technical rescue engine and an Incident Support Unit. The department has 25 members on duty per day that are supported by three fire prevention inspectors and four chief level staff officers for a total of 80. In 2011 the department had 10,624 calls for service including the following: fires, 223; explosion/rupture, 4; EMS/rescue, 7,776; hazardous condition, 84; service calls, 715; good intent calls, 1,524; false calls, 294; and other, 4. Agreements are in place with the Deer Springs FPD and CAL FIRE for automatic aid and mutual aid responses to this area. The Vista FPD also participates in the County's Fire Mitigation Fee Program, which allows Fire Districts to assess fire mitigation fees at the time of plan review to pay for upgrades to facilities.

## 4.12.2.6.2 Design Features

The Gopher Canyon Road Alternative would be designed to meet all Fire Code and Landfill Regulations for the protection of the public from fire and emergency medical situation circumstances. Further, the Gopher Canyon Road Alternative would follow standard design practices for landfills that further contribute to public safety. The design features for the Gopher Canyon Road Alternative would be similar to those described for the Applicant's Proposed Alternative, above.

First, fire potential would be limited through the allowed activities at the site: the landfill would not allow the burning of refuse, haul truck loads would be checked for smoldering or burning wastes, dumping of hazardous materials would not be allowed (an HWEP program would be implemented for handling of hazardous materials that may be contained in municipal waste brought to the site), and tires would be handled pursuant to regulations that limit potential fire hazards.

Second, the overall landfill layout and procedures would include measures to reduce potential fire impacts. The landfill would include the use of a firebreak between the refuse and the undisturbed natural areas surrounding the landfill. Further, water storage would be maintained on site for fire-fighting, and daily cover soil would limit the amount of oxygen available for combustion. The gas control and monitoring system would be designed to reduce fire potential, and all equipment with internal combustion engines would be equipped with approved spark arrestors and any flammable debris would be removed from the under carriages and engine compartments of heavy equipment on a regular basis. The risk of fire from blasting operations would be reduced through the use of a screening material placed above the blasting area that would prevent the escape of rock fragments, dust or other solid debris.

Finally, operations would include personnel training and availability of on-site equipment to allow site workers to address most fire/emergency situations. Site personnel would be trained to address fire/emergency situations and also to watch for wildfires that may occur along the perimeter of the site and

help in suppression efforts of such situations. Fire extinguishers would be available at the entrance facilities and trailers and all landfill equipment would be equipped with fire extinguishers. Any surface fire that occurs would either be extinguished with on-site fire extinguishers or by isolating the burning materials from any surrounding flammable materials and covering with soil using a dozer.

## 4.12.2.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on fire protection and emergency medical services if the alternative would create the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.*

**Impact Statement Gopher FIRE-1: The Gopher Canyon Road Alternative would not result in an increase in population that would contribute to demand for fire and emergency medical services; nor would it result in an increase in demand for service that could not be adequately provided from existing facilities. Therefore, there would be no need for construction of new or physically altered facilities which could cause significant environmental impacts. Therefore, the Gopher Canyon Road Alternative would not have a significant adverse effect on fire and emergency medical services.**

The Gopher Canyon Road Alternative would not add population to the area that would contribute to a demand for services. No residential uses are proposed and the landfill would employee 22 employees, most if not all of whom are expected to be drawn from the existing labor pool in the region. Therefore, there would be no notable population growth associated with operations that would increase demand for firefighting and emergency medical services.

The landfill would constitute a potential source of brush or refuse fires that could require firefighting responses. However, landfill operations would be carried out under regulations and with the incorporation of design features that would protect the public safety and that would reduce the potential need for service provider responses. The previous section summarizes the landfill design features that reduce the potential for fire and emergency medical service responses. As indicated, the landfill would be operated in a manner that would reduce the potential for fires, and the operator would have procedures and equipment for responding to fires and emergency medical conditions on-site.

Potential fire threats at the landfill site would also include off-site sources such as spreading wildfires and/or lightning. However, the landfill would not be expected to exacerbate such impacts; nor present conditions worse than those that occur in wildland vegetated areas. As also noted in the design features, numerous site design and site operation practices would reduce the potential impacts of such fires, including the use of buffer areas, site personnel trained to spot and respond to wildfires and the design of the methane gas control system which would limit potential contributions of methane as a fire fuel.

Because of the proposed landfill operations and design features, the demand for service from public agencies is expected to be limited. However, if public fire services would be needed, such services could be provided through the providers in the area. As indicated in the setting section above, firefighting and emergency medical services would be available to the site from the Deer Springs and/or Vista FPDs. The nearest fire stations to the site for each of the fire districts are located approximately 4 miles from the site 8709 Circle R

Drive in Escondido, and 1070 Old Taylor Street, respectively. In addition, the services would be available through mutual aid agreements between the two districts, as well as the NCFPD and CAL FIRE. Given the somewhat short distances from the stations to the site and average response times for the districts of 8.32 minutes and 4:49 minutes, respectively, it is concluded that service could be provided to the site within the 20 minute General Plan response goal for rurally designated sites.

Implementation of a landfill at the Gopher Canyon Road site would require plan check review for compliance with all fire regulations and the payment of fire mitigation fees to off-set the costs of additional service to the new landfill. Given the availability of services and inclusion of necessary fire improvements as part of the plan check requirements, no further need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services area, would be required.

Mitigation Measures

The Gopher Canyon Road Alternative would not result in a significant adverse effect on the provision of fire and emergency medical services. No mitigation measures are proposed.

## 4.12.2.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.12.2.7.1 Affected Environment

#### Regional

The Merriam Mountain Alternative regional site context is that of unincorporated County area; which is serviced by a variety of FPDs, CSAs, volunteer stations, and CAL FIRE services. As described more fully, in the discussion of the regional setting for the Applicant's Proposed Alternative above, each agency is responsible for structural fire protection and wildland fire protection within their area of responsibility. However, mutual and automatic aid agreements enable non-lead fire agencies to respond to fire emergencies outside their district boundaries.

#### Local

The Merriam Mountain Alternative property is undeveloped, with the exception of several paved and dirt access roads that traverse the site. The site is located in the middle of the Merriam Mountain range and a significant amount of land surrounding the site is also vacant. It is located generally in a rural area. Land uses that abut the mountain range include rural residential, extractive, communications/utilities, freeway, mobile home park, golf course, resort, and orchard/vineyard.

The Merriam Mountain site is located within the boundaries of the Deer Springs FPD, which is an independent fire district that covers approximately 47 square miles of unincorporated San Diego County North of the City of Escondido. The district also serves the Gopher Canyon site, and is discussed in more detail in the Setting Section for that alternative. As indicated therein, the district operates 3 fire stations 24 hours a day, 7 days a week, 365 days a year. Each station operates a type one engine with ALS medical

capabilities, and specialized rescue equipment. Constant staffing of three personnel per engine is maintained on the district engines. A minimum of one person per engine is a licensed and locally accredited paramedic.

The site lies somewhat equidistant between the two nearest fires stations, Station #11/District Headquarters located at 8709 Circle R Drive in Escondido, and Station #12 at 1321 Deer Springs Road in San Marcos at approximately 3 to 4 miles from the proposed landfill entrance. The district also maintains a Brush Engine, however this is only staffed under planned need due to significant fire conditions. The Deer Springs FPD participates in the North Zone master automatic aid agreement with numerous other Fire Departments: including Vista FPD and NCFPD in the vicinity of the alternative site. It also has mutual aid agreements with Cal- Fire, and NCFPD; and receives contracted personnel fire services from CAL FIRE. The Deer Spring FPD also participates in the County's Fire Mitigation Fee Program, which allows fire districts to assess fire mitigation fees at the time of plan review to pay for upgrades to facilities.

### 4.12.2.7.2 Design Features

The Merriam Mountain Alternative would be designed to meet all Fire Code and Landfill Regulations for the protection of the public from fire and emergency medical situation circumstances. Further, the Merriam Mountain Alternative would follow standard design practices for landfills that further contribute to public safety. The design features for the Merriam Mountain Road Alternative would be similar to those described for the Applicant's Proposed Alternative, above.

First, fire potential would be limited through the allowed activities at the site: the landfill would not allow the burning of refuse, haul truck loads would be checked for smoldering or burning wastes, dumping of hazardous materials would not be allowed (an HWEP program would be implemented for handling of hazardous materials that may be contained in municipal waste brought to the site), and tires would be handled pursuant to regulations that limit potential fire hazards.

Second, the overall landfill layout and procedures would include measures to reduce potential fire impacts. The landfill would include the use of a firebreak between the refuse and the undisturbed natural areas surrounding the landfill. Further, water storage would be maintained on site for fire-fighting, and daily cover soil would limit the amount of oxygen available for combustion. The gas control and monitoring system would be designed to reduce fire potential, and all equipment with internal combustion engines would be equipped with approved spark arrestors and any flammable debris would be removed from the under carriages and engine compartments of heavy equipment on a regular basis. The risk of fire from blasting operations would be reduced through the use of a screening material placed above the blasting area that would prevent the escape of rock fragments, dust or other solid debris.

Finally, operations would include personnel training and availability of on-site equipment to allow site workers to address most fire/emergency situations. Site personnel would be trained to address fire/emergency situations and also to watch for wildfires that may occur along the perimeter of the site and help in suppression efforts of such situations. Fire extinguishers would be available at the entrance facilities and trailers and all landfill equipment would be equipped with fire extinguishers. Any surface fire that occurs would either be extinguished with on-site fire extinguishers or by isolating the burning materials from any surrounding flammable materials and covering with soil using a dozer.

### 4.12.2.7.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on fire protection and emergency medical services if the alternative would create the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.*

**Impact Statement Merriam FIRE-1: The Merriam Mountain Alternative would not result in an increase in population that would contribute to demand for fire and emergency medical services; nor would it result in an increase in demand for service that could not be adequately provided from existing facilities. Therefore, there would be no need for construction of new or physically altered facilities which could cause significant environmental impacts. Therefore, the Merriam Mountain Alternative would not have a significant adverse effect on fire and emergency medical services.**

The Merriam Mountain Alternative would not add population to the area that would contribute to a demand for services. No residential uses are proposed and the landfill would employee 22 employees, most if not all of whom are expected to be drawn from the existing labor pool in the region. Therefore, there would be no notable population growth associated with operations that would increase demand for firefighting and emergency medical services.

The landfill would constitute a potential source of brush or refuse fires that could require firefighting responses. However, landfill operations would be carried out under regulations and with the incorporation of design features that would protect the public safety and that would reduce the potential need for service provider responses. The previous section summarizes the landfill design features that reduce the potential for fire and emergency medical service responses. As indicated, the landfill would be operated in a manner that would reduce the potential for fires, and the operator would have procedures and equipment for responding to fires and emergency medical conditions on-site.

Potential fire threats at the landfill site would also include off-site sources such as spreading wildfires and/or lightning. However, the landfill would not be expected to exacerbate such impacts; nor present conditions worse than those that occur in wildland vegetated areas. As also noted in the design features, numerous site design and site operation practices would reduce the potential impacts of such fires, including the use of buffer areas, site personnel trained to spot and respond to wildfires and the design of the methane gas control system which would limit potential contributions of methane as a fire fuel.

Because of the proposed landfill operations and design features, the demand for service from public agencies is expected to be limited. However, if public fire services would be needed, such services could be provided through the providers in the area. As indicated in the setting section above, firefighting and emergency medical services would be available to the site from the Deer Springs FPD. The nearest fire stations are located approximately 4 miles from the landfill. In addition, the services would be available through mutual aid agreements the NCFPD and CAL FIRE. Given the somewhat short distances from the stations to the site and average response times for the districts of 8.32 minutes for the district, it is concluded that service could be provided to the site within the 20 minute General Plan response goal for rurally designated sites.

Implementation of a landfill at the Merriam Mountain site would require plan check review for compliance with all fire regulations and the payment of fire mitigation fees to off-set the costs of additional service to the new landfill. Given the availability of services and inclusion of necessary fire improvements as part of the plan check requirements, no further need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services area, would be required.

Mitigation Measures

The Merriam Mountain Alternative would not result in a significant adverse effect on the provision of fire and emergency medical services. No mitigation measures are proposed.

## 4.12.2.8 EAST OTAY MESA ALTERNATIVE

## 4.12.2.8.1 Affected Environment

### Regional

The East Otay Mesa Alternative site is located in unincorporated County area, which is serviced by a variety of FPDs, CSAs, volunteer stations, and CAL FIRE services. As described more fully, in the discussion of the regional setting for the Applicant's Proposed Alternative above, each agency is responsible for structural fire protection and wildland fire protection within their area of responsibility. However, mutual and automatic aid agreements enable non-lead fire agencies to respond to fire emergencies outside their district boundaries.

### Local

The East Otay Mesa Alternative site and surrounding areas are undeveloped and feature rugged and steep natural slopes at the foothills of the San Ysidro Mountains. Lands surrounding the site are used for institutional confinement and power generation. The East Otay Mesa Business Park Specific Plan area is located to the west of the East Otay Mesa Alternative site. The East Otay Mesa Alternative site is located approximately ¼ mile from the international border with Mexico. Wildfire hazards can be exacerbated during times of drought, hot weather and strong Santa Ana winds, particularly during California's "fire season," which traditionally runs from June to October. The site is located within a CAL FIRE SRA and is designated in both the High Fire Severity Zone and Very High Fire Severity Zone. The East Otay Mesa Alternative site falls within the boundary of the San Diego Rural FPD, which is discussed below.

#### San Diego Rural Fire Protection District

The San Diego Rural FPD serves and protects 26,500 people living in an area of 720 square miles. The district operates out of 14 stations that protect a primarily rural area. The department consists of both paid and volunteer staff. The San Diego Rural FPD main office is located at 14024 Peaceful Valley Ranch Road, approximately 9.5 miles northeast of the East Otay Mesa Alternative site. The Otay Mesa Station, Station 22, would provide service to the East Otay Mesa Alternative site. Station 22 is located at 446 Alta Road, approximately 1.25 miles northwest of the site. Station 22 is equipped with three full-time staff, a Quint 107-

foot aerial ladder truck, and one type 1 and one type 3 engine. The average response time for the station is five minutes. Station 22 serves a population of twenty, none of which are dwelling units. The District does plan to add a new station and second crew. However, no development plans or specific locations for the station have been identified. The District works closely with CAL Fire, the U.S. Forest Service, the U.S. Fish and Wildlife Service (USFWS), the U.S. Bureau of Land Management, the California Fish and Game, the San Diego County Sheriff's Department, as well as mutual and automatic aid agreements with the cities of San Diego and Chula Vista.[7]

## 4.12.2.8.2 Design Features

The East Otay Mesa Alternative would be designed to meet all Fire Code and Landfill Regulations for the protection of the public from fire and emergency medical situation circumstances. Further, the East Otay Mesa Alternative would follow standard design practices for landfills that further contribute to public safety. The design features for the East Otay Mesa Alternative would be similar to those described for the Applicant's Proposed Alternative, above.

First, fire potential would be limited through the allowed activities at the site: the landfill would not allow the burning of refuse, haul truck loads would be checked for smoldering or burning wastes, dumping of hazardous materials would not be allowed (an HWEP program would be implemented for handling of hazardous materials that may be contained in municipal waste brought to the site), and tires would be handled pursuant to regulations that limit potential fire hazards.

Second, the overall landfill layout and procedures would include measures to reduce potential fire impacts. The landfill would include the use of a firebreak between the refuse and the undisturbed natural areas surrounding the landfill. Further, water storage would be maintained on site for fire-fighting, and daily cover soil would limit the amount of oxygen available for combustion. The gas control and monitoring system would be designed to reduce fire potential, and all equipment with internal combustion engines would be equipped with approved spark arrestors and any flammable debris would be removed from the under carriages and engine compartments of heavy equipment on a regular basis. The risk of fire from blasting operations would be reduced through the use of a screening material placed above the blasting area that would prevent the escape of rock fragments, dust or other solid debris.

Finally, operations would include personnel training and availability of on-site equipment to allow site workers to address most fire/emergency situations. Site personnel would be trained to address fire/emergency situations and also to watch for wildfires that may occur along the perimeter of the site and help in suppression efforts of such situations. Fire extinguishers would be available at the entrance facilities and trailers and all landfill equipment would be equipped with fire extinguishers. Any surface fire that occurs would either be extinguished with on-site fire extinguishers or by isolating the burning materials from any surrounding flammable materials and covering with soil using a dozer.

[7] *San Diego Rural Fire Protection District; Cecily Hanson. Email dated April 30, 2012.*

## 4.12.2.8.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on fire protection and emergency medical services if the alternative would create the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.*

**Impact Statement East Otay FIRE-1: The East Otay Mesa Alternative would not result in an increase in population that would contribute to demand for fire and emergency medical services; nor would it result in an increase in demand for service that could not be adequately provided from existing facilities. Therefore, there would be no need for construction of new or physically altered facilities which could cause significant environmental impacts. Therefore, East Otay Mesa Alternative would not have a significant adverse effect on fire and emergency medical services.**

The East Otay Mesa Alternative would not add population to the area that would contribute to a demand for services. No residential uses are proposed and the landfill would employee 22 employees, most if not all of whom are expected to be drawn from the existing labor pool in the region. Therefore, there would be no notable population growth associated with operations that would increase demand for firefighting and emergency medical services.

The landfill would constitute a potential source of brush or refuse fires that could require firefighting responses. However, landfill operations would be carried out under regulations and with the incorporation of design features that would protect the public safety and that would reduce the potential need for service provider responses. The previous section summarizes the landfill design features that reduce the potential for reducing fires and emergency medical service responses. As indicated, the landfill would be operated in a manner that would reduce the potential for fires, and the operator would have procedures and equipment for responding to fires and emergency medical conditions on-site.

Potential fire threats at the landfill site would also include off-site sources such as spreading wildfires and/or lightning. However, the landfill would not be expected to exacerbate such impacts; nor present conditions worse than those that occur in wildland vegetated areas. As also noted in the design features, numerous site design and site operation practices would reduce the potential impacts of such fires, including the use of buffer areas, site personnel trained to spot and respond to wildfires and the design of the methane gas control system which would limit potential contributions of methane as a fire fuel.

Because of the proposed landfill operations and design features, the demand for service from public agencies is expected to be limited. However, if public fire services would be needed, such services could be provided through the providers in the area. As indicated in the setting section above, firefighting and emergency medical services would be available to the site from the San Diego Rural FPD. The nearest fire station, Station 22, is located at 446 Alta Road, approximately 1.25 miles northwest of the site. In addition, the services would be available through mutual and automatic aid agreements with the cities of San Diego and Chula Vista, as well as CAL FIRE. Given the short distances from the station to the site and average response times for the station of five minutes, it is concluded that service would be provided to the site within the 20 minute General Plan response goal for rurally designated sites.

Implementation of a landfill at the East Otay Mesa Alternative site would require plan check review for compliance with all fire regulations and the payment of fire mitigation fees to off-set the costs of additional service to the new landfill. Given the availability of services and inclusion of necessary fire improvements as part of the plan check requirements, no further need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services area, would be required.

Mitigation Measures

The East Otay Mesa Alternative would not result in a significant adverse effect on the provision of fire and emergency medical services. No mitigation measures are proposed.

## 4.12.2.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.12.2.9.1 Affected Environment

The Sycamore Canyon Expansion Alternative is located within the City of San Diego Fire-Rescue Department jurisdiction for fire protection and emergency medical services. The City of San Diego Fire-Rescue Department has 47 fire stations protecting more than 330 square miles and over 1.3 million residents. The nearest City of San Diego fire-rescue unit, Fire Station 34, located at 6565 Cowles Mountain Boulevard, is approximately five miles south of the landfill entrance. Station 34 is equipped with one engine and one brush truck. The nearest fire station, City of Santee Fire Station 5, located at 9130 Carlton Oaks Drive, is approximately 1.6 miles southeast of the site. Station 5 is equipped with one engine, a rescue vehicle, and a paramedic ambulance staffed by a firefighter-paramedic crew of two. The City of Santee Fire Department provides "first-in" fire and emergency medical services to the landfill area under an automatic aid agreement between the City of San Diego and the City of Santee. Under this agreement, a mix of City and automatic aid partner agencies respond to fires within edge areas in order to receive aid in the least amount of time without regard to jurisdiction.

The National Fire Protection Association 1710 Standard for the Organization and Deployment of Fire Suppression Operations is used as the best practice for determining appropriate initial response of fire suppression resources. The standard requires the initial response of four firefighters, within five minutes, 90 percent of the time, and a full effective fire force, 15 firefighters, within nine minutes, 90 percent of the time.

According to the Sycamore Landfill Master Development Plan Revised Draft EIR, response times to the Sycamore Canyon site were calculated using the San Diego Fire-Rescue 911 Computed Aided Dispatch System point to point routing. The system uses the road network representing the closest path from the fire station addresses to the requested location. Based on this methodology, the following response times were generated for the Sycamore Canyon site:[8]

[8] *City of San Diego. August 2012. Sycamore Landfill Master Development Plan Revised Final EIR, page 2-18.*

**Engine**

- 9.3 minutes from Santee Fire Station 5, located at 9130 Carlton Oaks Drive;
- 12.3 minutes from Santee Fire Station 4, located at 8950 Cottonwood Road;
- 12.9 minutes from El Cajon Fire Station 7, located at 695 Tyrone Street;
- 13.5 minutes from La Mesa Fire Station 12, located at 8844 Dallas Street;
- 14.1 minutes from San Diego Fire Station 34, located at 6565 Cowles Mountain Boulevard; and
- 14.7 minutes from Fire Station 39, located at 4949 La Cuenta Drive.

**Truck**

- 12.3 minutes from Santee Fire Station 4; and
- 17.2 minutes from San Diego Fire Station 28, located at 3880 Kearney Villa Road.

**Battalion Chief**

- 12.3 minutes from Santee Fire Station 4; and
- 19.5 minutes from San Diego Fire Station 44 at 10011 Black Mountain Road.

Based on the agreements between the San Diego County fire agencies, fire units from the cities of Santee, Le Mesa, and El Cajon are dispatched through the San Diego Fire-Rescue 911 Dispatch Center, as required. Santee engines, trucks, and Battalion Chiefs can therefore be recommended as first responders to incidents at the Sycamore Canyon Expansion Alternative site, being the closest units to the site with the quickest response times. In the event that a Santee Battalion Chief is the first responder to a City of San Diego emergency medical call, a San Diego Battalion Chief would also be assigned to the call. Based on the above response times, the present response times to the site do not meet standards of initial response, four firefighters within five minutes and a full effective fire force of fifteen firefighters within nine minutes.

### 4.12.2.9.2 Design Features

The existing Sycamore Canyon Landfill maintains its own fire-fighting equipment, including bulldozers and water trucks, a water tank for fire suppression purposes; landscaping in compliance with the City of San Diego's brush management requirements; maintenance of a 150-foot clearance between waste and flammables (e.g. grasses); buildings in compliance with City fire-related building code requirements; and State and Federal review of safety practices. The current operator requires that all site personnel attend annual training in routine landfill fire control procedures. In addition, load checking and daily compacting are conducted at the site. Hot spots in incoming loads and other minor fire incidents are controlled by spreading waste, smothering it with cover soil, and/or dowsing it with water from the on-site water truck. All design features created to enhance fire protection and reduce potential demand for fire protection and emergency services would continue with implementation of the Sycamore Canyon Expansion Alternative.

### 4.12.2.9.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on fire protection and emergency medical services if the alternative would create the need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.*

**Impact Statement Sycamore FIRE-1: The Sycamore Canyon Expansion Alternative would not result in an increase in population that would contribute to demand for fire and emergency medical services; nor would it result in an increase in demand for service that could not be adequately provided from existing facilities. Therefore, there would be no need for construction of new or physically altered facilities which could cause significant environmental impacts. Therefore, the Sycamore Canyon Expansion Alternative would not have a significant adverse effect on fire and emergency medical services.**

The Sycamore Canyon Expansion Alternative would not add population to the area that would contribute to a demand for services. The Sycamore Canyon Expansion Alternative would result in the expansion of capacity and increase in facility services, including 24-hour operation, seven days per week. The alternative would result in an increase of ten employees, and could result in some additional construction workers, all of which would likely be drawn from an existing work pool. Therefore, there would be no notable population growth associated with operations that would increase demand for firefighting and emergency medical services.

As indicated above, the landfill would continue to be operated in a manner that would reduce the potential for fires, and the operator currently has procedures and equipment for responding to fires and emergency medical conditions on-site. Potential fire threats at the landfill site would also include off-site sources such as spreading wildfires and/or lightning. As indicated above the first-in response would be provided by the City of Santee Fire Stations 4 and 5, located approximately four miles and 1.6 miles southeast of the site, respectively. Fire protection and emergency medical services provided by the City of San Diego Fire-Rescue Department would be from Fire Station 34, located approximately five miles south of the site. As discussed above, based on the San Diego Fire-Rescue 911 Computed Aided Dispatch System, the current response times to the site do not meet standards of initial response. Based on these response times, Santee engines, trucks, and Battalion Chiefs are recommended as first responders to incidents at the landfill. However, the Sycamore Canyon Landfill maintains its own fire-fighting equipment, including bulldozers and water trucks and a water tank for fire suppression purposes as well as other design features relative to fire protection, which would continue with the expansion. However, the expansion, even with the increase in daily activity, would not be expected to exacerbate such impacts nor present conditions worse than those that occur in wildland vegetated areas. Because of the existing operations, fire-prevention measures, and design features, the demand for fire protection and emergency medical services from public agencies is expected to be limited.

Implementation of the Sycamore Canyon Expansion Alternative would require plan check review for compliance with all fire regulations and the payment of fire mitigation fees to off-set the costs of additional services to the landfill. Given the fire protection design features, the availability of services and inclusion of necessary fire improvements as part of the plan check requirements, no further need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services area, would be required.

### Mitigation Measures

The Sycamore Canyon Expansion Alternative would not result in a significant adverse effect on the provision of fire and emergency medical services. No mitigation measures are proposed.

## 4.12.2.10 GLOBAL CLIMATE CHANGE AND FIRE HAZARDS

This subsection provides a discussion of the potential impacts that global climate change may have on the alternatives in the context of potential impacts to fire protection and emergency medical services and facilities. Potential effects resulting from climate change include increased intensity of various climatic events such as droughts and wildfires which in turn may affect the demand for fire protection and emergency medical services.

Global climate change is expected to disrupt global fire patterns within the western United States, with the potential for more frequent fires within the next 30 years. By the end of the century, almost all of North America is projected to see an increase in the frequency of wildfires, primarily because of increasing temperature trends.[9] The study, which was led by University of California at Berkeley, used 16 different climate change models combined with satellite-based fire records with historical climate observations and model simulations to generate how climate change might affect global fire patterns.

The U.S. Department of Agriculture Forest Service (USDA), Climate Change Resource Center website contains studies that indicate that climate warming associated with elevated greenhouse gas concentrations may create an atmospheric and fuel environment that is more conducive to severe fires. A warmer climate with less precipitation would amplify the effects of drought, increase wildfire frequency and intensity, and increase the number of days in a year with flammable fuels, thereby, extending fire seasons and area burned.[10]

Healthy forests have an important role in addressing climate change. Forest protection and management can mitigate greenhouse gas emissions primarily through the process of sequestration. Trees pull carbon dioxide from the atmosphere and convert it to cellulose through the process of photosynthesis. When trees die, they release carbon dioxide back into the atmosphere. The USFWS, USDA, the Natural Resources Conservation Service (NRCS), the California Natural Resource Agency (CNRA), the California Energy Commission, and CAL FIRE are among several agencies working at national, state, and local levels to protect and manage California forests and rangelands. As part of the Governor's Climate Action Team, CAL FIRE, a statewide emergency response and resource protection department, has identified the following forestry strategies for reducing or mitigating greenhouse gas emissions: reforestation to sequester more carbon; forestland conservation to avoid forest loss to development which protects the existing carbon stores in standing trees and maintains the land's inherent capacity for sequestering maximum amounts; fuels reduction to reduce wildfire emissions and utilization of those materials for renewable energy; urban forestry to reduce energy demand through shading, increase sequestration, and contribute biomass for energy generation; and improved forest management to increase carbon sequestration benefits and protect forest health. The Board of Forestry and Fire Protection, in cooperation with the CNRA, will provide leadership in implementing these strategies in compliance with AB 32. CAL FIRE is also working with stakeholders and other agencies to identify ways to

[9] *Based on a study led by researchers at the University of California, Berkeley. Science Daily Website, Climate Change to Alter Global Fire Risk, http://www.sciencedaily.com/releases/2012/06/120612144805.htm, accessed June 25, 2012.*

[10] *United States Department of Agriculture Forest Service, Climate Change Resource Center Website, Wildland Fire and Climate Change, http://www.fs.fed.us/ccrc/topics/wildland-fire.shtml, accessed June 27, 2012.*

reduce or adapt to unavoidable impacts to forest ecosystems and communities from climate change that has already begun to occur.[11]

The CNRA and the California Energy Commission have released Cal-Adapt, a web-based tool which enables city and county planners, government agencies, and the public to identify potential climate change risks in specific areas throughout California at the local level. The Cal-Adapt climate data model for wildfires, provided by the University of California Merced Climate Applications Lab, projects the additional fire risk for an area as compared to the expected burned area for 30-year averaged periods ending in 2020, 2050, and 2085.[12] According to the data, the increase in fire risk associated with the alternative sites within the County of San Diego, excluding the Sycamore Canyon Expansion Alternative, would be negligible and conditions would be similar to today. While the City of San Diego was not included in the model, due to the similar regional setting and proximity of the Sycamore Canyon Expansion Alternative site with the other alternative sites in the County, fire risk associated with the Sycamore Canyon Expansion Alternative is expected to remain similar to that of the other alternatives.

As indicated above, landfill operations at the alternative sites would be carried out in compliance with applicable regulations and with the incorporation of design features that would protect the public safety. A landfill at any of the alternative sites would be operated in a manner that would reduce the potential for fires, and the operator would have procedures and trained personnel for responding to fires and emergency medical conditions on-site, which would reduce the need for a public service provider response. However, if public fire services were needed, such services would be provided by fire facilities in the area. Therefore, given the fire prevention related design features and operational procedures incorporated into each alternative, fire stations located within adequate response distances, potential impacts that global climate change may have on the alternatives over time with regard to increased fire risk are not expected to have an adverse effect on fire protection and medical emergency service providers.

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[11] *California Department of Forestry and Fire Protection Website, Climate Change Activities and Initiatives, http://www.fire.ca.gov/resource_mgt/resource_mgt_eprp_climate/climate_change.php, accessed June 25, 2012.*

[12] *Cal-Adapt Website, Wildfire: Fire Risk Map, climate data provided by UC Merced Climate Applications Lab, http://cal-adapt.org/fire/, accessed June 25, 2012. The data presented in this tool represents a projection of potential future climate scenarios, they are not predictions. The data is meant to illustrate how the climate may change based on a variety of different potential social and economic factors. The default visualizations in the tool are comprised of the average values from a variety of scenarios and models.*

# 4.12 PUBLIC SERVICES
# 4.12.3 SCHOOLS

## INTRODUCTION

This section evaluates the ability of potentially affected school districts to accommodate the increase in population that could occur with implementation of the alternatives and is based in part on information provided in the County of San Diego Final EIR for the County's General Plan Update, the City of San Diego General Plan Update Final Program EIR, and the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012).

## 4.12.3.1 REGULATORY FRAMEWORK

### 4.12.3.1.1 State

#### California Department of Education

The California Department of Education (CDE) administers California's public education system at the state level and the State Board of Education, by statute, is the governing and policy-determining body of the CDE. The Board adopts rules and regulations for the government of the state's public schools.

#### Assembly Bill 16

In 2002, AB 16 created the Critically Overcrowded School Facilities program, which supplements the new construction provisions within the School Facilities Program (SFP). SFP provides state funding assistance for two major types of facility construction projects: new construction and modernization. The Critically Overcrowded School Facilities program allows school districts with critically overcrowded school facilities, as determined by the CDE, to apply for new construction projects in advance of meeting all SFP new construction program requirements. Districts with SFP new construction eligibility and school sites included on a CDE list of source schools may apply.

#### Developer Fees – Senate Bill 50

The State of California has traditionally been responsible for the funding of local public schools. To assist in providing facilities to serve students generated by new development projects, the state passed Assembly Bill 2926 (AB 2926) in 1986. This bill allowed school districts to collect impact fees from developers of new residential and commercial/industrial building space. The legislation enabled school districts to directly impose developer fees to pay for new school construction. Legislative actions since 1986 have alternatively expanded and contracted the limits placed on school fees by AB 2926. In addition, AB 1600 of 1987 established a requirement that there be a nexus between school fees and the impacts created by new development.

The Leroy F. Greene School Facilities Act (Senate Bill 50 (SB 50)) and Proposition 1A, both of which passed in 1998, provide a comprehensive school facilities financing and reform program, and refine earlier developer fee provisions. The provisions of SB 50 (a) prohibit local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate; (b) allow local school

districts to levy a fee, charge, dedication, or other requirement against any development project within its boundaries, for the purpose of funding the construction or reconstruction of school facilities; and (c) sets a maximum level of fees a developer may be required to pay. According to Government Code Section 65996, the development fees authorized by SB 50 are deemed to be full and complete mitigation for development impacts on school facilities.

## 4.12.3.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on schools.

### 4.12.3.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. An alternative would have a significant adverse effect on school facilities if the alternative would create student enrollments that exceed available capacities of school facilities so as to require the construction of new school facilities that would result in a significant physical change in the environment.

### 4.12.3.2.2 Methodology

The following analysis focuses on identification of school service providers and districts, the number of students that might be generated by new employees associated with the alternatives, identification of likely residential locations for new employees, and planned additions to the existing schools serving the alternatives. Potential impacts to schools are evaluated based on assumptions and estimates for potential indirect population increases resulting from the alternatives and associated increases in employment. The analysis qualitatively addresses whether the number of new students is sufficient to change school enrollments that could lead to the requirement of new school facilities.

## 4.12.3.3 APPLICANT'S PROPOSED ALTERNATIVE

### 4.12.3.3.1 Affected Environment

According to the San Diego County General Plan Update EIR, the current growth projections for the County show a slight decline in school enrollments between the 2007/2008 and 2008/2009 school years, followed by an estimated moderate increase in the enrollment rate up to the 2017/2018 school years. Overcrowding in schools is caused by increases in student enrollment without expansion of facilities to accommodate the increases. To maintain acceptable service ratios, current and future modernization, expansion, and new school construction plans exist for all school districts within San Diego County. The San Diego County General Plan Update includes goals and policies to address increases in population and housing within the County that would result in an increase in school enrollment.

San Diego County is served by a large number of school districts that would serve students in families of employees at the landfill site. These school districts include those that serve incorporated cities as well as unincorporated areas of the County. To the extent that employees have greater representation in the local area, and/or relocate to be closer to their work places, students may disproportionately fall within the boundaries of the schools that serve the Gregory Canyon vicinity. The Bonsall Union School District and the

Fallbrook Union High School District provide the educational services to the Gregory Canyon site (see Figure 4.12.03-1, *Elementary Schools* and Figure 4.12.03-2, *High School Districts*). The Bonsall Union School District has two elementary schools and one middle school located within two to seven miles of the Gregory Canyon site. The Fallbrook Union High School District has three high schools located within six miles of the Gregory Canyon site.

### 4.12.3.3.2 Design Features from the Gregory Canyon EIR

No design features or mitigation measures from the EIR are associated with the provision of school services.

### 4.12.3.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on school facilities if the alternative would create student enrollments that exceed available capacities of school facilities so as to require the construction of new school facilities that would result in a significant physical change in the environment.*

**Impact Statement Gregory SCHOOLS-1: The Applicant's Proposed Alternative would not create student enrollment that would exceed available capacities of school facilities at a level that would require the construction of new school facilities. Therefore, no significant adverse effects to schools would occur.**

#### Short-Term (Construction) Impacts

Initial construction of the Applicant's Proposed Alternative would last approximately nine to twelve months and would create up to 35 temporary construction jobs. If the SDCWA Aqueduct Relocation Option were to be implemented, there would be some sharing of site workers; but there could be an increase of a few more workers. Construction workers would be drawn from an existing work pool, and would work at the site for only short durations, with turnover as subphases of construction proceed. Therefore, there would be no new student population associated with the initial construction activities and no short-term significant adverse effects to local school facilities are anticipated from the construction of the Applicant's Proposed Alternative.

#### Long-Term (Operational) Impacts

The Applicant's Proposed Alternative would result in the development, operation, and closure of a landfill. No residential uses are proposed. At full operation of the Gregory Canyon Landfill, an estimated 22 full-time employees would work at the facility. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance. It is expected that the majority of employees would be drawn from the region with a greater number in communities neighboring or adjacent to the site. If the employees currently reside in neighboring communities and have school children, it is expected the children would remain enrolled in their current schools districts; and therefore, there would be no change in student population. However, if some employees with school age children choose to move closer to work or if some new employees with children are hired from outside the region, there could be an increase in student population in the local schools. The number of students would likely be distributed over several schools, and accepting that many of the 22 employees may not need to relocate to the area, and some might not have school age children, only a small number of students would be expected at

any one school. Even the small number of students arising from such an extreme relocation scenario would not be sufficient to require new school facilities.

According to the San Diego County General Plan Update EIR, current and future modernization, expansion, and new school construction plans exist for all school districts in the County. To the extent that employee family students come from the existing labor pool, they do not represent increases in student population. To the extent the employees with school age children might move into new homes, those homes would likely have been built with the payment of development fees pursuant to SB 50 for the provision of new school facilities. Pursuant to SB 50, payment of fees to the applicable school district is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, or other performance objectives for schools. If applicable, fees pursuant to SB 50 would be paid. However, if such fees are not required as a result of Proposition C, given the limited number of employees and the fact that employees would likely come from the existing labor pool, long-term impacts to local school facilities associated with the operation of the landfill would not have a significant adverse effect.

Mitigation Measures

The Applicant's Proposed Alternative would not result in a significant adverse effect to school facilities. No mitigation measures are proposed.

## 4.12.3.4 NO FEDERAL ACTION ALTERNATIVE

### 4.12.3.4.1 Affected Environment

The Affected Environment for the No Federal Action Alternative is the same as described above for the Applicant's Proposed Alternative.

### 4.12.3.4.2 Design Features

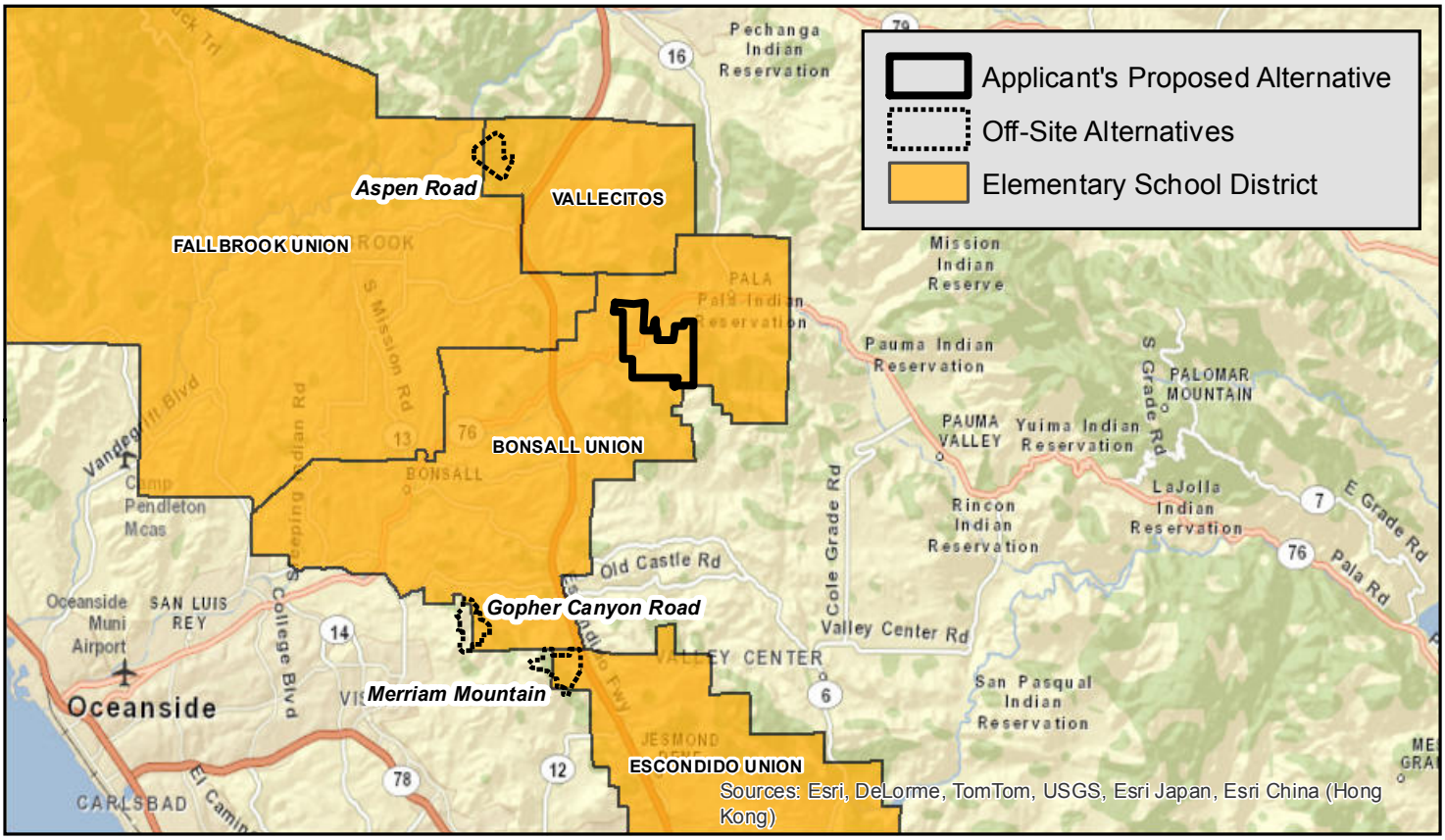
No design features for the No Federal Action Alternative are associated with the provision of school services.

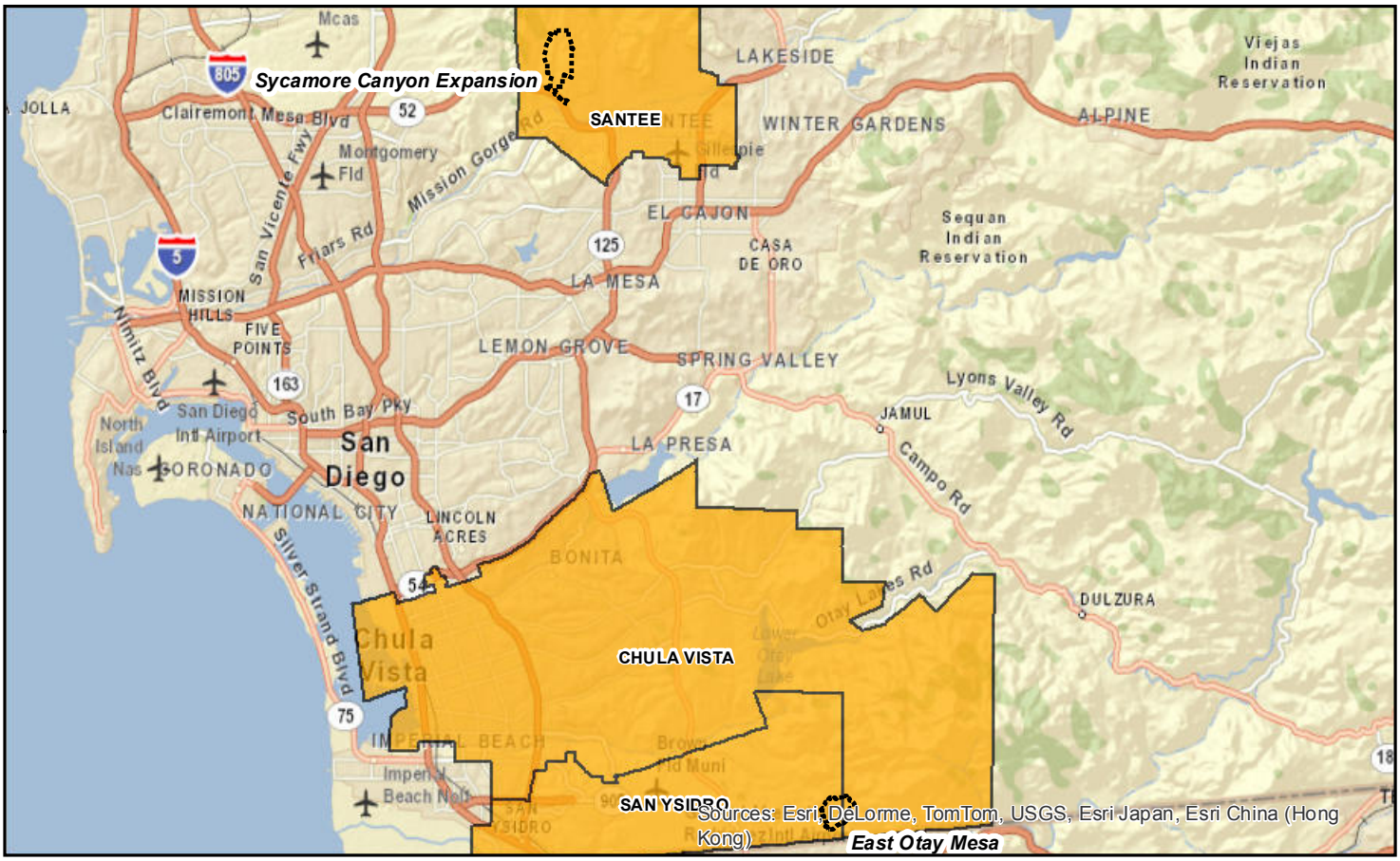
### 4.12.3.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on school facilities if the alternative would create student enrollments that exceed available capacities of school facilities so as to require the construction of new school facilities that would result in a significant physical change in the environment.*

**Impact Statement No Federal Action SCHOOLS-1: The No Federal Action Alternative would not create student enrollment that would exceed available capacities of school facilities at a level that would require the construction of new school facilities. Therefore, no impacts to school facilities would occur.**

The implementation of the No Federal Action Alternative would not generate housing or population. It would provide a few employment opportunities for site preparation activities and for the implementation of




0 5 10 Miles

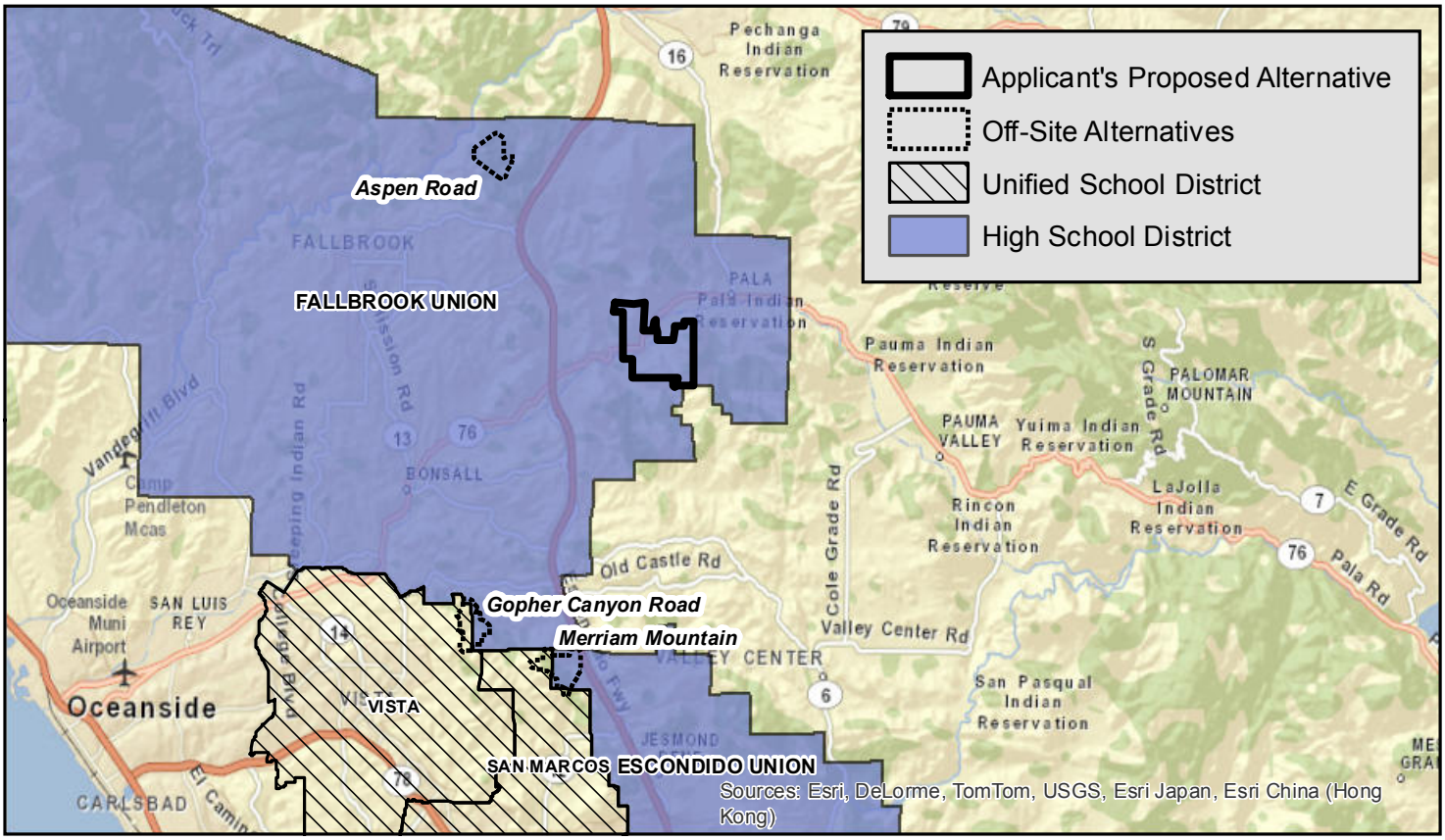
**Elementary Schools**

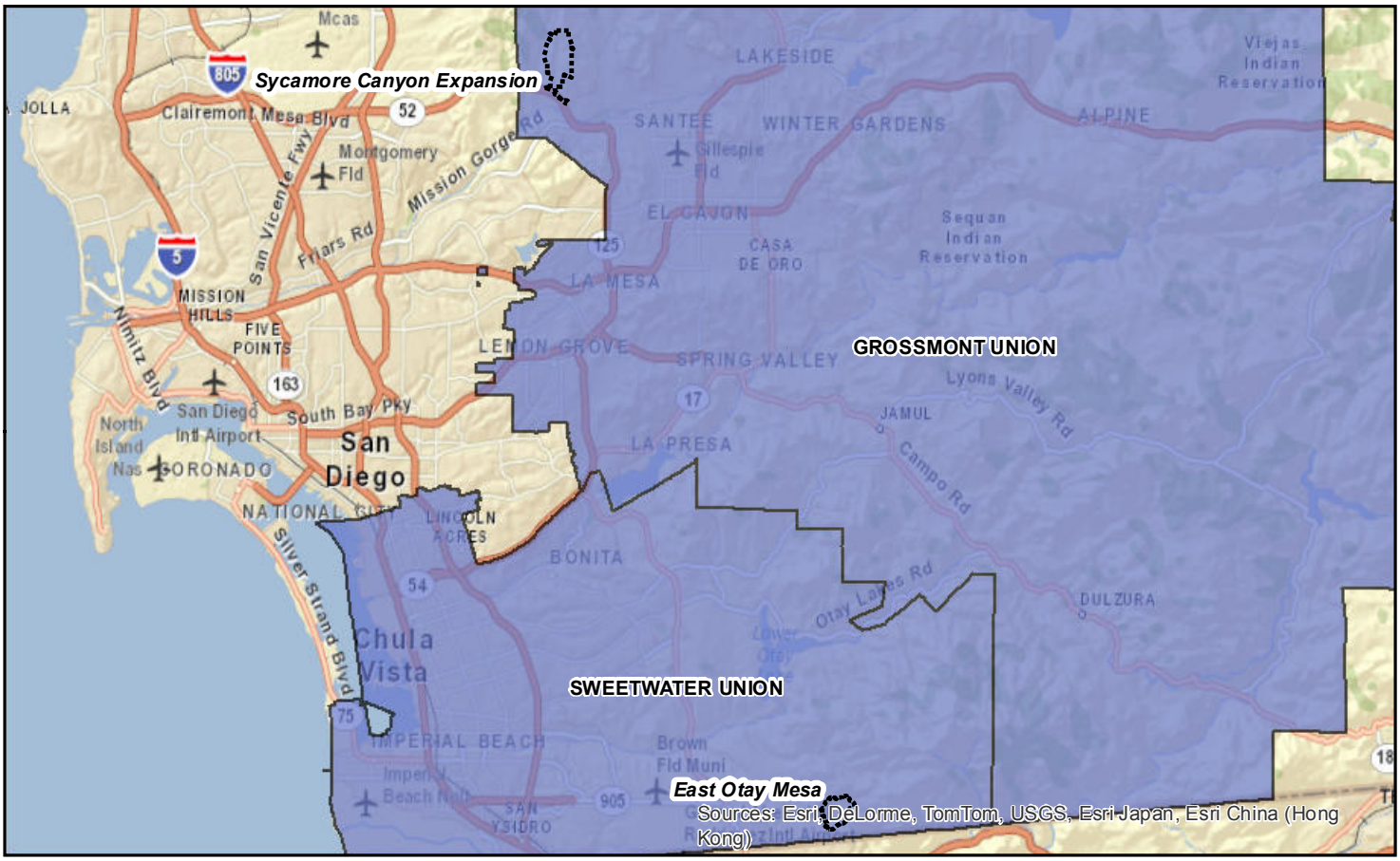
**Gregory Canyon**

Source: County of San Diego, Department of Planning and Land Use, 2012; PCR Services Corporation, 2012.

FIGURE

**4.12.3-1**




0 5 10 Miles

**High School Districts**

Gregory Canyon

Source: County of San Diego, Department of Planning and Land Use, 2012; PCR Services Corporation, 2012.

FIGURE

**4.12.3-2**

a conservation bank on the site. Occasional site visits by maintenance workers and biologists for required maintenance or monitoring would occur. Such site workers would be few, intermittent, involved at the site for only a short duration, and would be drawn from an existing labor pool. Therefore, the No Federal Action Alternative would not generate new students and would have no significant adverse effect on school facilities.

Mitigation Measures

No significant adverse effect on school facilities would occur. No mitigation measures are proposed.

## 4.12.3.5 ASPEN ROAD ALTERNATIVE

### 4.12.3.5.1 Affected Environment

The Aspen Road site is located in unincorporated San Diego County, where moderate increases in school enrollment are expected through the 2017-2018 school years; and current and future modernization, expansion, and new school construction plans exist for all school districts within San Diego County. San Diego County is served by a large number of school districts some of which would serve students in families of employees at the landfill site. To the extent that employees have greater representation in the local area, and/or relocate to be closer to their work places, students may disproportionately fall within the boundaries of the schools that serve Aspen Road vicinity. Vallecitos School District, Fallbrook Union Elementary School District, and Fallbrook Union High School District provide educational services to the Aspen Road site (see Figure 4.12.03-1 and Figure 4.12.03-2). The Vallecitos School District has one elementary school located 1.5 miles from the Aspen Road site. Fallbrook Union Elementary School District has four elementary schools, one middle school, and one elementary/middle school located within 2.5 to 4.5 miles of the Aspen Road site. The Fallbrook Union High School District has three high schools located within five miles of the Aspen Road site.

### 4.12.3.5.2 Design Features

No design features for the Aspen Road Alternative are associated with the provision of school services.

### 4.12.3.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on school facilities if the alternative would create student enrollments that exceed available capacities of school facilities so as to require the construction of new school facilities that would result in a significant physical change in the environment.*

**Impact Statement Aspen SCHOOLS-1: The Aspen Road Alternative would not create student enrollment that would exceed available capacities of school facilities at a level that would require the construction of new school facilities. Therefore, no significant adverse effects to schools would occur.**

#### Short-Term (Construction) Impacts

As with the Applicant's Proposed Alternative, initial construction of a landfill at the Aspen Road Alternative site would create approximately 35 temporary construction jobs that would be filled by an existing work

pool, working at the site for only short durations, with turnover as subphases of construction proceeds. Therefore, there would be no new student population associated with the initial construction activities; and no significant short-term impacts to local school facilities are anticipated from the construction of the Aspen Road Alternative.

**Long-Term (Operational) Impacts**

Under the Aspen Road Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation). Therefore, potential impacts associated with new employees and increased student enrollment would be the same as described above for the Applicant's Proposed Alternative, and no significant adverse effects would occur.

Mitigation Measures

The Aspen Road Alternative would have no significant adverse effect on school facilities. No mitigation measures are proposed.

## 4.12.3.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.12.3.6.1 Affected Environment

The Gopher Canyon Road Alternative site is located in unincorporated San Diego County, therefore, the general existing conditions and forecasted increases in enrollment for the County are as described above for the other landfill alternatives. To the extent that employees have greater representation in the local area, and/or relocate to be closer to their work places, students may disproportionately fall within the boundaries of the schools that serve the Gopher Canyon Road vicinity. Bonsall Union School District, Vista Unified School District, and Fallbrook Union High School District provide educational services to the Gopher Canyon Road site (see Figures 4.12.03-1 and 4.12.03-2). The Bonsall Union School District has two elementary and one middle school located within three to six miles of the Gopher Canyon Road site. The Vista Unified School District has 16 elementary schools, five middle schools, and five high schools located within one to six miles of the Gopher Canyon Road site. The Fallbrook Union High School District has three high schools located within 7.5 miles of the Gopher Canyon Road site.

### 4.12.3.6.2 Design Features

No design features for the Gopher Canyon Road Alternative are associated with the provision of school services.

### 4.12.3.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on school facilities if the alternative would create student enrollments that exceed available capacities of school facilities so as to require the construction of new school facilities that would result in a significant physical change in the environment.*

**Impact Statement Gopher SCHOOLS-1: The Gopher Canyon Road Alternative would not create student enrollment that would exceed available capacities of school facilities at a level that would**

**require the construction of new school facilities. Therefore, no significant adverse effects to schools would occur.**

### Short-Term (Construction) Impacts

As with the Applicant's Proposed Alternative, initial construction of a landfill at the Gopher Canyon Road site would create approximately 35 temporary construction jobs that would be filled by an existing work pool, working at the site for only short durations, with turnover as subphases of construction proceeds. Therefore, there would be no new student population associated with the initial construction activities; and no significant short-term impacts to local school facilities are anticipated from the construction of the Gopher Canyon Road Alternative.

### Long-Term (Operational) Impacts

Under the Gopher Canyon Road Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation). Therefore, potential impacts associated with new employees and increased student enrollment would be the same as described above for the Applicant's Proposed Alternative, and no significant adverse effects would occur.

Mitigation Measures

The Gopher Canyon Road Alternative would have no significant adverse effect on school facilities. No mitigation measures are proposed.

## 4.12.3.7 MERRIAM MOUNTAIN ALTERNATIVE

## 4.12.3.7.1 Affected Environment

The Merriam Mountain site is located in unincorporated San Diego County, therefore, the general existing conditions and forecasted increases in enrollment for the County are as described above for the other landfill alternatives. To the extent that employees have greater representation in the local area, and/or relocate to be closer to their work places, students may disproportionately fall within the boundaries of the schools that serve the Merriam Mountain vicinity. Escondido Union School District, Escondido Union High School, and San Marcos Unified School District provide the educational services to the Merriam Mountain site (see Figure 4.12.03-1 and Figure 4.12.03-2). The Escondido Union School District has six elementary schools and one middle school located within four to seven miles of the Merriam Mountain site. The Escondido Union High School District has one high school located six miles from the Merriam Mountain site. The San Marcos Unified School District has four high schools located within two to six miles from the Merriam Mountain site.

## 4.12.3.7.2 Design Features

No design features for the Merriam Mountain Alternative are associated with the provision of school services.

### 4.12.3.7.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on school facilities if the alternative would create student enrollments that exceed available capacities of school facilities so as to require the construction of new school facilities that would result in a significant physical change in the environment.*

**Impact Statement Merriam SCHOOLS-1: The Merriam Mountain Alternative would not create student enrollment that would exceed available capacities of school facilities at a level that would not require the construction of new school facilities. Therefore, no significant adverse effects to schools would occur.**

#### Short-Term (Construction) Impacts

As with the Applicant's Proposed Alternative, initial construction of a landfill at the Merriam Mountain site would create approximately 35 temporary construction jobs that would be filled by an existing work pool, working at the site for only short durations, with turnover as subphases of construction proceeds. Therefore, there would be no new student population associated with the initial construction activities; and no significant short-term impacts to local school facilities are anticipated from the construction of the Merriam Mountain Alternative.

#### Long-Term (Operational) Impacts

Under the Merriam Mountain Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation). Therefore, potential impacts associated with new employees and increased student enrollment would be the same as described above for the Applicant's Proposed Alternative, and no significant adverse effects would occur.

Mitigation Measures

The Merriam Mountain Alternative would have no significant adverse effect on school facilities. No mitigation measures are proposed.

## 4.12.3.8 EAST OTAY MESA ALTERNATIVE

### 4.12.3.8.1 Affected Environment

The East Otay Mesa site is located in unincorporated San Diego County, therefore, the general existing conditions and forecasted increases in enrollment for the County are as described above for the other landfill alternatives. To the extent that employees have greater representation in the local area, and/or relocate to be closer to their work places, students may disproportionately fall within the boundaries of the schools that serve the East Otay Mesa vicinity. San Ysidro School District, Chula Vista Elementary School District, and Sweetwater Union High School District provide the educational services to the East Otay Mesa site (see Figure 4.12.03-1 and Figure 4.12.03-2). The San Ysidro School District has six elementary schools and one middle school located within seven to 8.5 miles of the East Otay Mesa site. The Chula Vista Elementary School District has 35 elementary schools located within five to ten miles from the East Otay Mesa site. The

Sweetwater Union High School District has seven high schools and six middle schools located within five to ten miles from the East Otay Mesa site.

### 4.12.3.8.2 Design Features

No design features for the East Otay Mesa Alternative are associated with the provision of school services.

### 4.12.3.8.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on school facilities if the alternative would create student enrollments that exceed available capacities of school facilities so as to require the construction of new school facilities that would result in a significant physical change in the environment.*

**Impact Statement East Otay SCHOOLS-1: The East Otay Mesa Alternative would not create student enrollment that would exceed available capacities of school facilities at a level that would require the construction of new school facilities. Therefore, no significant adverse effects to schools would occur.**

#### Short-Term (Construction) Impacts

As with the Applicant's Proposed Alternative, initial construction of a landfill at the East Otay Mesa site would create approximately 35 temporary construction jobs that would be filled by an existing work pool, working at the site for only short durations, with turnover as subphases of construction proceeds. Therefore, there would be no new student population associated with the initial construction activities; and short-term impacts to local school facilities from the construction of the East Otay Mesa Alternative would be less than significant.

#### Long-Term (Operational) Impacts

Under the East Otay Mesa Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation). Therefore, potential impacts associated with new employees and increased student enrollment would be the same as described above for the Applicant's Proposed Alternative, and no significant adverse effects would occur.

Mitigation Measures

The East Otay Mesa Alternative would have no significant adverse effect on school facilities. No mitigation measures are proposed.

## 4.12.3.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.12.3.9.1 Affected Environment

The Sycamore Canyon site is located in the City of San Diego. The City of San Diego has numerous public and private educational institutions available for children and adults including universities and colleges, adult education facilities, community colleges, and the elementary and secondary schools. To the extent that employees have greater representation in the local area, and/or relocate to be closer to their work places,

students may disproportionately fall within the boundaries of the schools that serve the Sycamore Canyon vicinity. Santee School District and Grossmont Union High School District provide the educational services to the Sycamore Canyon site (see Figure 4.12.03-1 and Figure 4.12.03-2). The Santee School District has ten elementary schools located within one to 3.5 miles of the Sycamore Canyon site. The Grossmont Union High School District has 19 high schools located within one to nine miles from Sycamore Canyon site. More specifically, Sycamore Canyon Elementary School and West Hills High School are located approximately one mile east and 0.75 miles southeast of the site within the City of Santee, respectively.

### 4.12.3.9.2 Design Features

No design features for the Sycamore Canyon Expansion Alternative are associated with the provision of school services.

### 4.12.3.9.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on school facilities if the alternative would create student enrollments that exceed available capacities of school facilities so as to require the construction of new school facilities that would result in a significant physical change in the environment.*

**Impact Statement Sycamore SCHOOLS-1: The Sycamore Canyon Expansion Alternative would not create student enrollment that would exceed available capacities of school facilities at a level that would require the construction of new school facilities. Therefore, no significant adverse effects to schools would occur.**

The Sycamore Canyon Expansion Alternative would result in the expansion of the existing landfill capacity and an increase of facility services. The Sycamore Canyon Expansion Alternative would result in 24-hour operation, seven days per week. Currently, the landfill has 40 full-time employees. At full operation of the landfill, an estimated 50 full-time employees would work at the facility, resulting in an increase of ten employees. Any additional construction workers that might be needed would likely be drawn from an existing work pool, and would work at the site for short durations. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance.

The Sycamore Canyon Expansion Alternative would result in a less than significant impact to school facilities because an increase of ten workers and possible construction workers would have a negligible effect on population and school enrollment. It is expected that the new employees or construction workers would be drawn from the region and from communities neighboring or adjacent to the site. If the employees currently reside in neighboring communities and have school children, it is expected the children would remain enrolled in their current schools districts; and therefore, there would be no change in student population. However, if some employees with school age children choose to move closer to work or if some employees with children are hired from outside the region, there could be an increase in student population in the local schools. The number of students would likely be distributed over several schools, and accepting that the employees may not need to relocate to the area, and some might not have school age children, only a small number of students would be expected at any one school. The students arising from such an extreme relocation scenario would not be sufficient to require new school facilities. To the extent the employees with school age children might move into new homes, those homes would likely have been built with the payment

of development fees pursuant to SB 50 for the provision of new school facilities. Therefore, no significant adverse effects associated with new employees and increased student enrollment would occur.

Mitigation Measures

The Sycamore Canyon Expansion Alternative would not result in significant adverse effects on school facilities. No mitigation measures are proposed.

# 4.12 PUBLIC SERVICES
# 4.12.4 RECREATION

## INTRODUCTION

This section identifies recreational facilities and resources that serve the alternative sites and is based in part on information provided in the County of San Diego Final EIR for the County's General Plan Update the County of San Diego Trails Program (CTP), the San Diego Regional Bicycle Plan, the County of San Diego Bicycle Transportation Plan, the East Otay Mesa Business Park Specific Plan (September 2010), the City of San Diego General Plan Update Final Program EIR, the City of San Diego Bicycle Master Plan Update, and the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012). This section provides an analysis of whether the alternatives would result in the deterioration of recreational facilities or resources.

## 4.12.4.1 REGULATORY FRAMEWORK

### 4.12.4.1.1 State

#### California State Government Code 66477

California State Government Code 66477 (The Quimby Act) was enacted by the California legislature in 1965 to promote the availability of park and open space areas in response to California's rapid urbanization and the need to preserve open space and provide parks and recreation facilities in response to this urbanization. The Quimby Act authorizes cities and counties to enact ordinances requiring the dedication of land, or the payment of fees for park and/or recreational facilities in lieu thereof, or both, by developers of residential subdivisions as a condition to the approval of a tentative map or parcel map. It specifies that new subdivisions can be required to dedicate land or pay a fee in-lieu of dedication for local parks at a level of three acres per 1,000 population. Up to five acres per 1,000 population can be required if the current local park acreage exceeds the three acre level. These fees cannot be used for regional serving improvements. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities.

### 4.12.4.1.2 Regional

#### County of San Diego Park Lands Dedication Ordinance /Quimby Act

The San Diego Park Lands Dedication Ordinance provides the mechanism for the County to require payment of park fees, pursuant to the provisions of the State's Quimby Act. When an application for a dwelling is submitted, the Building Division verifies if the fees have previously been paid and notifies the applicant if the fees will be due at permit issuance. The ordinance establishes a per unit schedule of fees that varies depending on the local planning area in which the new development is occurring.

#### County of San Diego Department of Parks and Recreation, 2010-2015 Strategic Plan

The County's Strategic Plan provides the overall approach to implement the mission of the County of San Diego Department of Parks and Recreation is to provide opportunities for high quality parks and recreation experiences and to preserve regionally significant natural and cultural resources.

## County of San Diego Trails Program

In January 2005, the County Board of Supervisors adopted the CTP. The components of the CTP include a Community Trails Master Plan (CTMP) and Regional Trails Plan as described below. The CTP allows the County to develop a system of interconnected regional and community pathways and trails in order to address an established public need for recreation and transportation, as well as to provide health and quality of life benefits associated with mountain biking, horseback riding, and hiking throughout the County's biologically diverse environments.

### Community Trails Master Plan

The CTMP is the implementing document for the CTP and contains adopted pathway plans and community trails. These non-motorized trails and pathways are intended to address an established public need for passive recreation, transportation, access, and linkages, but would also provide health and quality of life benefits associated with hiking, biking, and horseback riding. The CTMP involves trail development, maintenance and management on public, semi-public and private lands. The main focus of the CTMP is to implement and maintain a realistic system of interconnected and continuous regional and community trails. Due to budgetary constraints, or issues related to access or environmental mitigation, not all of the trail routes proposed within the CTMP can be acquired, developed and open for public use at the same time, or even within the next 20 years. Community trails will only be implemented in community planning areas and subregions wishing to participate in the program. The community trails maps contained in the CTMP depict corridors of general alignments to describe the general location of future trails generally within a quarter-mile wide corridor.

When an application for a specified discretionary development permit is submitted for land that includes a trail corridor, the specific location of a trail within the trail corridor is to be determined based on a trail route study. The study would determine the appropriate location of the new trail in the corridor based on the trail design criteria included in the CTMP. The purpose of these criteria is to locate trails so as to avoid causing impacts to sensitive habitat and significant environmental resources. The environmental review for a proposed discretionary project would include a site-specific analysis of the trail proposed in the route study. The County may require the dedication of a trail easement and improvement of a tail on a case-by-case basis. Dedication is required when there is necessary rough proportionality between the required dedication and the impacts of and/or benefits to the proposed development.

### Regional Trails Plan

The Regional Trails Plan identifies County-approved general alignment corridors of regional trails in the County. Regional Trails have characteristics and conditions that serve a regional function by covering long linear distances, transcending community and/or municipal borders, having national or state significance, or providing important connections to existing parks and preserves.

The Regional Trails Map includes nine trails that provide north-south and east-west trail corridors that traverse the County. The nine trails included in the Regional Trails Plan are listed below:

- California Coastal Trail
- California Riding and Hiking Trail

- Coast to Crest Trail (San Dieguito River Park Trail)
- Juan Bautista De Anza Trail
- Otay Valley Regional Park Trail
- Pacific Crest Trail
- San Diego River Park Regional Trail
- Sweetwater River and Loop Trail
- Trans County Trail

### County of San Diego Regional Bicycle Plan – Riding to 2050

The San Diego Regional Bicycle Plan (adopted 2010) supports implementation of both the Regional Comprehensive Plan (RCP) and Regional Transportation Plan (RTP). The RCP calls for more transportation options and a balanced regional transportation system to support smart growth and a more sustainable region. The RTP calls for a multimodal regional transportation network that includes a regional bicycle network. To achieve these objectives, the Plan sets forth a vision for a distinctive regional bicycle system comprised of interconnected bicycle corridors connecting to activity centers, transit facilities, and regional trails systems in addition to bicycle education, marketing/awareness campaigns, encouragement, enforcement, and monitoring and evaluation programs to make bicycling more practical and desirable to a greater number of the region's residents and visitors. This vision is intended to guide the future development of the regional bicycle system through the year 2050, congruent with the 2050 RTP (adopted October 2011).

### County of San Diego Bicycle Transportation Plan

The County of San Diego Bicycle Transportation Plan (updated 2008), serves as a guiding document for bicycle facilities development in the unincorporated areas. The Plan identifies existing and proposed bikeways for each community. Bikeways can be classified into three types of bicycle facilities: bike path, bike lane, and bike route. A bike path refers to paths that provide for bicycle travel on a paved right-of-way completely separated from any street or highway. A bike lane provides a striped and stenciled lane for one-way travel on a street or highway. Bike lanes help position cyclists in the roadway, as practicable, but do not preclude vehicular movements such as merging and entering turn lanes. A bike route designates networks for shared use with pedestrian or motor vehicle traffic and is identified only by signage. Bike routes require shared use of road lanes and therefore bicyclists and motorists must interact to safely pass and share lanes. All County roadways (excluding freeways, except where allowed by Caltrans) are open for travel by bicycle, regardless of bikeway treatment.

### San Luis Rey River Park Master Plan

In 2008, the County of San Diego adopted the Master Plan for the San Luis Rey River Park. The proposed 1,600-acre park would be approximately nine miles in length, parallel to SR 76, and would begin in western Oceanside and would end near I-15. The goal of the river park is to provide an approximately 1,600-acre open space preserve, approximately 40 acres of active recreational amenities, and a network of multi-use trails that connect the park together internally while linking it to surrounding communities. The Master Plan establishes a framework for the creation of a River Park incorporating much needed passive and active recreational amenities for the Fallbrook and Bonsall community planning areas, as well as an outstanding

habitat preserve and multi-use trail system serving the larger region. The San Luis Rey River corridor is rich with riparian and upland habitat as well as cultural resources. The San Luis Rey River Park would provide unique opportunities for preservation and appreciation of these unique resources.

### 4.12.4.1.3 Local

#### City of San Diego Mission Trails Design District Ordinance

The purpose of the Mission Trails Design District Ordinance (2003) is to provide supplemental development regulations for property surrounding the Mission Trails Regional Park (MTRP). The intent of the regulations is to ensure that development along the edges of the MTRP enhances the park's natural qualities, and promotes the aesthetic and functional quality of park/urbanization relationships, while recognizing the right to reasonable development within the Design District.

#### City of San Diego Bicycle Master Plan Update

The City of San Diego Bicycle Master Plan Update (June 2011) serves as a policy document to guide the development and maintenance of San Diego's bicycle network, including all roadways that bicyclists have the legal right to use, support facilities, and non-infrastructure programs over the next 20 years. The proposed bikeway network in the Plan was developed to complement and connect with the proposed network in the San Diego Regional Bicycle Plan. The Plan provides direction for expanding the existing bikeway network, connecting gaps, addressing constrained areas, improving intersections, providing for greater local and regional connectivity, and encouraging more residents to bicycle more often.

#### San Diego Municipal Code, Chapter 9: Building, Housing and Sign Regulations, Article 6: Refrigeration Code, Division 4: Miscellaneous Fees – Fees Relating to Park and Recreational Facilities

The Municipal Code establishes a procedure for the collection of fees incident to the issuance of building permits for residential development in order to finance park and recreational facilities. It is the intent that the cost of the acquisition and improvement of park and recreational facilities to serve new or replacement development is borne by the owners of such development.

## 4.12.4.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on recreational facilities and resources.

### 4.12.4.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. An alternative would have a significant adverse effect on recreation if the alternative would result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources.

#### 4.12.4.2.2 Methodology

The analysis identifies recreational facilities in the area of an alternative site, identifies effects of increased landfill traffic on bicyclists and bike facilities in the vicinity of an alternative site, identifies the net population growth that would result from the alternatives (indirect population increase from employment), and provides a conclusion regarding the effects of the alternatives on recreational facilities. Potential impacts to recreational facilities and resources are evaluated using the net population increase resulting from the alternatives to address potential impacts that would be associated with demand for park services. The analysis regarding worker population uses information from the Joint Technical Document (JTD) and the Sycamore Landfill Master Plan Revised Final EIR and draws conclusions as to whether there is an increase in demand that would exceed the capacity of existing facilities, thus requiring new park facilities to avoid the deterioration of existing facilities. The analysis also identifies open space and recreational facilities in the vicinity of the alternative sites to determine whether the alternatives would have a potential to adversely affect such nearby recreation resources and/or interfere with their use; or would contribute to the County's existing parkland deficiency.

### 4.12.4.3 APPLICANT'S PROPOSED ALTERNATIVE

#### 4.12.4.3.1 Affected Environment

**Regional Setting**

The County of San Diego Department of Parks and Recreation maintains and enhances the quality of life for residents and visitors through a comprehensive program of acquisition, development and maintenance of recreation facilities including local and regional parks, preserves, fishing lakes, special use facilities, and community centers. In addition, a system of regional and community trails and pathways further enhances and augments public recreational opportunities and experiences throughout the San Diego region. These facilities cover more than 40,000 acres and are operated and maintained by the County, service contracts, and volunteers. Please see Figure 4.12.4-1, *Existing Parks* and Figure 4.12.4-2, *Regional Trails and Pathways Map* for locations of parks, trails, and pathways throughout San Diego County.

There are approximately 20,000 acres of regional parks serving County residents. About 12,000 of these acres are regional park lands located in other jurisdictions and established by Joint Power Authorities (JPAs) or a memorandum of understanding. The ratio of the existing regional parks to the 2007 population of the unincorporated County is approximately 17 acres of parkland per 1,000 area residents, which exceeds the County's goal of 15 acres per 1,000 residents. The County also has a system of preserves that are distributed primarily in the western and central areas of the County with a total of approximately 26,000 acres. The County also benefits from access to a considerable amount of federally owned lands that provide recreation facilities as well passive open space conservation and development.

The County has approximately 820 acres of local parks. This park space is 3,966 acres less than the preferred local park level desired; with a ratio of approximately 2 acres of parkland per 1,000 residents, half an acre less than was provided in 1990, and less than the County's goal of 10 acres per 1,000 residents. However, this total does not include local and school-associated parks provided in the unincorporated areas without any County involvement. Although these parks may meet some of the recreation needs of particular communities, access and use may be restricted and there is no inventory of these parks.

The County recognizes that a bikeway network where motorists, bicyclists, and other users of the road can effectively interact enhances the quality of life for residents and visitors to the County. Although bikeways are generally located on arterial and collector streets, many highways and one freeway allow bicycle access in the unincorporated areas of the County. In addition, most transit services allow bicycles on board to assist bicyclists with longer commutes. State highways within the County that allow bicycle access per the California Vehicle Code include: SR 54, SR 67, SR 76, SR 78, SR 79, SR 94, and SR 188. The one segment of freeway in the unincorporated area on which bicycle travel is permitted is Interstate 8 (I-8) between East Willows Road and Japatul Valley Road/SR 79. According to the San Diego County General Plan Update EIR, approximately 156 miles of bicycle route currently exist in the County (see Figure 4.12.4-3, *Bicycle Facilities*).

### Local Setting

No parks are located adjacent to the Gregory Canyon site (see Figure 4.12.4-1). Proposed by the CTMP, the Fallbrook San Luis Rey River Trail, the Fallbrook Pala Road Pathway, and the Pala-Pauma SR 76 Pathway, are planned trails and pathways in the CTMP that cross the Gregory Canyon site (see Figure 4.12.4-2). The Fallbrook San Luis Rey River Trail crosses the southwestern portion of the site and connects to the Pala-Pauma Community Plan area, the Bonsall/San Luis Rey River North Trail, and the Fallbrook Pala Road Pathway. The proposed Fallbrook Pala Road Pathway crosses the southwestern portion of the site and connects to the Bonsall Border and the Pala-Pauma SR 76 Pathway. The Pala-Pauma SR 76 Pathway intersects the site adjacent and north of the San Luis Rey River and connects to the Fallbrook Pala Road Pathway, Palomar Mountain Border, and the San Luis Rey River Park and Wilderness Gardens Open Space Preserve.

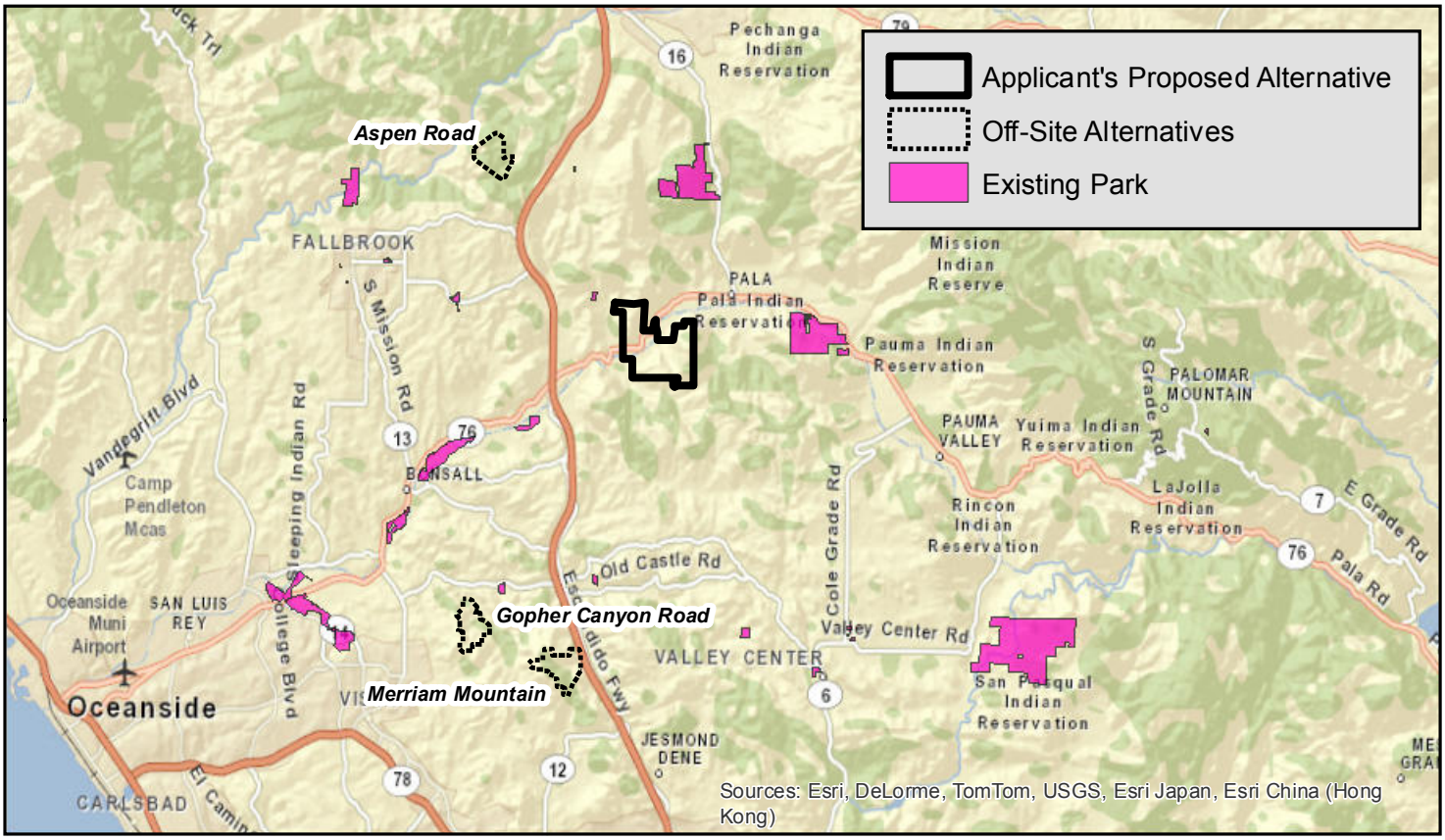
The San Luis Rey River runs east-west through the central portion of the site. The Gregory Canyon site is located approximately 1.15 miles east of the adopted San Luis Rey River Master Plan area which proposes a 1,600-acre open space preserve, approximately 40 acres of active recreational amenities, and a network of multi-use trails connecting the park internally while linking it to surrounding communities. The portion of the San Luis Rey River traversing the Gregory Canyon site is not included within the San Luis Rey River Master Plan area as that Plan ends to the west of the site, approximately ¾ mile east of I-15.

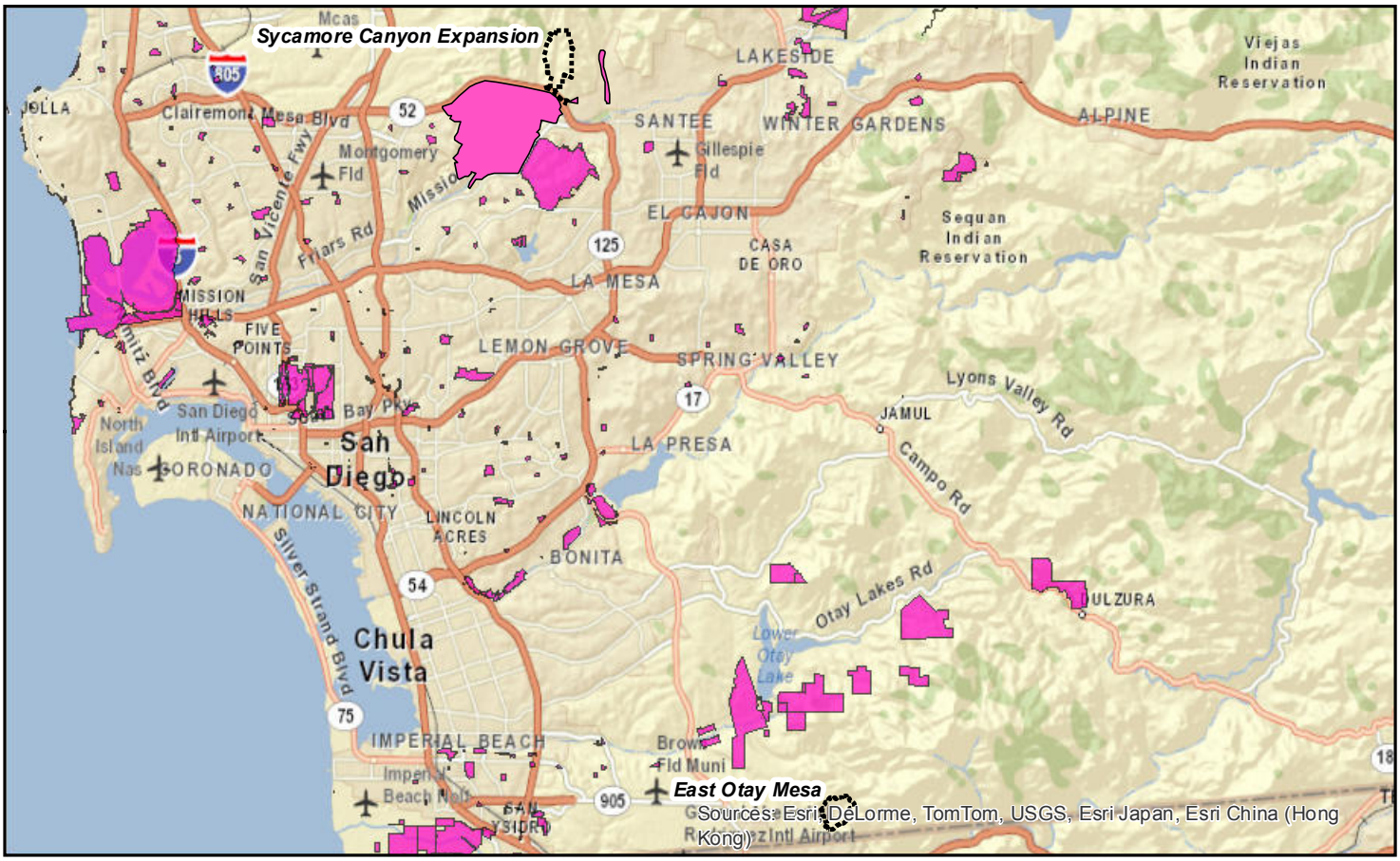
The Gregory Canyon site is located approximately two miles east of the Wilderness Gardens Open Space Preserve, approximately three miles south of the Mount Olympus Open Space Preserve Area, and approximately 3.5 miles east of Wilderness Gardens Park. The Agua Tibia Wilderness U.S. Forest Service Class One Area is approximately six miles northeast of the site. The Pala Mesa Mitigation Property is located ½ mile west of the site.

No bicycle facilities are located within the vicinity of the Applicant's Proposed Alternative site. However, according to the County of San Diego Bicycle Transportation Plan, SR 76 is identified as a Share the Road Corridor and permits bicycle access per the California Vehicle Code (see Figure 4.12.4-3).

## 4.12.4.3.2 Design Features from the Gregory Canyon EIR

Design features relevant to recreational facilities or resources include those features that would reduce dust, litter, and odor so as to reduce potential indirect impacts to recreational facilities or resources. The Applicant's Proposed Alternative would incorporate a Dust Control Plan that would require watering of




N

0 5 10 Miles

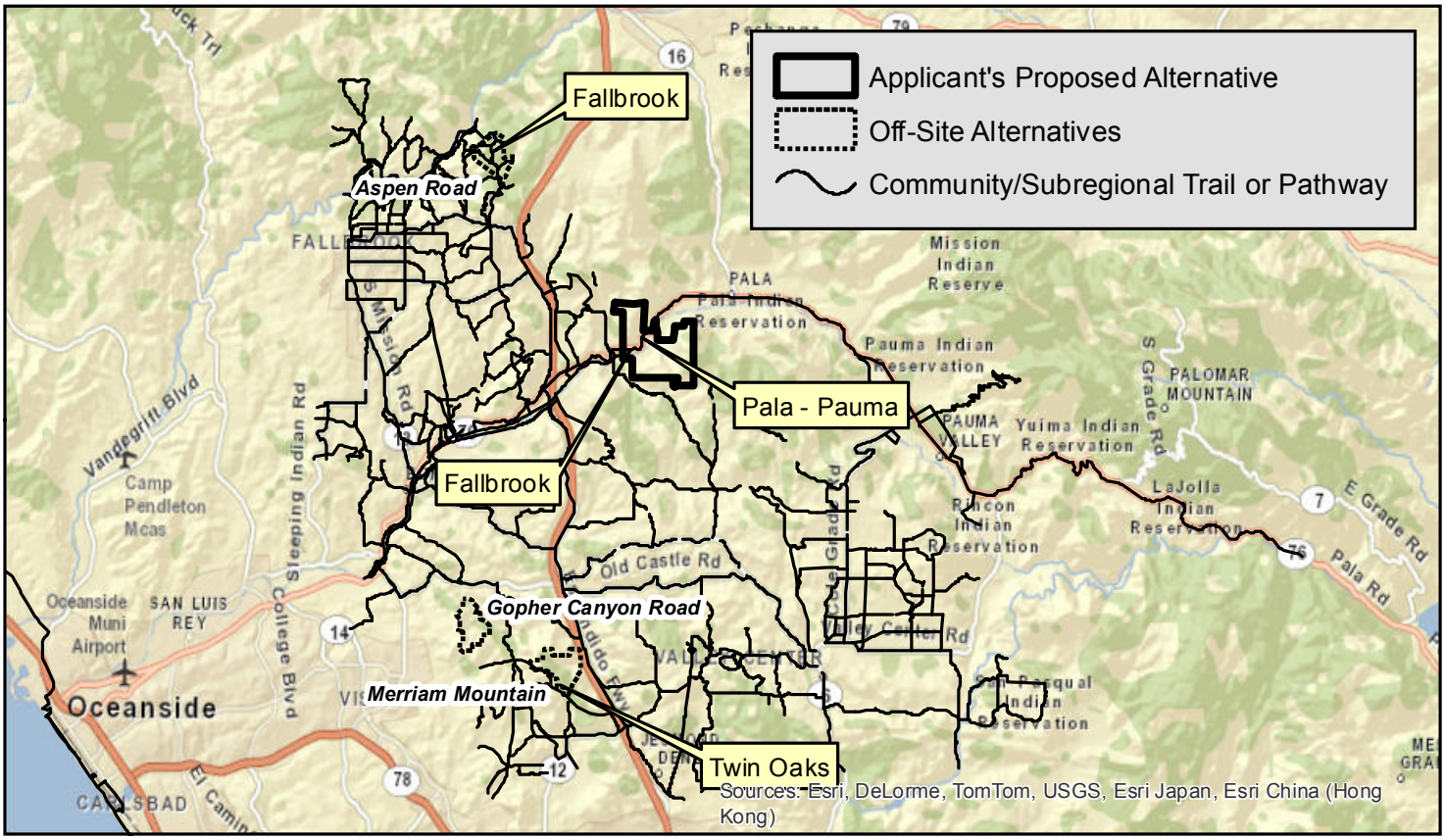
**Existing Parks**

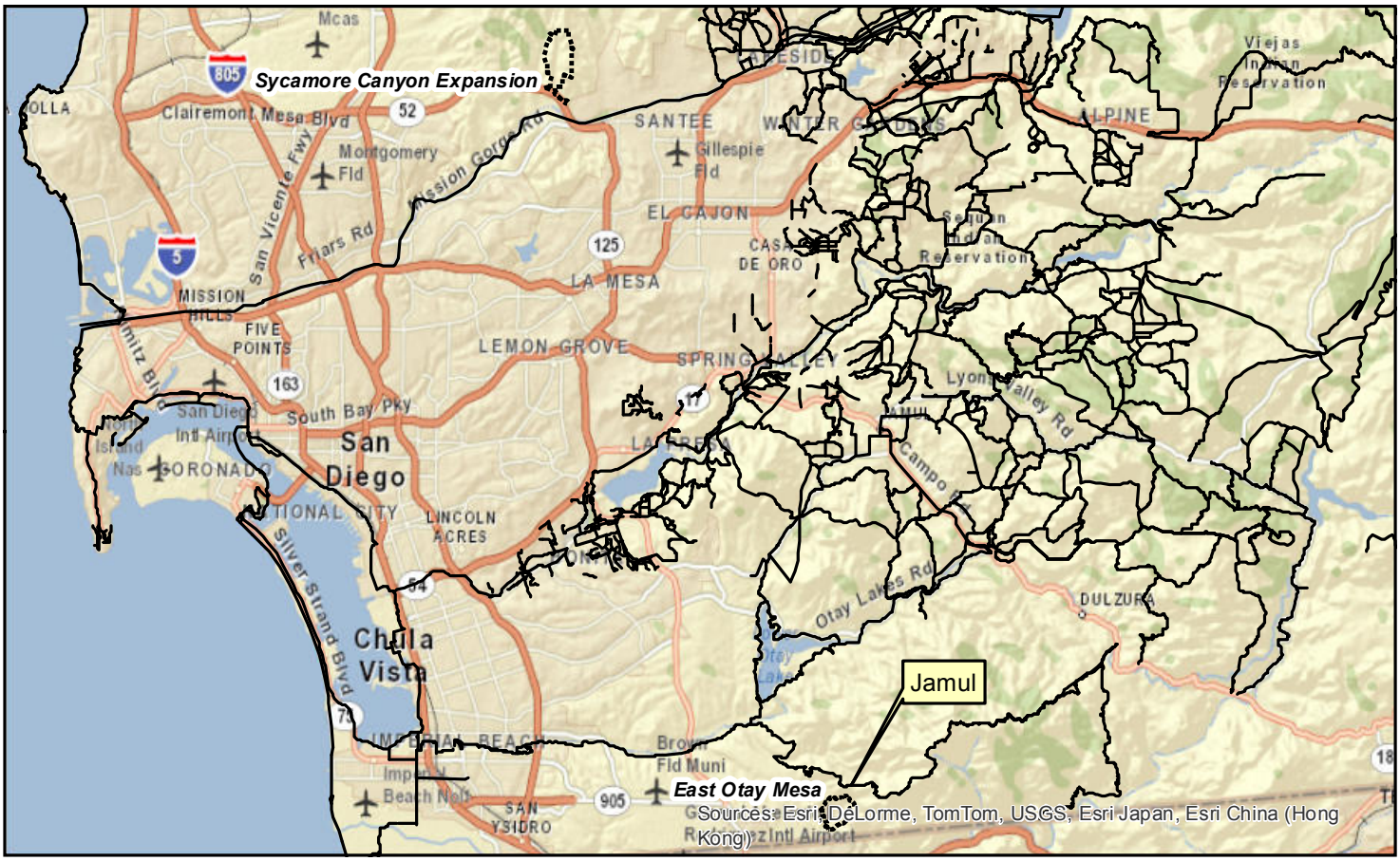
**Gregory Canyon**

Source: County of San Diego, Department of Planning and Land Use, 2012; PCR Services Corporation, 2012.

FIGURE

**4.12.4-1**




0 5 10 Miles

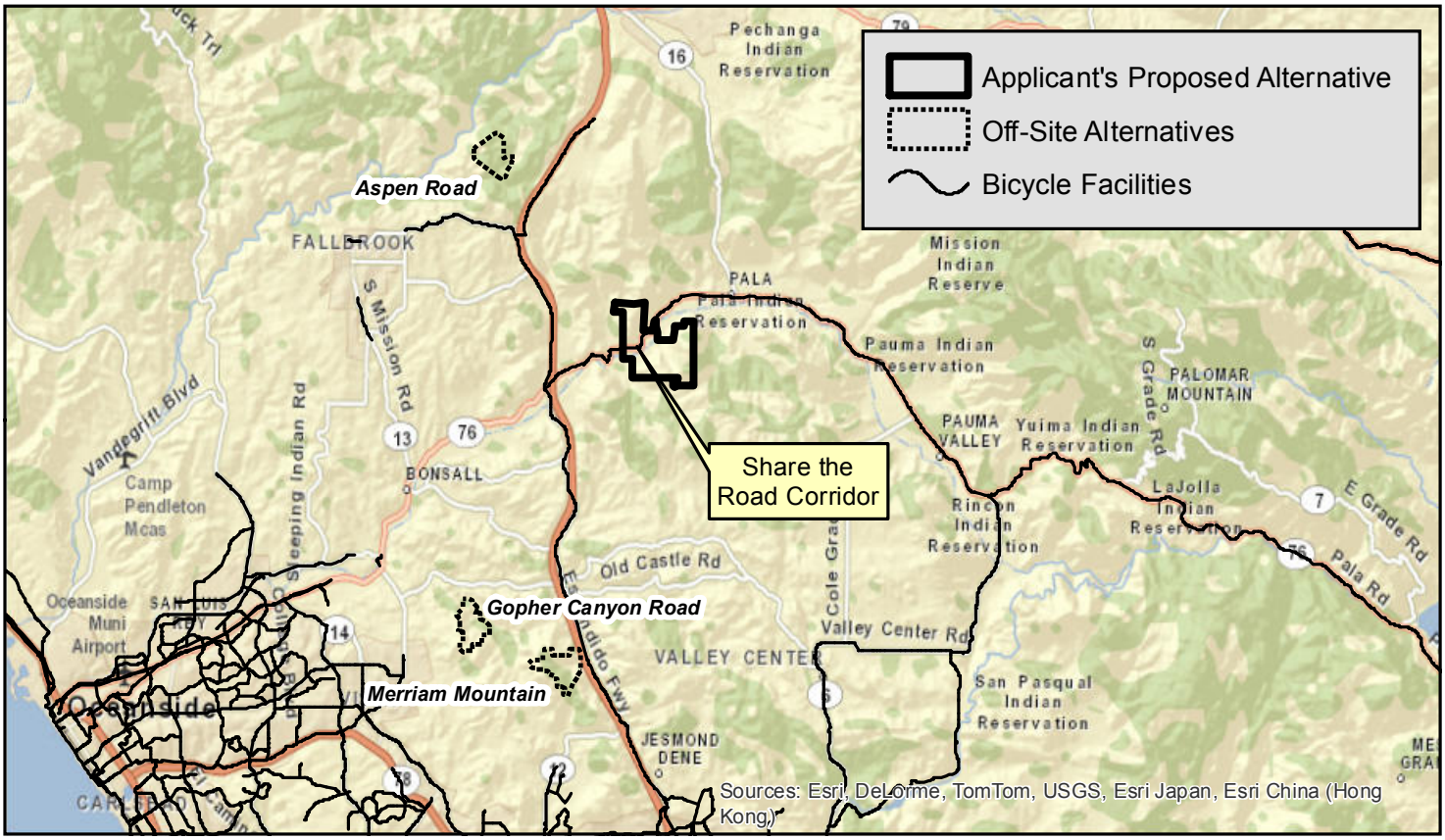
**Regional Trails and Pathways Map**

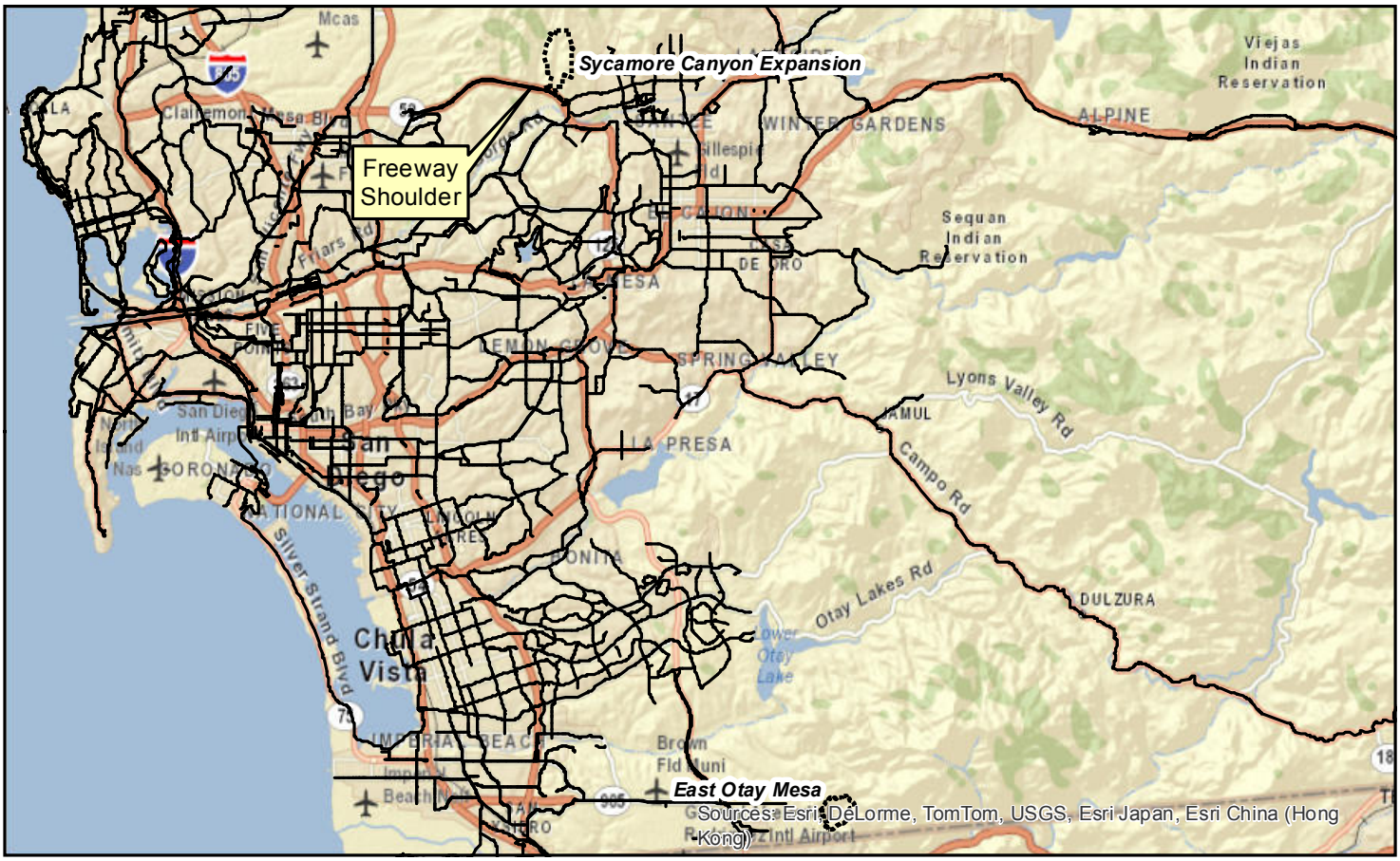
Gregory Canyon

Source: County of San Diego, Department of Planning and Land Use, 2012; PCR Services Corporation, 2012.

FIGURE

**4.12.4-2**




N

0 5 10 Miles

**Bicycle Facilities**

Gregory Canyon

Source: County of San Diego, Department of Planning and Land Use, 2012; PCR Services Corporation, 2012.

FIGURE

**4.12.4-3**

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exposed areas, paved roads, and use of a soil sealant on most internal haul roads. In addition, water would be applied and/or temporary vegetation planted on intermediate soil cover areas. Groundcover would be re-established on areas disturbed by construction through seeding and watering those areas that would not be disturbed for extended periods. Litter control measures would be implemented and would include: litter inspection and pick-up five days a week on or adjacent to the access road and SR 76 between I-15 and the site in accordance with Proposition C; and litter inspection every day the landfill is open with litter cleaned up on the sixth day as determined necessary. In addition, a litter fence would be installed on the bridge. Odors from the refuse prism would be controlled by confining the active working face to as small an area as practical and by the application of daily, ADC, or intermediate cover over all exposed refuse at the end of each operating day. In addition, a landfill gas control system would be installed to further control odors.

### 4.12.4.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on recreational facilities or resources if the alternative would result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources.*

**Impact Statement Gregory REC-1: The Applicant's Proposed Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources. Therefore, no significant adverse effect would occur.**

#### Short-Term (Construction) Impacts

Initial construction of the Applicant's Proposed Alternative would last approximately nine to twelve months and would create up to 35 temporary construction jobs. If the SDCWA Aqueduct Relocation Option were to be implemented, there would be some sharing of site workers; but there could be an increase of a few more workers. Construction workers would be drawn from an existing work pool, and would work at the site for only short durations, with turnover as subphases of construction proceed. Therefore, there would be no notable population growth associated with the construction activities, and therefore, no increase in demand for park services that would result in substantial or accelerated deterioration of recreational facilities or resources. Further, the initial construction activities would be short-term and not located in the vicinity of existing parks, trails, or pathways. Therefore, no significant short-term impacts to local recreational facilities or resources are anticipated from the initial construction of the Applicant's Proposed Alternative.

The Applicant's Proposed Alternative would include the realignment of approximately 1,700 linear feet of SR 76 and widening of SR 76 from the existing paved width of 52 to 64 feet to provide for an eastbound deceleration lane and a westbound left-turn lane (see Figure 3-7, *Applicant's Proposed Alternative - Existing/Proposed Alignment of SR 76),* and construction of an access road from SR 76 with a signalized intersection. During construction of the SR 76 improvements, vehicular and bicycle access on SR 76 would be maintained as required by CalTrans. Chapter 6 of the California Manual on Uniform Traffic Control Devices (California MUTCD) requires safety and access measures during construction to protect bicycle users. Fundamental principles within the California MUTCD include bicycle movement to be disrupted as little as practicable; bicycles to be provided with access and passage through, or around the temporary traffic control zone at all times; and bicyclists to be guided in a clear and positive manner while approaching and traversing the temporary traffic control zones. The California MUTCD also provides safety standards and requirements for temporary bicycle detours, bikeway signage, and pavement surface for bicycles. With

implementation of safety and access measures consistent with the California MUTCD, no significant adverse construction effect related to pedestrians, bicyclists, or bike facilities are anticipated.

### Long-Term (Operational) Impact

As shown in Figure 4.12.4-1, the Gregory Canyon site is not located adjacent to existing parks, trails, pathways, or other recreational facilities. However, the Gregory Canyon site includes potential future trails and pathways proposed by the CTMP. These include the Fallbrook San Luis Rey River Trail, the Fallbrook Pala Road Pathway, and the Pala-Pauma SR 76 Pathway. Each of these potential trails or pathways crosses the Gregory Canyon site with general alignments located adjacent to the San Luis Rey River and SR 76, respectively (see Figure 4.12.4-2). Development of the Applicant's Proposed Alternative would not preclude the opportunity to implement a trail or pathway along the San Luis Rey River and/or SR 76, should the County obtain funding and decide to develop such a trail or pathway at some time in the future. The landfill prism and ancillary facilities would be located south of such a trail and pathway routing. Further, the proposed bridge over the San Luis Rey River would be built on piers, thus maintaining non-motorized access to the river and minimizing conflicts between trail/pathway users and the landfill operation; and the proposed HRRMP would enhance the river bed as a natural resource through management practices to remove or control growth of non-native exotic species. With regard to potential indirect impacts, such as dust, odors, and litter, the Applicant's Proposed Alternative would incorporate design features to reduce dust, odors, and litter. The Dust Control Plan would incorporate watering of exposed areas, paved roads, and use of a soil sealant on most internal haul roads. A litter fence would be installed on the bridge and litter inspection and pick-up would occur five days a week. Therefore, impacts on existing or planned parks, trails, or pathways would not have a significant adverse effect.

With regard to pedestrian and bicycle safety, the accident rate per million vehicle miles traveled (MVMT) shows no annual trend in rising numbers of accidents that correspond to annual increases in traffic volumes.[1] The rate of accidents on any segment of SR 76 is related to a variety of conditions with primary collision factors due to alcohol, unsafe speeds, and driver error. The percentage of heavy vehicles involved in such accidents is significantly low as compared to other vehicle types. The Traffic Impact Analysis concludes the addition of alternative-generated traffic on SR 76 would not have a significant impact on the accident rates. The new SR 76/access road signalized intersection timing would take into account bicycle and pedestrian traffic through the area. With implementation of improvements on SR 76, impacts associated with increased landfill traffic on pedestrians, bicyclists, and bike facilities would not have a significant adverse effect.

The Applicant's Proposed Alternative would not include residential uses that would bring new population to the area and add to the demand for park services and facilities. At full operation of the landfill, an estimated 22 full-time employees would work at the facility. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance. It is expected that the majority of employees would be drawn from the region with a greater number in communities neighboring or adjacent to the site. To the extent that a few employees were to move to the County or relocate within the County to be closer to the landfill, it could place new population in the vicinity of local parks and areas underserved by parks. However, in light of there being only 22 new full-time employees, and accepting that many would not be new to the County, the effect on any one park or

[1] *Linscott Law & Greenspan, Traffic Impact Analysis Gregory Canyon Landfill, 2012 (Appendix M of this EIS).*

recreational facility would be negligible. Any population growth and increased recreational demand would be distributed over the region, resulting in no increase in demand to any one recreational facility and would not be sufficient to substantially deteriorate, or accelerate the deterioration of recreational facilities or resources. To the extent employees might move into new homes, those homes would likely have been built with the payment of fees pursuant the County's ordinance. Thus, no significant adverse long-term effects to recreational facilities or resources are anticipated from the operation of the landfill.

Mitigation Measures

The Applicant's Proposed Alternative would not have a significant adverse effect on recreational facilities or resources. No mitigation measures are proposed.

## 4.12.4.4 NO FEDERAL ACTION ALTERNATIVE

### 4.12.4.4.1 Affected Environment

The No Federal Action Alternative would provide a conservation bank at the Gregory Canyon site. Solid waste disposal would continue to occur generally as it does under existing conditions until in-County capacity is exhausted. As such, the affected environment would be the same as that described for the Applicant's Proposed Alternative in subsection 4.12.4.3.1, above.

### 4.12.4.4.2 Design Features

No design features are associated with the provision of recreational facilities or resources.

### 4.12.4.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on recreational facilities or resources if the alternative would result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources.*

**Impact Statement No Federal Action REC-1: The No Federal Action Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources. Therefore, no adverse effects would occur.**

The implementation of the No Federal Action Alternative would not generate housing or population. The No Federal Action Alternative would provide a few employment opportunities for site preparation activities. Occasional site visits by maintenance workers and biologists for required maintenance or monitoring would occur. Such site workers would be few, involved at the project site for only a short duration, and would be drawn from an existing labor pool. With the exception of few employee trips, the No Federal Action Alternative would not have a significant increase in vehicle trips/traffic along SR 76. Therefore, the No Federal Action Alternative would not generate population or increase recreational demand and would have no impacts on recreational facilities or resources or bicyclists or bike facilities.

Further, the proposed conservation bank would provide an open space resource. Thus, the alternative would support the potential location for a future trail or pathway, should such trail or pathway be pursued by the County as a component of the CTMP. Therefore, no adverse effects would occur.

Mitigation Measures

The No Federal Action Alternative would have no adverse effects on recreational facilities or resources. No mitigation measures are proposed.

## 4.12.4.5 ASPEN ROAD ALTERNATIVE

### 4.12.4.5.1 Affected Environment

The County has a deficiency in local parkland of 3,966 acres of local parks and retains a ratio of approximately 2 acres of parkland per 1,000 residents, less than the County's goal of 10 acres per 1,000 residents. Recreational facilities within San Diego County include local and regional parks, preserves, fishing lakes, special use facilities, community centers, and a system of regional and community trails and pathways. No parks, trails, pathways, bicycle facilities, or other recreational facilities are located adjacent to the Aspen Road site (see Figure 4.12.4-1 and Figure 4.12.4-3). As shown in Figure 4.12.4-2, the CTMP shows the following proposed trails crossing the Aspen Road site: the Fallbrook Red Mountain Trail, the Fallbrook Red Mountain Tierra Nuevo Trail, the Fallbrook Red Mountain Aspen Drive Trail, and the Fallbrook Red Mountain Reservoir Trail. The Fallbrook Red Mountain Tierra Nuevo Trail crosses the northern portion of the site. The Fallbrook Red Mountain Trail crosses the western portion of the site connecting to the Fallbrook Red Mountain Aspen Drive Trail at two separate locations. The proposed Fallbrook Red Mountain Aspen Drive Trail crosses the central portion of the site along Aspen Road and connects to the Fallbrook Tierra Nuevo Trail, the Fallbrook Red Mountain Trail, and the Fallbrook Red Mountain Reservoir Trail. The Fallbrook Red Mountain Reservoir crosses the southeastern portion of the site.

### 4.12.4.5.2 Design Features

Design features relevant to recreational facilities or resources include those features that would reduce dust, litter, and odor so as to reduce potential indirect impacts to recreational facilities or resources. As with the Applicant's Proposed Alternative, such design features would be implemented at the Aspen Road Alternative.

### 4.12.4.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on recreational facilities or resources if the alternative would result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources.*

**Impact Statement Aspen REC-1: The Aspen Road Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources. Therefore, no significant adverse effects to recreational facilities or resources would occur. The Aspen Road Alternative would conflict with implementation of the future trails that traverse the Aspen Road site. However, with the incorporation of a mitigation measure no significant adverse effects to future trails would result.**

### Short-Term (Construction) Impacts

As with the Applicant's Proposed Alternative, initial construction of the Aspen Road Alternative would create up to 35 temporary construction jobs that would be filled by an existing work pool, working at the site for only short durations, with turnover as subphases of construction proceeds. The initial construction activities would be short-term, and not located in the vicinity of existing parks, trails, pathways, or bicycle facilities. As there would be no population growth associated with the initial construction activities, no significant short-term impacts to local recreational facilities or resources are anticipated from the initial construction of the Aspen Road Alternative.

### Long-Term (Operational) Impact

Under the Aspen Road Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation). Therefore, potential impacts associated with new employees would be the same as described above for the Applicant's Proposed Alternative, and would not have a significant adverse effect.

Due to limited recreational opportunities and no existing bicycle facilities, the Aspen Road Alternative would not increase traffic hazards for bicycles or pedestrians. As shown in Figure 4.12.4-2, four trails proposed by the CTMP would cross the Aspen Road site. The Aspen Road Alternative would conflict with the proposed trails that traverse the site. More specifically, the landfill footprint would be located where the proposed Fallbrook Red Mountain Tierra Nuevo Trail crosses the northern portion of the site. The western portion of the landfill footprint and the western stockpile area would conflict with the proposed alignment of the Fallbrook Red Mountain Trail. In addition, the landfill footprint would conflict with the proposed Fallbrook Red Mountain Aspen Drive Trail, which crosses the central portion of the site along Aspen Road. Given that the CTMP proposes the intersection of several trails on the Aspen Road Alternative site, relocation of trail alignment within the Aspen Road boundary could be difficult. While the CTMP shows the location of pathways and trails, such locations are preliminary and can be relocated.[2] Therefore, a mitigation measure is proposed for the relocation of the Fallbrook Red Mountain Trail, the Fallbrook Red Mountain Tierra Nuevo Trail, the Fallbrook Red Mountain Aspen Drive Trail, and the Fallbrook Red Mountain Reservoir Trail to provide appropriate trail connections and continuity of future trails in the CTMP. With the incorporation of the mitigation measure the potentially significant conflict with the County's CTMP regarding the development of future trails would be avoided and no significant adverse effects would occur.

#### Mitigation Measures

The Aspen Road Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources. Thus, no mitigation measures would be necessary in this regard. However, the Aspen Road Alternative would result in a significant adverse effect relative to the implementation of future trails in the CTMP. Given that the CTMP proposes the intersection of several trails on the alternative site, the following mitigation measure is proposed so that no significant adverse effects to future trails would occur.

[2] *Telephone correspondence with Maryanne Vancio, County Trails Program Coordinator, County of San Diego Department of Parks and Recreation, June 20, 2012.*

**MM Aspen REC-1: Relocation of Fallbrook Trails.** The Applicant shall coordinate with the County of San Diego Department of Parks and Recreation in order to identify a relocation off-site of the Fallbrook Red Mountain Trail, the Fallbrook Red Mountain Tierra Nuevo Trail, the Fallbrook Red Mountain Aspen Drive Trail, and the Fallbrook Red Mountain Reservoir Trail to provide appropriate trail connections and continuity of future trails in the CTMP.

## 4.12.4.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.12.4.6.1 Affected Environment

As with the other alternatives, the Gopher Canyon Road Alternative is located in San Diego County, which has a deficiency in local parkland of 3,966 acres and retains a ratio of approximately 2 acres of parkland per 1,000 residents, less than the County's goal of 10 acres per 1,000 residents. The Gopher Canyon Road site is not located adjacent to existing parks, trails, pathways, or bicycle facilities (see Figures 4.12.4-1, 4.12.4-2, and 4.12.4-3). Furthermore, there are no trails, pathways, bicycle facilities, or other park and recreational facilities proposed on or near the Gopher Canyon Road Alternative site.

### 4.12.4.6.2 Design Features

Design features relevant to recreational facilities or resources include those features that would reduce dust, litter, and odor so as to reduce potential indirect impacts to recreational facilities or resources. As with the Applicant's Proposed Alternative, such design features would be implemented at the Gopher Canyon Road Alternative.

### 4.12.4.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on recreational facilities or resources if the alternative would result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources.*

**Impact Statement Gopher REC-1: The Gopher Canyon Road Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources. Therefore, no significant adverse effects would occur.**

#### Short-Term (Construction) Impacts

Initial construction of the Gopher Canyon Road Alternative would create up to 35 temporary construction jobs that would be filled by an existing work pool, working at the site for only short durations, with turnover as subphases of construction proceeds. The initial construction activities would be short-term, and not located in the vicinity of existing parks, trails, pathways, or bicycle facilities. As with the other landfill alternatives, there would be no population growth associated with the initial construction activities, and no significant short-term adverse effects to local recreational facilities or resources are anticipated from the initial construction of the Gopher Canyon Road Alternative.

**Long-Term (Operational) Impact**

Under the Gopher Canyon Road Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation). Therefore, potential impacts associated with new employees would be the same as described above for the Applicant's Proposed Alternative, and would be less than significant. In addition, the Gopher Canyon Road site is not located adjacent to existing parks, trails, pathways, or bicycle facilities (see Figures 4.12.4-1, 4.12.4-2, and 4.12.4-3). Due to limited recreational opportunities and no existing bicycle facilities, the Gopher Canyon Alternative would not increase traffic hazards for bicycles or pedestrians. Thus, no significant long-term adverse effects to recreational facilities or resources are anticipated from the operation of the landfill.

Mitigation Measures

The Gopher Canyon Road Alternative would not have a significant adverse effect on recreational facilities or resources. No mitigation measures are proposed.

## 4.12.4.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.12.4.7.1 Affected Environment

As previously indicated for the other landfill alternatives, Merriam Mountain is located in San Diego County which has a deficiency in parkland. The Merriam Mountain site is not located adjacent to existing parks or bicycle facilities (see Figure 4.12.4-1 and Figure 4.12.4-3). Proposed by the CTMP, the Twin Oaks Old Quarry Trail is located immediately to the west of the site (see Figure 4.12.4-2).

### 4.12.4.7.2 Design Features

Design features relevant to recreational facilities or resources include those features that would reduce dust, litter, and odor so as to reduce potential indirect impacts to recreational facilities or resources. As with the Applicant's Proposed Alternative, such design features would be implemented at the Merriam Mountain Alternative.

### 4.12.4.7.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on recreational facilities or resources if the alternative would result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources.*

**Impact Statement Merriam REC-1: The Merriam Mountain Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources. Therefore, no significant adverse effects would occur.**

**Short-Term (Construction) Impacts**

Initial construction of the Merriam Mountain Alternative would create up to 35 temporary construction jobs that would be filled by an existing work pool, working at the site for only short durations, with turnover as subphases of construction proceeds. The initial construction activities would be short-term, and not located

in the vicinity of existing parks, trails, pathways, or bicycle facilities. As there would be no population growth associated with the initial construction activities, no significant short-term impacts to local recreational facilities or resources are anticipated from the initial construction of the Merriam Mountain Alternative.

**Long-Term (Operational) Impact**

Development of the Merriam Mountain Alternative would not preclude the opportunity to implement a planned trail to the west of the site, should the County obtain funding and decide to develop such a trail at some time in the future as the Twin Oaks Old Quarry Trail. Therefore, there would be no impacts on existing or planned parks, trails, pathways, or bicycle facilities. Due to limited recreational opportunities and no existing bicycle facilities, the Merriam Mountain Alternative would not increase traffic hazards for bicycles or pedestrians. With regard to indirect impacts, as with the Applicant's Proposed Alternative, the Merriam Mountain Alternative would incorporate design features to reduce dust, odors, and litter. Therefore, impacts on existing or planned parks, trails, pathways, or bicycle facilities would not have a significant adverse effect.

Under the Merriam Mountain Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation). Therefore, potential impacts associated with new employees would be the same as described above for the Applicant's Proposed Alternative, and no significant adverse effects would occur.

Mitigation Measures

The Merriam Mountain Alternative would not have a significant adverse effect on recreational facilities or resources. No mitigation measures are proposed.

## 4.12.4.8 EAST OTAY MESA ALTERNATIVE

### 4.12.4.8.1 Affected Environment

The East Otay Mesa Alternative is located in San Diego County which as previously indicated has a deficiency in parkland. The East Otay Mesa Alternative site is not located adjacent to existing parks, trails, pathways, or bicycle facilities (see Figure 4.12.4-1 and Figure 4.12.4-3). The existing CTMP Jamul Otay Mountain Truck Trail is located ¼ mile north of the site (see Figure 4.12.4-2). The East Otay Business Park Specific Plan area is located to the west of the East Otay Mesa Alternative site. The Otay Valley Regional Park (OVRP), at its nearest edge, is located approximately three miles northwest of the East Otay Mesa Alternative site. No trails, pathways, or other park and recreational facilities are proposed on the East Otay Mesa Alternative site.

### 4.12.4.8.2 Design Features

Design features relevant to recreational facilities or resources include those features that would reduce dust, litter, and odor so as to reduce potential indirect impacts to recreational facilities or resources. As with the Applicant's Proposed Alternative, such design features would be implemented at the East Otay Mesa Alternative.

### 4.12.4.8.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on recreational facilities or resources if the alternative would result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources.*

**Impact Statement East Otay REC-1: The East Otay Mesa Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources. Therefore, no significant adverse effects would occur.**

#### Short-Term (Construction) Impacts

Initial construction of the East Otay Mesa Alternative would create up to 35 temporary construction jobs that would be filled by an existing work pool, working at the site for only short durations, with turnover as subphases of construction proceeds. The initial construction activities would be short-term, and not located in the vicinity of existing parks, trails, parkways, or bicycle facilities. As there would be no population growth associated with the initial construction activities, no significant short-term impacts to local recreational facilities or resources are anticipated from the initial construction of the East Otay Mesa Alternative.

#### Long-Term (Operational) Impact

The East Otay Mesa Alternative site is not located adjacent to existing parks, trails, pathways, or bicycle facilities (see Figures 4.12.4-1, 4.12.4-2 and Figure 4.12.4-3). Development of the East Otay Mesa Alternative site would not directly affect the existing CTMP Jamul Otay Mountain Truck Trail located ¼ mile north of the site. With regard to indirect impacts, as with the Applicant's Proposed Alternative, the East Otay Mesa Alternative would incorporate design features to reduce dust, odors, and litter. Thus, no significant long-term impacts to recreational facilities or resources are anticipated from the operation of the landfill.

Under the East Otay Mesa Alternative, employment would be the same as the Gregory Canyon site (22 full-time employees at maximum operation). Therefore, potential impacts associated with new employees would be the same as described above for the Applicant's Proposed Alternative, and no significant adverse effects would occur.

<u>Mitigation Measures</u>

The East Otay Mesa Alternative would not have a significant adverse effect on recreational facilities or resources. No mitigation measures are proposed.

## 4.12.4.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.12.4.9.1 Affected Environment

The Sycamore Canyon site is located in the City of San Diego. The City of San Diego has over 38,930 acres of existing developed and undeveloped park and open space lands that offer a diverse range of recreational opportunities. The park and recreation system includes population-based (neighborhood and community

parks), resource-based (beaches, shorelines, canyons, habitat systems, lakes, historic sites, and cultural facilities), and open space parks (canyons, mesas, and natural landforms).

The MTRP is located south of SR 52, and is approximately one-half mile from the existing Sycamore Canyon landfill operations (see Figure 4.12.4-1). Most of the MTRP is undeveloped and is used for hiking, bicycling, trail riding, and bird watching. The MTRP Kumeyaay Campground is approximately 1.5 miles south of the site. Santee Lakes and Recreation Area, owned and operated by the Padre Dam Municipal Water District (PDMWD), is located approximately 0.75 miles east of the site (see Figure 4.12.4-1). The West Hills Park is located south of Mast Boulevard, approximately 0.75 miles southeast of active landfill areas. The closest developed portion of the park, a gazebo structure, is located approximately 500 feet east of the landfill entrance (see Figure 4.12.4-1). The portion of the United States Marine Corps Air Station (MCAS) Miramar adjacent to the Sycamore Canyon site is used for military training and maneuvers and habitat conservation. As indicated in the Sycamore Landfill Master Development Plan Revised Final EIR, a trail under consideration for connection, but not within the CTMP, would follow Sycamore Canyon located approximately one mile east of the Sycamore Canyon site.[3]

According to the City of San Diego Bicycle Master Plan Update, San Diego's existing bicycle network consists of approximately 72 miles of off-street paved bike paths, 309 miles of bike lanes, 113 miles of bike routes, and 16 miles of freeway shoulders open to bicycling. More specifically, bicyclists are permitted to ride on the freeway shoulder of the portion of SR 52 between Santo Road and Mast Boulevard, adjacent to the Sycamore Canyon Expansion Alternative site (see Figure 4.12.4-3).

### 4.12.4.9.2 Design Features

Design features relevant to recreational facilities or resources include those features that would reduce dust, litter, and odor so as to reduce potential indirect impacts to recreational facilities or resources. The Sycamore Landfill currently implements measures to reduce dust, litter, and odor. Dust control measures include grading and watering of haul roads, watering work areas when conditions may generate fugitive dust, the application of water with a chemical additive and planting temporary vegetative cover on intermediate soil cover, and installation of vegetative cover on the completed landfill slopes. Litter control measures include collection of wind-blow litter on site, along the access road, and within a one-quarter mile radius of the site as needed, as well as the use of temporary litter fences as needed near the active working face and along the rim of the top deck and the access road. The Sycamore Canyon landfill implements an odor management plan, including the use of daily cover, sealing of fissures in cover soil, and immediately covering noxious waste to minimize the emission of odors. The Sycamore Canyon Expansion Alternative would include these design features.

### 4.12.4.9.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on recreational facilities or resources if the alternative would result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources.*

[3] *According to the Sycamore Landfill Master Development Plan Revised Final EIR, a trail under consideration for connection to the County's Goodan Ranch and Sycamore Canyon Open Space Preserve, would follow the Sycamore Canyon located approximately one mile east of the Sycamore Canyon site. The Goodan Ranch, located approximately 5.25 miles northeast of the site, is a historical ranch built in the 1930s offering hikes along trails and a scenic natural setting.*

**Impact Statement Sycamore REC-1: The Sycamore Canyon Expansion Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources. Therefore, no significant adverse effects would occur.**

The Sycamore Canyon Expansion Alternative would result in the expansion of the existing landfill capacity and increase of facility services. The alternative would result in 24-hour operation, seven days per week. Currently, the landfill has 40 full-time employees at present. At full operation of the landfill, an estimated 50 full-time employees would work at the facility, resulting in an increase of ten employees. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance.

The Sycamore Canyon Expansion Alternative would not impact parks or recreational areas because any increase in population attributable to the expansion would be negligible. It is expected that the ten new employees, and any construction workers, would be drawn from the region with a greater number in communities neighboring or adjacent to the site. In light of there being ten new full-time employees, and accepting they would not be new to the City, the effect on any one park or recreational facility would be insignificant. Any population growth and increased recreational demand would be distributed over the region, resulting in no increase in demand to any one recreational facility and would not be sufficient to substantially deteriorate, or accelerate the deterioration of recreational facilities or resources. To the extent employees might move into new homes, those homes would likely have been built with the payment of fees pursuant the City's Municipal Code. Therefore, potential impacts associated with new employees and increased demand of recreational facilities or resources would not have a significant adverse effect.

The Sycamore Canyon Expansion Alternative site is not located adjacent to existing parks, trails, or pathways (see Figures 4.12.4-1 and 4.12.4-2). The Sycamore Canyon Expansion Alternative would not directly affect the trail connection, under consideration, to the County's Goodan Ranch. After landfill closure, open space and additional trail connections through and around the site to the MTRP would be possible and would be developed in concert with the final closure plan. Design features to reduce dust, odors, and litter would ensure that indirect impacts to recreational uses would be less than significant. Thus, the Sycamore Canyon Expansion Alternative would result in less than significant impacts to recreational facilities or resources. The Sycamore Canyon Expansion Alternative would include road improvements at the Mast Boulevard/West Hills Parkway intersection at the landfill entrance and along Mast Boulevard between the landfill entrance and the westbound on-ramp to SR 52. Improvements would include one bike lane in both the westbound and eastbound directions on Mast Boulevard and the northbound direction on West Hills Parkways. Signal timing at the site entrance would take into account bicycle and pedestrian traffic through the area. No free right turns would occur out of the site entrance that would conflict with bicycle or pedestrian traffic. During construction, vehicular and bicycle access on SR 52, Mast Boulevard, and West Hills Parkway would be allowed and applicable safety and access measures of the California MUTCD to protect bicycle users would be implemented. With implementation of proposed roadway improvements, design features, and safety and access measures, no significant adverse effects on bicyclists, bike facilities, and pedestrians would result.

## Mitigation Measures

The Sycamore Canyon Expansion Alternative would not result in a significant adverse effect on recreational facilities or resources. No mitigation measures are proposed.

# 4.13 SOCIOECONOMICS

## INTRODUCTION

This section provides an analysis of the potential for the landfill alternatives to alter the location, distribution, density and growth rates of population, housing, and employment opportunities; and whether such effects would be consistent with existing demographic patterns and patterns represented in plans that address the demand for future housing and supply of public/private services. The analysis also describes the potential of alternatives to affect the socioeconomic well-being of the community and its citizens. Although economic and social factors are listed in the definition of effects in the CEQ NEPA Regulations (40 CFR 1508.8), consideration of such effects are intended to apply to circumstances where these effects are related to effects on the natural or physical environment (40 CFR 1508.14). Therefore, the analysis in this section focuses on secondary effects to the socioeconomic setting that might arise as a result of changes to the physical environment. Issues pertaining to the proportionate share of environmental impacts on tribal, minority and low income communities are addressed separately, in Section 4.06, Environmental Justice.

## 4.13.1 REGULATORY FRAMEWORK

### 4.13.1.1 SANDAG – Regional Planning and Demographic Projections

The San Diego Association of Governments (SANDAG) is the public agency that serves as the forum for regional decision-making. It is governed by a Board of Directors composed of mayors, council members, and county supervisors from each of the region's 19 local governments; with advisory representatives from other local, state, federal and tribal agencies. Among other activities, SANDAG supports the provision of public transportation, and provides information on a broad range of topics pertinent to the region's quality of life. As part of its mission SANDAG prepares the Growth Management Plan, the Sustainable Communities Strategy, the Regional Housing Needs Assessment (RHNA) and the Regional Transportation Plan.

The Regional Comprehensive Plan (RCP), updated in July 2004, serves as the long-term planning framework for the San Diego region and provides a broad context in which local and regional decisions are made that move the region toward a sustainable future. The RCP integrates local land use and transportation decisions, and contains an incentive-based approach to encourage and channel growth into existing and future urban areas and smart growth communities. The Sustainable Communities Strategy provides a guide for reducing regional greenhouse gases through development patterns, transportation infrastructure investments, and/or transportation measures or policies determined to be feasible. The RHNA allocates housing needs in four income categories (very low, low, moderate, and above moderate) for County jurisdictions. The housing needs are incorporated into local housing elements of the jurisdictions' General Plans.

The 2050 Regional Transportation Plan (RTP) is the blueprint for the regional transportation system. It is intended to support the development of a transportation system that further enhances quality of life, that promotes sustainability, and that offers more mobility options for people and goods. Building on the current transportation system with funding anticipated over the next 40 years, the 2050 RTP outlines projects for transit, rail and bus services, express or managed lanes, highways, local streets, bicycling, and walking.

An important component of the RTP is the year 2050 Regional Growth Forecast that estimates the existing amount and distribution of population, housing and employment throughout the County; and that projects these demographic characteristics for future years. The demographic forecasts help SANDAG and local jurisdictions plan appropriate facilities, services, and development practices over the long term and are used as inputs to the Regional Transportation Plan, Regional Comprehensive Plan, Urban Water Management Plan, and other local and regional planning documents. The 2050 forecast represents a likely prediction of future growth. In general, growth between 2008 and 2030 is based on adopted land use plans and policies, and growth between 2030 and 2050 includes alternatives that may, in some cases, reach beyond existing adopted plans.

### 4.13.1.2 San Diego County – General Plan[1]

The San Diego County General Plan (adopted August 2011) serves as a framework for future growth and development of the unincorporated areas of the County and is based on guiding principles designed to protect the County's unique and diverse natural resources and to maintain the character of its rural and semi-rural communities. The General Plan provides a consistent framework for land use and development decisions consistent with an established community vision. The General Plan's policies form the basis for the County's zoning, subdivision, and infrastructure decisions.

Chapter 3 of the General Plan, the Land Use Element, establishes a framework that provides maps, goals, and policies that guide planners, the general public, property owners, developers, and decision makers as to how lands are to be conserved and developed in the unincorporated County. The core concept for the County's development directs future growth to areas where existing or planned infrastructure and services can support growth and locations within or adjacent to existing communities.

Chapter 6 of the General Plan, the Housing Element, establishes the distribution of residential growth and densities appropriate for a range of housing types and affordability; and meets goals of State Housing Law to meet the housing needs identified in the RHNA, which is prepared by SANDAG. The Housing Element is intended to provide sites with appropriate zoning and development standards and with services and facilities to accommodate the jurisdiction's regional housing needs.

Community/Subregional Plans implement the land use categories and designations contained in the Land Use Element at the local scale; addressing special land use issues and objectives that uniquely pertain to each of the County's diverse communities. Such plans have been prepared for 23 local communities.

### 4.13.1.3 City of San Diego – General Plan

The City of San Diego General Plan is a comprehensive, long-term document that sets out a long-range vision and policy framework for how the City could grow and develop, providing guidance on the need for future public services. It provides policy guidance to balance the needs of the growing city while enhancing quality of life for current and future residents. The General Plan is comprised of a Strategic Framework section and

[1] *This section of the EIS considers County and City General Plans in regards to their implications for future development patterns. For a comparative analysis of General Plan policies with regard to implementation of the alternatives, refer to Section 4.10, Land Use and Planning, of this EIS.*

ten elements including: Land Use and Community Planning; Economic Prosperity; Mobility; Urban Design; Public Facilities, Services and Safety; Recreation; Conservation; Historic Preservation; Noise; and Housing.

The Land Use and Community Planning Element is intended to guide future growth and development into a sustainable citywide development pattern, while maintaining or enhancing the City's quality of life. It addresses land use issues that apply to the City as a whole, and identifies the community planning program as the mechanism to designate land uses, identify site-specific recommendations, and refine citywide policies, as needed.

The Land Use Element also includes policies that govern the preparation of community plans. The community plans provide more detailed land use designations and site-specific policy recommendations than is practical at the citywide level. Community plans typically address community issues such as: the local street and transit network; distinctive environmental characteristics; community landmarks; location, prioritization and provision of public facilities; community urban design guidelines; and identification of gateways. The City has 50 designated Community Planning Areas.

The Housing Element of the General Plan is printed under separate cover, and serves as a policy guide to address the comprehensive housing needs of the City. It is prepared pursuant to state laws that require local jurisdictions to address the housing needs of their community, the barriers or constraints to providing that housing, and actions proposed to address these concerns over an eight-year period. It based on the housing needs identified in the RHNA prepared by SANDAG.

## 4.13.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on socioeconomics.

### 4.13.2.1 Criteria for Assessing Effects

Neither the federal government (CEQ), nor state and local governments have established thresholds for evaluating socio-economic effects. The following criteria are based on NEPA and state CEQA guidelines regarding the intent of linking socio-economic analyses to precursors of physical change to the environment; and CEQA guidelines regarding evaluation of population and housing effects. Accordingly, an alternative would have a significant adverse effect on socioeconomics if it would:

- Substantially alter the location, distribution, density, or growth rate of the human population planned for the area and result in a demand for housing and public and private services which exceeds long term supply;
- Generate population or employment that is inconsistent with the regional growth management plans; or
- Substantial physical environmental effects on surrounding uses would interfere with their normal functions in a manner that could lead to substantial adverse socioeconomic consequences.

### 4.13.2.2 Methodology

The analysis of socioeconomics addresses the potential of the alternatives to alter the location, distribution, density and growth rates of population, housing, and employment opportunities; and whether such effects would be consistent with existing demographic patterns and patterns represented in plans that address the demand for future housing and supply of public/private services. The analysis identifies the expected changes in the demographic characteristics and compares those numbers to the projected demographic information for the County's Major Statistical Areas (MSAs) and for the General Plan/Community Plan[2] areas in which the alternatives are located.

The estimates of the number of employees required to operate the alternative landfills is based on employment estimates for the Applicant's Proposed Alternative.[3] The estimates are assumed to be valid for Aspen Road, Gopher Canyon, Merriam Mountain and East Otay Mesa Alternatives given the similar size and characteristics of these alternatives. The employment estimate for the Sycamore Canyon Expansion Alternative is based on information provided in the EIR for that project.[4] The demographic information is from the SANDAG 2050 Regional Growth Forecast (Adopted October 2011). The data, which has been reported by SANDAG for 2008 and later 10 year time intervals, has been interpolated to reflect estimates for 2012 (i.e. the current time). Also, the employment data for 2045 (the estimated completion of landfill activities) is based on interpolation of data provided in the estimates for 2040 and 2050.

The analysis also describes the potential socioeconomic effects of the alternatives. The analysis focuses on secondary effects to the socioeconomic setting that might arise as a result of changes to the physical environment. The first part of this discussion identifies for information purposes potential revenue benefits to the County that would accrue with construction of a new landfill.

The second part of this qualitative discussion identifies development in the vicinity of the alternative and the potential changes to the physical environment in vicinity due to the alternative. It then addresses whether the physical impacts of the applicable environmental topics on surrounding uses would be so substantial as to interfere with the ability of those uses to carry out their normal functions; or limit their activities in a manner that could lead to substantial adverse economic consequences.

## 4.13.3 APPLICANT'S PROPOSED ALTERNATIVE

### 4.13.3.1 Affected Environment

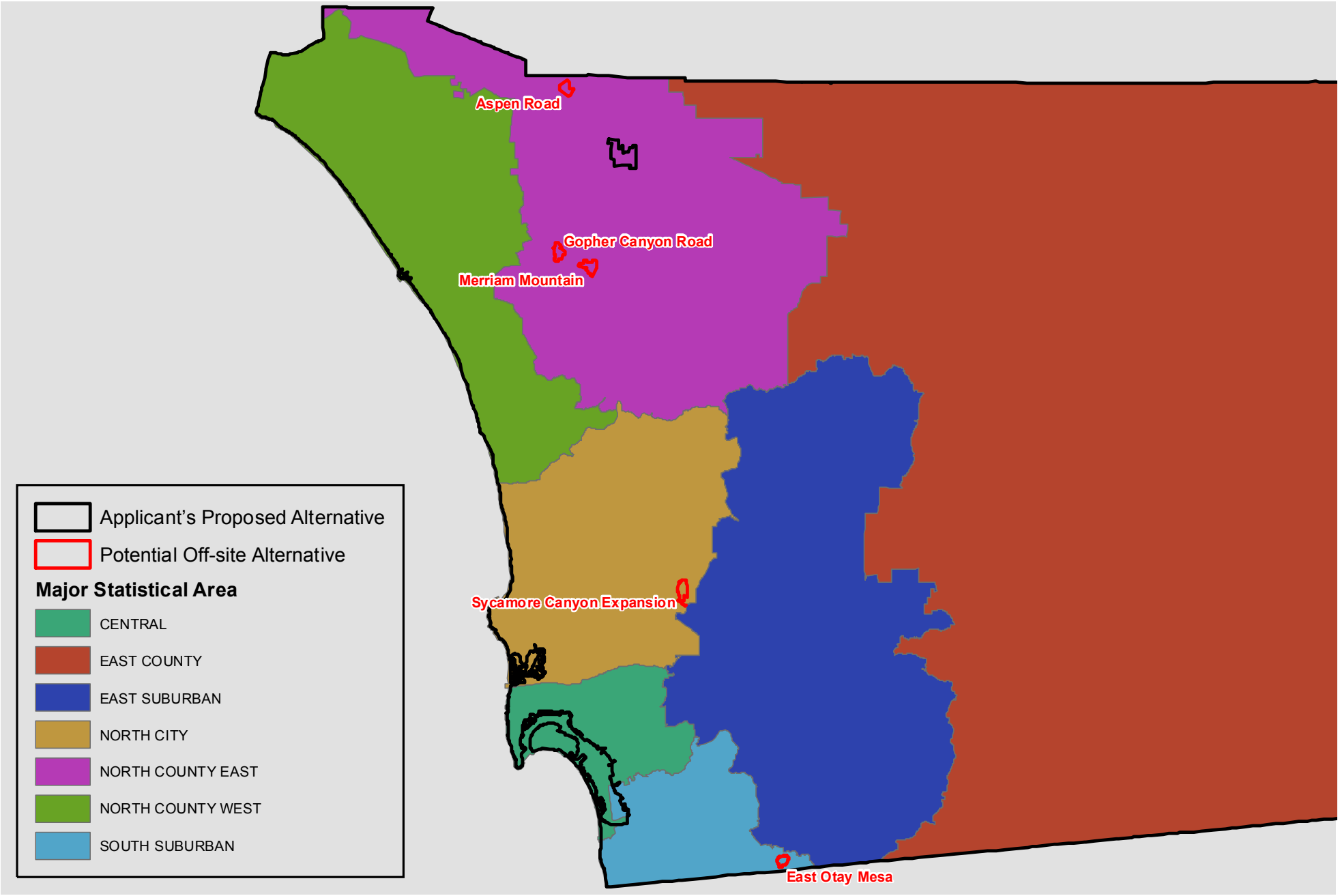
#### Regional Setting

The Applicant's Proposed Alternative lies within the North County area of the County of San Diego. Population, housing and employment opportunities in the County are distributed throughout both the incorporated and unincorporated areas. Data that reflects the distribution patterns of development in the County are aggregated by SANDAG for Major Statistical Areas (MSAs). There are seven MSAs as reflected in Figure 4.13-1, *Major Statistical Areas*. Current and projected estimates for population, housing and

[2] *In some cases, recent updates to Community Plans have designated the plans as Subregional Plans. However, the boundaries within those plans are consistent with the Community Plan boundaries used for the compilation of data by SANDAG. Hence, the discussion here refers to the more generic "Community Plan" designation.*

[3] *Bryan A. Stirrat & Associates. Joint Technical Document, Gregory Canyon Landfill, San Diego County, California. Volume I, Table 6. January 2011.*

[4] *City of San Diego. August 2012. Sycamore Landfill Master Development Plan, Revised Final EIR, SCH No. 2003041057.*




N

0 10 20 Miles

**Major Statistical Areas**

**Gregory Canyon**

Source: SANDAG, 2012; PCR Services Corporation, 2012.

FIGURE

**4.13-1**

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employment in each of the MSAs, as well as a total for the County are shown in Table 4.13-1*, Demographic Data for Major Statistical Areas (MSAs).* Table 4.13-1 also shows the jobs/housing ratio for each of the MSAs and the County as a whole. The jobs/housing ratio is a measure of proximity between employment and housing locations. To the extent that the ratio is similar in local communities to the overall region, the spatial distribution of development supports County goals pertaining to the reduction of vehicle miles traveled and related reductions in air quality emissions. To the extent local communities vary from the regional ratio they are said to be jobs rich or housing rich, respectively.

As indicated in the Table 4.13-1, the County is projected to grow in population size from 3,266,021 to 4,282,462 between 2012 and 2045. This is an increase of 1,016,441 people, or 31 percent. The number of housing units is projected to grow from 1,181,261 units to 1,491,629 units; an increase of 310,368, or 26 percent. The number of employment opportunities is projected to grow from 1,540,588 jobs to 1,940,353 jobs, an increase of 399,765 jobs, or 25 percent.

The jobs/housing ratio is currently estimated and future projected to be 1.3 jobs per housing unit. The North City MSA is the greatest center of employment opportunities, both absolutely and as a per capita percentage (jobs/housing = 1.9 currently). East County is relatively more housing rich, as compared to the County as a whole (jobs/housing = 0.7 currently).

### Local Setting

The Applicant's Proposed Alternative is located in the North County East MSA, which is projected to grow at a faster rate than the County generally. North County East is expected to grow by 163,561 people, 44,652 housing units and 61,135 employees. The North County West MSA, which lies adjacent, is projected to grow in population, housing and employment, but at a slower rate. The job/housing ratio for both MSAs is similar to that of the County as a whole.

The Applicant's Proposed Alternative site is generally vacant except for structures associated with the dairies that previously occupied the property and residences that are vacant and boarded up. An area located in the eastern portion of the site is used for construction storage. The site is designated in the General Plan as Public/Semi-Public Lands and zoned Solid Waste Facility (SWF). The Gregory Canyon site is primarily located within the boundaries of the Pala/Pauma Community Plan area, with a small extent of the western portion of the site located in the Fallbrook Community Plan area. Population, housing and employment projections for the Community Plan areas, as well as job/housing ratios for both, are shown in Table 4.13-2, *Demographic Data for Community Plan Areas – Applicant's Proposed Alternative*. Growth in the Pala/Pauma Community Plan area is expected to include an increase of 6,882 people, 2,002 housing units, and 2,805 employees. The Fallbrook Community Plan Area is estimated to grow by 16,575 people, 4,515 housing units and 3,550 employees.

**Table 4.13-1**

**Demographic Data for Major Statistical Areas (MSAs)**

**Population**

| Major Statistical Area | 2012[a] | 2045 | Numeric Change | Percentage Change |
|---|---|---|---|---|
| 0 - Central | 667,741 | 917,914 | 250,173 | 37% |
| 1 - North City | 789,544 | 1,002,877 | 213,333 | 27% |
| 2 - South Suburban | 399,067 | 549,079 | 150,012 | 38% |
| 3 - East Suburban | 502,500 | 649,303 | 146,803 | 29% |
| 4 - North County West | 440,510 | 519,522 | 79,012 | 18% |
| 5 - North County East | 442,608 | 606,169 | 163,561 | 37% |
| 6 - East County | 24,051 | 37,598 | 13,547 | 56% |
| **County Total** | **3,266,021** | **4,282,462** | **1,016,441** | **31%** |

**Housing**

| Major Statistical Area | 2012[a] | 2045 | Numeric Change | Percentage Change |
|---|---|---|---|---|
| 0 - Central | 246,838 | 336,807 | 89,969 | 36% |
| 1 - North City | 309,000 | 378,479 | 69,479 | 22% |
| 2 - South Suburban | 124,343 | 165,060 | 40,717 | 33% |
| 3 - East Suburban | 180,588 | 220,852 | 40,264 | 22% |
| 4 - North County West | 158,619 | 177,857 | 19,238 | 12% |
| 5 - North County East | 149,994 | 194,646 | 44,652 | 30% |
| 6 - East County | 11,880 | 17,928 | 6,048 | 51% |
| **County Total** | **1,181,261** | **1,491,629** | **310,368** | **26%** |

**Employees**

| Major Statistical Area | 2012[a] | 2045[a] | Numeric Change | Percentage Change |
|---|---|---|---|---|
| 0 - Central | 325,451 | 386,271 | 60,820 | 19% |
| 1 - North City | 578,818 | 678,359 | 99,541 | 17% |
| 2 - South Suburban | 124,977 | 213,165 | 88,188 | 71% |
| 3 - East Suburban | 145,637 | 183,055 | 37,418 | 26% |
| 4 - North County West | 182,770 | 230,995 | 48,225 | 26% |
| 5 - North County East | 175,150 | 236,285 | 61,135 | 35% |
| 6 - East County | 7,786 | 12,225 | 4,438 | 57% |
| **County Total** | **1,540,588** | **1,940,353** | **399,765** | **26%** |

**Jobs/Housing Ratio**

| Major Statistical Area | 2012[a] | 2045 | Numeric Change | Percentage Change |
|---|---|---|---|---|
| 0 - Central | 1.3 | 1.1 | -0.2 | -13% |
| 1 - North City | 1.9 | 1.8 | -0.1 | -4% |
| 2 - South Suburban | 1.0 | 1.3 | 0.3 | 28% |
| 3 - East Suburban | 0.8 | 0.8 | 0.0 | 3% |
| 4 - North County West | 1.2 | 1.3 | 0.1 | 13% |
| 5 - North County East | 1.2 | 1.2 | 0.0 | 4% |
| 6 - East County | 0.7 | 0.7 | 0.0 | 4% |
| **County-Wide Ratio** | **1.3** | **1.3** | **0.0** | **0%** |

[a] *All estimates for 2012 and Employment estimates for 2045 are interpolated from nearest years reported on the SANDAG website.*

*Source: PCR Services Corporation; SANDAG 2050 Regional Growth Forecast*

**Table 4.13-2**

**Demographic Data for Community Plan Areas – Applicant's Proposed Alternative**

**Pala-Pauma Community Plan Area**

| | 2012[a] | 2045[a] | Numeric Change | Percentage Change |
|---|---|---|---|---|
| Population | 5,655 | 12,537 | 6,882 | 122% |
| Housing | 2,055 | 4,057 | 2,002 | 97% |
| Employees | 6,817 | 9,623 | 2,805 | 41% |
| Job/Housing Ratio | 3.3 | 2.4 | (0.9) | (0.3) |

**Fallbrook Community Plan Area**

| | 2012[a] | 2045[a] | Numeric Change | Percentage Change |
|---|---|---|---|---|
| Population | 45,330 | 61,905 | 16,575 | 37% |
| Housing | 15,955 | 20,470 | 4,515 | 28% |
| Employees | 9,567 | 13,117 | 3,550 | 37% |
| Job/Housing Ratio | 0.6 | 0.6 | 0.0 | 0.0% |

[a] *All estimates for 2012 and Employment estimates for 2045 are interpolated from nearest years reported on the SANDAG website.*

*Source: PCR Services Corporation; SANDAG 2050 Regional Growth Forecast*

## 4.13.3.2 Design Features from the Gregory Canyon EIR

A number of design features that reduce impacts on the physical environment have been identified in other sections of this EIS. Of particular note are design features that would limit impacts on Aesthetics, such as the implementation of a landscape plan, including landscaping along SR 76 (see Section 4.1); Noise and Vibration, such as limitations on equipment and installation of berms (see Section 4.11); Transportation, such as realignment of SR 76, installation of a traffic signal at the landfill access intersection, limitation on trips on SR 76 during certain hours, and a commitment to the payment of $1,000,000 to Caltrans for other roadway improvements to enhance traffic operations on SR 76 (see Section 4.15); and Human Health and Safety, such as litter pick up and the installation of a litter fence along the bridge, use of daily cover, and reduction of vehicle speeds on unpaved road (see Section 4.8).[5] In reducing impacts on the physical environment, these design features would limit the potential for changes to the physical environment to generate secondary, indirect impacts on social activity or economic conditions.

In addition, Proposition C includes provisions for financial guarantees by the applicant. Financial guarantees include provisions for closure of the landfill; 30 years of post-closure maintenance; and monitoring surface and groundwater quality and leachate collection for as long as the solid waste could have an adverse effect on the waters of the state, but not less than 30 years after closure. If regular monitoring indicates any environmental problems, the applicant would be responsible for developing a solution and remediation. The financial burden for this long-term liability rests with the private owner/operator and not with a public agency. In addition, the applicant is required to provide a minimum of a $1 million liability insurance policy for operational risks, however, a $50 million liability insurance policy is currently proposed. Aside from the state required guarantees, the applicant has also entered an agreement with the San Luis Rey Municipal Water District to protect the Pala Basin of the San Luis Rey River and the water quality of down-gradient

[5] *The commitment of a payment of $1,000,000 to Caltrans for roadway improvements is a condition of the Solid Waste Facility Permit, Gregory Canyon Landfill SWIS# 37-AA-0032.*

basin areas. The agreement requires a trust fund or a third party custodial account in the amount of $2,520,000 to be increased annually in accordance with inflation; as well as an irrevocable letter of credit in the amount of $840,000. Collectively the assurances discussed and required by the agreement exceed $19 million, excluding the liability insurance policy.

### 4.13.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on socioeconomics if it would:*

- *Substantially alter the location, distribution, density, or growth rate of the human population planned for the area and result in a demand for housing and public and private services which exceeds long term supply; or*
- *Generate population or employment that is inconsistent with the regional growth management plans.*

**Impact Statement Gregory SOC-1: The Applicant's Proposed Alternative would not remove housing stock, nor generate notable new population or housing in the region. It would include approximately 35 site workers during initial construction and 22 employees during full operations. This increase in employment would fall within regional growth forecasts, and would not alter land use patterns or result in demand for housing and services that would exceed supplies. No significant adverse effects on demographic distribution would occur.**

The Applicant's Proposed Alternative would not remove existing housing stock. However, existing residences that are vacant and boarded up on the site would be demolished. No residential uses are proposed that would bring new population to the area. The alternative would generate employment for approximately 35 workers during initial construction and 22 employees during full operations. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance.

It is expected that the majority of employees would be drawn from the existing labor pool in the region. A few employees may move to the County, but such families would likely move into housing units that would otherwise have been available on the market and would have negligible effect on the regional and local demographic patterns. Some long-term employees currently located within the County might move to be closer to their place of work. Again, the relocation of a few families within the County would have a negligible effect. These minimal effects would occur within the North County East Major Statistical Area which is estimated to grow by 163,361 people, 44,651 housing units and 61,135 employees between 2012 and 2045.

If all of the 22 long-term employees were to move into the County from other areas to work at the landfill they would represent 0.7 percent of the 2,805 new employees projected to begin work in the Pala/Pauma Community Plan Area between 2012 and 2045. The employees represent 0.6 percent of the new employees projected to begin work in the Fallbrook Community Plan Area during this time. If all of the employees were to relocate within the two local planning areas they would occupy 0.3 percent of the 6,517 estimated housing units to be constructed within the two local planning areas during the time period.

Therefore, the few employees and possible residential re-locations would be consistent with the regional and local forecasts; and would not alter the location, distribution, density, or growth rate of the population planned for the area. The demand for housing and public and private services would not exceed long term supply. Further, as described above, the Gregory Canyon site is designated in the General Plan and zoned for development as a Solid Waste Facility. Therefore, the development of a landfill at the Gregory Canyon site was considered by SANDAG during the development of the demographic forecasts in the SANDAG 2050 Regional Growth Forecast. As the landfill development is anticipated in the forecasts, and as landfill development on the site would not alter the forecasted demographic projections, no significant adverse effects would occur.

Mitigation Measures

The Applicant's Proposed Alternative would not have significant adverse effects on socioeconomic conditions with regard to the amount and distribution of population, housing and employment. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse impact on socioeconomics if:*

- *Substantial physical environmental effects on surrounding uses would interfere with their normal functions in a manner that could lead to substantial adverse socioeconomic consequences.*

**Impact Statement Gregory SOC-2: The Applicant's Proposed Alternative would contribute financial benefits to the region. The physical impacts would not interfere with the normal operations of other uses in the vicinity of the Gregory Canyon site in a manner that would lead to adverse socioeconomic consequences regarding social and economic activity.**

The construction and operation of the Applicant's Proposed Alternative would provide a number of economic benefits to the County and its population. The alternative would benefit the local economy by hiring employees that would benefit directly and that would spend their income at local businesses, providing secondary benefits. Also, the landfill operations would involve business to business spending for purchases and rentals of materials, supplies and equipment. The landfill operation would generate tax revenue through the payment of property taxes and sales taxes associated with the previously noted business transactions. One study regarding the economic effects of the Gregory Canyon Landfill estimated that the annual economic benefit to the region would be $2,060,000.[6]

At the same time, the landfill use would generate low demand for public services and utilities. As described in Sections 4.12.01, Law Enforcement; 4.12.02, Fire Protection and Emergency Medical Services; 4.12.03 Schools; and 4.12.04, Recreation, the Applicant's Proposed Alternative would not generate new population that would increase demand for public services. Further, the alternative would include numerous design features that would provide on-site security and fire-protection services with such measures as fencing, controlled access, security lighting, use of a firebreak around the landfill, procedures for address smoldering wastes and fill prism fires if they should occur, etc. With these design features, sheriff/fire services from

[6] *Gregory Canyon Ltd., LLC. October 2003. Gregory Canyon Landfill Benefits Analysis, as included in the Statement of Overriding Considerations for the Gregory Canyon EIR..*

public agencies would not normally be required and demand for such services associated with the alternative would be limited.

Depending on agreements and contracts amongst jurisdictions and the waste companies, locating a landfill in North County may reduce the distance that haulers travel to dispose of waste generated in or near North County. As shorter distances may result in savings of time and money, it may be reasonably assumed that some haulers would choose to reduce their costs for landfill vehicle operations, contributing to reductions in vehicle miles traveled and associated vehicle fuel and maintenance costs. Also, an additional landfill in San Diego County may contribute to lower tipping fees through landfill competition amongst multiple providers. To the extent that haulers of North County generated waste use the Applicant's Proposed Alternative, there could be economic benefits to the County.

Design features that require the applicant to provide a number of financial guarantees would limit potential public costs that might arise out of landfill operations and its environmental consequences. The financial burden for potential long-term liability would rest with the private owner/operator and not with a public agency. In addition, the applicant is required to provide a liability insurance policy for operational risks, and establish a trust fund or a third party custodial account with the San Luis Rey Municipal Water District to protect the Pala Basin of the San Luis Rey River and the water quality of down-gradient basin areas.

There would also be a public benefit from expenditures by the applicant for the enhancement of traffic operations along SR 76, including the realignment of SR 76 and the addition of a signalized intersection at the landfill entrance. In addition, the applicant has committed to the payment of $1,000,000 to Caltrans for other roadway improvements to enhance traffic operations on SR 76.

The proposed landfill is a long planned development, consistent with existing General Plan and Zoning designations along a corridor that is mixed-use in nature. Land uses in the area include agricultural, residential, extractive, commercial, industrial, and infrastructure uses; including the remnants of the former H. G. Fenton Materials, Inc. sand and gravel mining operation, with water-filled gravel ponds visible from SR 76; a power plant directly north of the site; and Rosemary's Mountain quarry, a mining operation with asphalt and concrete processing plants and a rock crushing facility, located approximately 1.75 miles west of the site.

Uses in the vicinity that could be subject to socioeconomic effects as a result of landfill construction and operations include the Pala Community (Casino, Retreat Center, Raceway, and residential area) to the east, residential development to the south and southwest, intermittent residential development and travelers along SR 76; and agricultural uses in the vicinity. The environmental issues with the greatest potential to affect activities and character of nearby uses would be aesthetics, traffic, noise and nuisance factors (odors, litter, dust, vectors). The potential effects of changes regarding these environmental topics on nearby uses are as follows.

- **Pala Community (i.e. Casino, Retreat Center, residential uses and Raceway) east of the alternative site.** The Pala Casino, Retreat Center, Raceway, and residential area are located to the east of the alternative site. Generally these uses are remote from the site with the Retreat Center being closest to the landfill entrance road, about 1.3 miles east of the site. The site is about 2.5 miles from the Casino and residential areas, and approximately 4.0 miles from the Raceway. The Retreat

Center and residential uses are considered sensitive uses, and could be subject to noise and nuisance impacts. The potential for these uses to be affected by landfill activity would be limited due to their distance from the landfill, the winding nature of SR 76, and intervening topography. Most notably, Gregory Mountain, which rises in elevation, acts as a barrier between the Pala Community and the landfill site, thus blocking sound and views from those uses to the east. Further, in addition to intervening topography and distance, landfill design features would also control nuisance factors that might otherwise have an impact on surrounding communities. Design features include a Dust Control Plan that would address maintenance and treatment of roads, watering of roads and soils, planting of vegetation for soil cover, limited traffic speeds and covering of loads. A Vector Control and Management Plan would limit vector impacts through such measures as application of daily cover, use of closed containers, pest control services, inspection for signs of rodent activity, bird dispersal techniques, shredding of tires, elimination of puddles and wet areas, and repair of building openings, ground holes and the perimeter fence. Odors would be controlled by confining the active working face, by the application of daily cover and via a landfill gas control system. Measures to control litter would include such features as tarping of haul loads, unloading at the working face of the landfill, use of temporary fencing to control windblown papers, suspension of operations during high winds, litter collection, and a litter fence along the bridge.

All of the uses in the Pala Community could be subject to the effects of traffic along SR 76. Landfill activities would add traffic along SR 76, potentially affecting accessibility to the Pala Community uses. At the same time there would also be benefit from expenditures by the applicant for the enhancement of traffic operations including the realignment of SR 76 with a signalized intersection at the landfill entrance; and an irrevocable offer to contribute up to $1,000,000 to Caltrans to make traffic safety improvements in the vicinity of the site.[7] As indicated in Section 4.15, *Transportation*, of this EIS the added landfill traffic would not result in significant adverse effects and SR 76 intersections and road segments would serve at acceptable, i.e. LOS D or better levels. Therefore, the added traffic would not result in traffic congestion that would interfere with activities in the Pala Community in a manner that would have an adverse economic effect.

- **Residences to the south and southwest.** The most notable environmental factors that could affect residential activities or property values for these residences would be due to nuisance factors (i.e. odors, litter, dust, vectors), noise, or aesthetics. The residents would also be subject to additional traffic accessing their homes via SR 76. As noted above, the nuisance factors would be controlled and would not adversely affect surrounding properties through the implementation of design features. Therefore, the alternative would not change the quality of surrounding development as a result of these nuisance factors. As also noted above, traffic levels would operate at acceptable LOS levels (i.e. intersection and street level LOS D or better) with the addition of the alternative's traffic.

  As described in Section 4.1, Aesthetics, view locations southwest of the alternative site would not be exposed to significant adverse aesthetic effects. The altered landform would not dominate the entire valley or block or dominate broad vistas. Design features include contouring of landfill forms to blend with surroundings, plantings for screening and seeding of landform faces to reduce potential impacts. Therefore, the residential units would continue to retain their rural character with expansive views similar to those occurring today.

[7] *The commitment of a payment of $1,000,000 to Caltrans for roadway improvements is a condition of the Solid Waste Facility Permit, Gregory Canyon Landfill SWIS# 37-AA-0032.*

As indicated in Section 4.11, *Noise and Vibration*, the residents would likely hear some noise from the landfill. However, design features would limit the maximum sound at the property boundary to 62.4 dBA, thus avoiding significant adverse noise impacts at any residential location per the County thresholds, and assuring that sound design features (such as limitations on equipment and installation of berms) are included to avoid an exceedance of the threshold. Table 4.11-9 in Section 4.11 of this EIS shows the noise generated by various landfill activities (e.g. stockpile activities, landfill working face, rock crushing, etc.), the distance from the activity to the nearest residential unit, and the sound levels at the nearest residential units. The nearest residential unit to a stockpile area is approximately 500 feet and to the landfill working face is approximately 1,300 feet. The greatest noise level at the nearest unit is 62 dBA. The sound levels diminish to 57 dBA for the few units located immediately adjacent to the alternative site. The maximum potential sound levels for the larger number of units, i.e. those not located adjacent to the site, would be substantially less due to distance and intervening topographic features. The noise analysis in Section 4.11 of this EIS presents a maximum impact scenario indicating the greatest possible impact that might occur, not typical operating conditions. The maximum levels would occur intermittently, only when landfill activities occur at their closest location to the property boundaries (rare occurrences) and only during day-time operating hours. Further, the noise analysis does not account for topographic features which may result in lower sound levels. Based on noise measurements taken in 2000 and 2012, the maximum existing sound levels range from 46.1 dBA to 62.6 dBA. Therefore, sound levels from the landfill activities at surrounding residential locations would be similar in noise levels to some maximum noise levels otherwise occurring in the area. After landfill closure, the site would remain as open space. While changes to the sound character of the area would occur at a few residences, the alternative would not substantially alter the general character of the area. Therefore, the alternative would not be expected to have effects on social activities or economic conditions.

- **Intermittent residential uses and passers-by along SR 76.** The few residential uses along SR 76 would be isolated from the landfill activities due to distance (with the nearest residential use approximately 0.5 mile to the west and 1.75 miles to the east) and intervening topographic features. Potential affects at these locations would be due to traffic. Travelers through the area, including visitors to the Pala Community/Casino, would have only brief glimpses of the landfill as they pass by it, as the configuration of SR 76 and traffic speeds cause direct views to be limited and of short duration. On the one hand the travelers would see the landfill prism as an altered landform. On the other hand view conditions would be enhanced by demolition of existing vacant buildings, improvements associated with the HRRMP, and implementation of the conceptual landscape plan. The landscaping plan includes several features to enhance the view quality for travelers, including retention of trees along SR 76, planting of new trees and shrubs along SR 76 and a major tree grouping planted along the edge of the landfill. Also, large portions of the site would be maintained in open space. As noted above, there would be no significant adverse traffic effects, and SR 76 would continue to operate at acceptable levels, with the addition of the alternative's traffic. Further, increases in traffic noise levels along SR 76 due to landfill trips would be not be discernible and would not be significant adverse effects. Impacts along SR 76 would be negligible and would not alter otherwise expected activities along the roadway.
- **Agricultural uses.** There are existing agricultural operations in the vicinity of the alternative site, particularly to the south and west. Uses include a pasture holding beef cattle, high value truck farming, a small produce stand, which sells local produce, farming of grass/hay and crops similar to sorghum, citrus operations, and fruit tree groves, primarily avocados. The impacts of the alternative

on agricultural operations are addressed in Section 4.02, Agricultural Resources, of this EIS. The analysis addresses potential effects on agricultural operations due to such factors as dust (particularly as regards parasites, insects and disease related problems as well effects on bees as pollinators), attraction of vermin, use of chemicals, greater water demand, or contamination of ground or surface water, meteorological effects and potential effects on bee pollination. The analysis concludes that the Applicant's Proposed Alternative would not cause detrimental effects on adjacent agricultural uses and would provide permanent open space in the long term; and would therefore be compatible with the character of and not cause harm to surrounding agricultural land uses.

Potential effects on agricultural uses would be limited due to design features and locational relationships between the landfill activities and the agricultural properties. Design features that would reduce impacts include, most notably, a Dust Control Plan that would address maintenance and treatment of roads, watering of roads and soils, planting of vegetation for soil cover, limited traffic speeds and covering of loads. Location relationships that limit impacts include favorable wind conditions, distance and topographic barriers between landfill and agricultural uses, landform alterations that would be limited as regards the potential to affect microclimate changes, and allocation of large parts of the site to open space, with restoration with native habitat. For these reasons the alternative would not preclude continued agricultural activities, and would not have an adverse effect on economic conditions regarding agricultural production.

In summary, the above discussion shows that the Applicant's Proposed Alternative would provide economic benefits to the region and that it would not cause dislocation of population/employment opportunities nor the arrangement of social and economic activities locally or in the region. Further, the Applicant's Proposed Alternative would not have substantial physical environmental effects on uses in the Pala Community, inclusive of the Casino, Retreat Center, residential uses and Raceway, residential uses west and south of the site, activities along SR 76 and agricultural uses in the vicinity so as to interfere with their normal functions in a manner that could lead to adverse economic consequences. Therefore, no adverse effects on social and economic activity would occur.

Mitigation Measures

The Applicant's Proposed Alternative would not interfere with day-to-day activities of the population, nor cause adverse economic consequences to other land uses in the vicinity of the landfill. No mitigation measures are proposed.

## 4.13.4 NO FEDERAL ACTION ALTERNATIVE

### 4.13.4.1 Affected Environment

The No Federal Action Alternative would provide habitat restoration and a conservation bank at the Applicant's Proposed Alternative site. As such, the affected environment for the No Federal Action Alternative is the same as described above for the Applicant's Proposed Alternative. See subsection 4.13.3.1.

### 4.13.4.2 Design Features

No design features for the No Federal Action Alternative are associated with socioeconomic impacts.

### 4.13.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on socioeconomics if it would:*

- *Substantially alter the location, distribution, density, or growth rate of the human population planned for the area and result in a demand for housing and public and private services which exceeds long term supply; or*
- *Generate population or employment that is inconsistent with the regional growth management plans.*

**Impact Statement No Federal Action SOC-1: The No Federal Action Alternative would have no effects on housing stock, population or employment. It would not notably affect regional growth forecasts and would not alter land use patterns or result in demand for housing and services that would exceed supplies. No adverse effects on demographic distribution would occur.**

The No Federal Action Alternative would provide a conservation bank at the Gregory Canyon site and would not cause the construction or demolition of existing development. The No Federal Action Alternative would not remove housing stock or otherwise directly affect the availability of housing stock. No residential uses are proposed that would bring new population to the area. The alternative may include a few occasional employees for site maintenance on an intermittent basis, occurring at varied times. Such employees would come from an existing employment base and would perform activities at the site on a rotation amongst such services otherwise provided throughout the region.

SANDAG forecasts take into account the location of a landfill at the Gregory Canyon site. Without such a landfill the few number of employees associated with the Applicant's Proposed Alternative would not be present at the alternative site. However, given SANDAGs general assignment of population to areas larger than individual sites, the few employees at one location or another would remain consistent with the SANDAG forecasts. Therefore, demographic trends would continue as otherwise projected with implementation of the No Federal Action Alternative. The North County East Major Statistical Area is estimated to grow by 163,361 people, 44,651 housing units and 61,135 employees between 2012 and 2045. The Pala/Pauma Community Plan Area is projected to grow by 6,882 people, 2,002 housing units and 2,805 new employees during the same duration. The Fallbrook Community Plan Area is projected to grow by 16,575 people, 4,515 housing units and 3,550 employees. The projections have been incorporated into, and are the basis of plans that address demand for housing and public and private services.

#### Mitigation Measures

The No Federal Action Alternative would not adversely affect socioeconomic conditions with regard to the amount and distribution of population, housing and employment. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on socioeconomics on if:*

- *Substantial physical environmental effects on surrounding uses would interfere with their normal functions in a manner that could lead to substantial adverse socioeconomic consequences.*

**Impact Statement No Federal Action SOC-2: The No Federal Action Alternative would have no affects on the regional economy, day-to-day social activities in the alternative site vicinity, nor economic conditions of the area. Therefore, there would be no adverse effects on social and economic activity.**

As noted above, the No Federal Action Alternative would not cause the construction or demolition of development and would not remove housing stock or otherwise directly affect the availability of housing stock. No residential uses are proposed that would bring new population to the area. The alternative may include a few occasional employees for site maintenance on an intermittent basis, occurring at varied times. Therefore, the alternative would have no physical effects on the environment that could change the setting conditions for social activities or economic activity in the area.

## 4.13.5 ASPEN ROAD ALTERNATIVE

### 4.13.5.1 Affected Environment

#### Regional Setting

The Aspen Road Alternative is, like the Applicant's Proposed Alternative, located within the County of San Diego and would draw on its employee base and related distribution of population and housing. Therefore, the regional demographic characteristics of the Aspen Road Alternative would be similar to those of the Applicant's Proposed Alternative, as described in subsection 4.13.3.1 above.

As indicated, therein, the County is projected to grow in population size by 1,016,441 people, or 31 percent between 2012 and 2045. The number of housing units is projected to grow by 310,368, or 26 percent; the number of employment opportunities is projected to grow by 399,765 jobs, or 25 percent. The jobs/housing ratio is currently estimated and future projected to be 1.3 jobs per housing unit.

#### Local Setting

As with the Applicant's Proposed Alternative, the Aspen Road Alternative is located in the North County East MSA, which is described above. The site is essentially located within the boundaries of the Fallbrook Community Plan area, with a small extent abutting the Rainbow Community Plan Area. Population, housing and employments projections for the Community Plan areas, as well as job/housing ratios for both, are shown in Table 4.13-3, *Demographic Data for Community Plan Areas – Aspen Road Alternative*. The Fallbrook Community Plan Area is estimated to grow by 16,575 people, 4,515 housing units and 3,550 employees. Growth in the Rainbow Community Plan area is expected to include an increase of 797 people, 246 housing units, and 1,562 employees.

The Aspen Road Alternative site, while primarily undeveloped, has limited agricultural use/groves occurring on-site, along with a few residential units along its western boundary. The site is primarily designated Rural Lands (RL-20) in the County's General Plan; with small areas designated Semi-Rural Residential (SR-10) and Rural Lands (RL-40); and a Public/Semi-Public Facilities infrastructure corridor running through the southern portion of the site.

**Table 4.13-3**

**Demographic Data for Community Plan Areas – Aspen Road Alternative**

**Fallbrook Community Plan Area**

| | 2012[a] | 2045[a] | Numeric Change | Percentage Change |
|---|---|---|---|---|
| Population | 45,330 | 61,905 | 16,575 | 37% |
| Housing | 15,955 | 20,470 | 4,515 | 28% |
| Employees | 9,567 | 13,117 | 3,550 | 37% |
| Job/Housing Ratio | 0.6 | 0.6 | 0.0 | 0.1 |

**Rainbow Community Plan Area**

| | 2012[a] | 2045[a] | Numeric Change | Percentage Change |
|---|---|---|---|---|
| Population | 1,916 | 2,713 | 797 | 42% |
| Housing | 705 | 951 | 246 | 35% |
| Employees | 1,252 | 2,814 | 1,562 | 125% |
| Job/Housing Ratio | 1.8 | 3.0 | 1.2 | 70% |

[a] *All estimates for 2012 and Employment estimates for 2045 are interpolated from nearest years reported on the SANDAG website.*

*Source: PCR Services Corporation; SANDAG 2050 Regional Growth Forecast*

## 4.13.5.2 Design Features

As with the Applicant's Proposed Alternative, design features that reduce impacts on the physical environment have been identified in other sections of this EIS. Of particular note are design features that would limit impacts on Aesthetics, such as the implementation of a landscape plan (see Section 4.1); Noise and Vibration, such as limitations on equipment and installation of berms (see Section 4.11); and Human Health and Safety, such as litter pick up and the installation litter fences as needed, use of daily cover, and reduction of vehicle speeds on unpaved road (see Section 4.8). In reducing impacts on the physical environment, these design features would limit the potential for changes to the physical environment to generate secondary, indirect impacts on social activity or economic conditions.

Further, pursuant to state landfill regulations, the Aspen Road Alternative would be required to provide financial guarantees including the following: Provisions for closure of the landfill; 30 years of post-closure maintenance; and monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities. The financial burden for this long-term liability would rest with the private owner/operator and not with a public agency. In addition, Aspen Road Alternative would be required to provide a minimum of a $1 million liability insurance policy for operational risks. Economic design features of the Applicant's Proposed Alternative not required under the regulations would not be included with this alternative, such as additional liability insurance, an economic agreement with the local Water District, and payment of $1,000,000 to Caltrans for roadway improvements to enhance traffic operations.

### 4.13.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on socioeconomics if it would:*

- *Substantially alter the location, distribution, density, or growth rate of the human population planned for the area and result in a demand for housing and public and private services which exceeds long term supply; or*
- *Generate population or employment that is inconsistent with the regional growth management plans.*

**Impact Statement Aspen SOC-1: The Aspen Road Alternative would remove a few housing units. It would not generate notable new population or housing in the region; but would include approximately 35 jobs during initial construction and 22 employees during full operations. This increase in employment would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. No significant adverse effects on demographic distribution would occur.**

The Aspen Road Alternative would require acquisition of a few residential units, with relocation of the existing households. Relocation of the few units would not substantially alter the forecasted distribution of housing in the region and Community Plan Area. The loss of the residential units on the alternative site would not notably alter the ability to meet future housing needs, with an expected increase of 4,515 units to be built in the Fallbrook Community Plan Area between 2012 and 2045.

It is expected that the majority of employees would be drawn from the existing labor pool in the region. A few employees may move to the County, but such families would likely move into housing units that would otherwise have been available on the market and would have negligible effect on the regional and local demographic patterns. Some long-term employees currently located within the County might move to be closer to their place of work. Again, the relocation of a few families within the County would have a negligible effect. These minimal effects would occur within the North County East MSA which is estimated to grow by 163,361 people, 44,651 housing units and 61,135 employees between 2012 and 2045.

If all of the 22 long-term employees were to move into the County from other areas to work at the landfill, it would represent 0.6 percent of the 2,805 new employees projected to begin workin the Fallbrook Community Plan Area between 2012 and 2045. The employees represent 1.4 percent of the new employees projected to begin work in the Rainbow Plan Area during this time. If all of the employees were to relocate within the two local planning areas they would occupy 0.5 percent of the 4,761 estimated housing units to be constructed within the two local planning areas during the time period.

Further, the existing General Plan designations on the site allow agricultural uses and low density residential uses. Therefore, the few residential units removed and few new employees would not vary substantially from the population distribution considered in the SANDAG projections. Therefore, the employees and possible residential relocations would be consistent with the regional and local forecasts and would not alter the location, distribution, density, or growth rate of the population planned for the area. The demand for housing and public and private services would not exceed long term supply.

Mitigation Measures

The Aspen Road Alternative would not result in a significant adverse effect on socioeconomic conditions with regard to the amount and distribution of population, housing and employment. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on socioeconomics if:*

- *Substantial physical environmental effects on surrounding uses would interfere with their normal functions in a manner that could lead to substantial adverse socioeconomic consequences.*

**Impact Statement Aspen SOC-2: The Aspen Road Alternative would contribute financial benefits to the region. At the same time, the alternative would locate a landfill in an area with a few existing rural residential units, and limited agricultural activity. These effects on socioeconomics would be limited and would be off-set through the economic benefits of a landfill and land purchase agreements that would compensate current landowners within the boundaries of the alternative site. Therefore, the alternative would not lead to adverse effects on social activity or have adverse economic consequences.**

The construction and operation of the Aspen Road Alternative would provide a number of economic benefits to the County and its population. The alternative would benefit the local economy by hiring employees that would benefit directly and that would spend their income at local businesses, providing secondary benefits. Also, the landfill operations would involve business to business spending for purchases and rentals of materials, supplies and equipment. The landfill operation would generate tax revenue through the payment of property taxes and sales taxes associated with the previously noted business transactions. Such economic benefit would likely be similar to that of the Applicant's Proposed Alternative.

At the same time, the landfill use would generate low demand for public services and utilities. As described in Sections 4.12.01, Law Enforcement; 4.12.02, Fire Protection and Emergency Medical Services; 4.12.03 Schools; and 4.12.04, Recreation, the Aspen Road Alternative would not generate new population that would increase demand for public services and would include design features related to site security and fire protection. Therefore, services from public agencies would not normally be required and demand for such services associated with the alternative would be limited.

Depending on agreements and contracts amongst jurisdictions and the waste companies, locating a landfill in North County may reduce the distance that haulers travel to dispose of waste generated in or near North County. As shorter distances may result in savings of time and money, it may be reasonably assumed that some haulers would choose to reduce their costs for landfill vehicle operations, contributing to reductions in vehicle miles traveled and associated vehicle fuel and maintenance costs. Also, an additional landfill in San Diego County may contribute to lower tipping fees through landfill competition amongst multiple providers. To the extent to which haulers of North County generated waste use the Aspen Road Alternative, there could be economic benefits to the County.

Potential public costs of operating the alternative would be reduced through financial guarantees required by state regulations. Certain financial responsibilities would remain with the private owner/operator and

not with a public agency. These include financial provisions for closure of the landfill; post-closure maintenance; monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities; and $1,000,000 in liability insurance.

The Aspen Road Alternative site is primarily undeveloped; although a small portion of the site has limited agricultural use/groves and there are a few residential units located within its boundaries. The site is primarily designated Rural Lands (RL-20) in the County's General Plan, with small areas designated Semi-Rural Residential (SR-10) and Rural Lands (RL-40), and a Public/Semi-Public Facilities infrastructure corridor running through the southern portion of the site. Agricultural uses are allowed under these designations, and as described in Section 4.02, Agricultural Resources, the site has been designated as an important agricultural resource with related agricultural value for the County.

Placement of a landfill at the Aspen Road Alternative site would change the land use character of the area with effects on the socioeconomic conditions of the area. The current limited agricultural use would be removed with an associated economic loss. In addition, the Aspen Road Alternative would require the acquisition of a few homes; and residents would be exposed to the adverse effects of relocation, such as finding new homes and moving. At the same time existing property owners (agricultural producers, residents, and owners of vacant land) would receive a fair market value for their properties.

Surrounding uses would be subject to environmental impacts as discussed below. Uses in the vicinity of the alternative site that could be subject to social and economic effects as a result of landfill construction and operations include rural residential uses located east, west and south of the site; the nearest off-site agricultural uses including nurseries, avocado and citrus groves, and the Roadrunner Ridge Winery north of the site.

- **Agricultural uses.** The impacts of the alternative on agricultural operations are addressed in Section 4.02, Agricultural Resources, of this EIS. The analysis addresses potential effects on agricultural operations due to such factors as dust (particularly parasites, insects and disease related problems as well effects on bees as pollinators), attraction of vectors, use of chemicals, greater water demand, or contamination of ground or surface water, meteorological effects and potential effects on bee pollination. The analysis concludes that the Aspen Road Alternative would limit effects on adjacent agricultural uses.

  Potential effects on agricultural uses would be limited due to design features and locational relationships between the landfill activities and the agricultural properties. Design features that would reduce impacts include, most notably, a Dust Control Plan that would address maintenance and treatment of roads, watering of roads and soils, planting of vegetation for soil cover, limited traffic speeds and covering of loads. Locational relationships that would limit impacts include distance and topographic barriers between the landfill and agricultural uses. While Section 4.2, Agricultural Resources, of this EIS identifies on-site agricultural resources, the Aspen Road Alternative would not preclude continued agricultural activities in the area, and would not have an adverse effect on economic conditions regarding agricultural production.

- **Residential uses.** There are many residential units in the hillsides that surround the alternative site that would be subject to potential impacts due to nuisance factors (i.e. odors, litter, dust, vectors), noise, or aesthetics. The residents would also be subject to additional traffic accessing their homes

via Rainbow Glen Road. A few residential units would be located along the edges of the outer boundary of the landfill, but most are located on more distant hillside locations. The potential impacts to surrounding development would be limited due to such factors as distance and/or orientation between the surrounding uses and the location of the landfill activities as well as design features and/or mitigation measures intended to reduce impacts. Design features that would control nuisance factors so as not to spill-over into surrounding communities include a Dust Control Plan that would address maintenance and treatment of roads, watering of roads and soils, planting of vegetation for soil cover, limited traffic speeds and covering of loads. A Vector Control and Management Plan would limit vector impacts through such measures as application of daily cover, use of closed containers, pest control services, inspection for signs of rodent activity, bird dispersal techniques, shredding of tires, elimination of puddles and wet areas, and repair of building openings. Odors would be controlled by confining the active working face, by the application of daily cover and via a landfill gas control system. Measures to control litter would include such features as tarping of haul loads, unloading at the working face of the landfill, use of temporary fencing to control windblown papers, suspension of operations during high winds, litter collection, and a litter fence along the bridge. Therefore, the alternative would not change the quality of surrounding development as a result of these nuisance factors.

Section 4.1, Aesthetics, of this EIS provides an evaluation of the visual impacts that would occur with development and operation of a landfill at the alternative site. As indicated therein, the alternative's visually prominent elements would introduce man-made geometry into an area of undeveloped and rounded slopes, peaks, and valleys and, thus, would contrast with the existing natural landform character of the area. Further, the landfill mass would create a new ridgeline that would be seen from some locations. The analysis proposes mitigation measures to reduce the impacts, such as contouring of landforms and fitting the landfill mass into the surrounding canyon as well as possible; creating variation in the footprint of the landfill to help reduce its engineered appearance; placement of major tree groupings; and use of native revegetation and rock outcrop replacement to screen and soften the contrast of the landfill. Even with the proposed mitigation measures, the aesthetics analyses concludes that based on the evaluation criteria, the Aspen Road Alternative would have significant adverse effects with regard to landforms and neighborhood character. Impacts regarding visual quality, visual resources, view quality, and dark skies would not result in significant adverse effects. While the aesthetics impacts would lessen the quality of views from the residential locations, they would not substantially alter the character of view opportunities from the residential locations, which are mostly located at some distance from the landfill activities. Residential properties would continue to have expansive views, thus maintaining the character of their properties as currently used and without adverse economic effect to their properties.

As indicated in Section 4.11, Noise and Vibration, the residents would likely hear some noise from the landfill. A significant adverse noise effect would occur due to blasting associated with construction. However, this would be an intermittent effect similar to such effects that occur with construction throughout the region. Otherwise, landfill design features would limit the maximum sound at the property boundary to a level that avoids significant adverse effects at any residential location per the County thresholds, and assuring that sound design features (such as limitations on equipment and installation of berms, along with buffer areas between landfill components) are included to avoid an exceedance of the criterion. Sound levels diminish due to distance and intervening topographic features. The sound level at the few residential units located adjacent to the alternative site would be slightly less than the noise levels at the property line due to the additional distance from the property

boundary. Further, the maximum noise levels that might occur would occur intermittently, when landfill activities occur at their closest location to the property boundaries and during day-time operating hours. Changes to the sound character of the area would occur at a few residences, but would not substantially alter the general character of the area, and therefore would not be expected to have adverse effects on activities or economic conditions.

- **Uses and travelers along the route to the alternative site.** Site access for the Aspen Road Alternative would be from I-15 at the Mission Road interchange, then heading north on Old Highway 395 to Rainbow Glen Road, then heading east to Oak Crest Road, where a new access road would be constructed to the site. As indicated in Section 4.15, Transportation, the alternative would not have significant adverse effects along route segments providing access to the site, and most importantly, service levels along the route segments of Old Highway 395 and Rainbow Glen Road would operate at acceptable levels of LOS D or better. With a proposed traffic mitigation measure, the alternative would not have significant adverse effects at intersections. Noise impacts to sensitive receptors along the route to the site would not be noticeably altered by the landfill traffic. Therefore, the additional traffic would not substantially alter the character of activity along these road segments. There would not be adverse effects on population activities and economic conditions along the road segments.

In summary, the above discussion shows that the Aspen Road Alternative would preclude development of potential on-site agricultural lands with economic value to the County. In addition, the alternative would require the acquisition of a few residential units, which would have adverse relocation impacts on the existing population. At the same time, the alternative would provide economic benefits to the County and its residents, and would provide compensation to current property owners within the alternative site. Residential development in the vicinity of the alternative site would be subject to environmental effects that may be adverse. However, for the reasons stated above, while distracting, the adverse effects would not alter day-to-day activity of residents, or alter the effective use of their properties. Therefore, the Aspen Road Alternative would not produce physical environmental effects on surrounding uses that interfere with their normal functions in a manner that could lead to adverse socioeconomic consequences.

Mitigation Measures

The Aspen Road Alternative's impacts would not interfere with day-to-day activities of the population, nor cause adverse economic consequences to other land uses in the vicinity of the landfill. No mitigation measures are proposed.

## 4.13.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.13.6.1 Affected Environment

#### Regional Setting

The Gopher Canyon Road Alternative is, like the Applicant's Proposed Alternative, located within the County of San Diego and would draw on its employee base and related distribution of population and housing. Therefore, the regional demographic characteristics of the Gopher Canyon Road Alternative would be similar to those of the Applicant's Proposed Alternative, as described in Section 4.13.3.1 above.

As indicated, therein, the County is projected to grow in population size by 1,016,441 people, or 31 percent between 2012 and 2045. The number of housing units is projected to grow by 310,368, or 26 percent; the number of employment opportunities is projected to grow by 399,765 jobs, or 25 percent. The jobs/housing ratio is currently estimated and projected to be 1.3 jobs per housing unit.

### Local Setting

As with the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative is located in the North County East MSA, which is described above. The site is located within the boundaries of the Bonsall Community Plan area, and just adjacent to the North County Metro Community Plan Area. Population, housing and employments projections for the Community Plan areas, as well as job/housing ratios for both, are shown in Table 4.13-4, *Demographic Data for Community Plan Areas – Gopher Canyon Road and Merriam Mountain Alternatives*. The Bonsall Community Plan Area is estimated to grow by 5,815 people, 1,781 housing units and 862 employees. Growth in the North County Metro Community Plan area is expected to include an increase of 28,676 people, 8145 housing units, and 3,935 employees.

The Gopher Canyon Road Alternative site includes the Panoramic Estates, an approved gated residential subdivision with 35 lots (four acres plus in size) is located within the site. Infrastructure for the subdivision has been provided inclusive of roads (Panoramic Drive, Panoramic Way, and Panoramic Place), sidewalks, and curbs. In addition, a few existing residences are located within the western most portion of the site. The site is designated Semi-Rural Residential, (SR-4), Rural Lands (RL-20), Specific Plan Area, Public/Semi-Public Facilities, and Public Agency Lands in the County's General Plan.

## 4.13.6.2 Design Features

As with the Applicant's Proposed Alternative, design features that reduce impacts on the physical environment have been identified in other sections of this EIS. Of particular note are design features that would limit impacts on Aesthetics, such as the implementation of a landscape plan (see Section 4.1); Noise and Vibration, such as limitations on equipment and installation of berms (see Section 4.11); and Human Health and Safety, such as litter pick up and the installation litter fences as needed, use of daily cover, and reduction of vehicle speeds on unpaved road (see Section 4.8). In reducing impacts on the physical environment, these design features would limit the potential for changes to the physical environment to generate secondary, indirect impacts on social activity or economic conditions.

Further, pursuant to state landfill regulations, the Gopher Canyon Road Alternative would be required to provide financial guarantees including the following: Provisions for closure of the landfill; 30 years of post-closure maintenance; and monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities. The financial burden for this long-term liability would rest with the private owner/operator and not with a public agency. In addition, Aspen Road Alternative would be required to provide a minimum of a $1 million liability insurance policy for operational risks. Economic design features of the Applicant's Proposed Alternative not required under the regulations would not be included with this alternative, such as additional liability insurance, an economic agreement with the local Water District, and payment of $1,000,000 to Caltrans for roadway improvements to enhance traffic operations.

**Table 4.13-4**

**Demographic Data for Community Plan Areas – Gopher Canyon Road and Merriam Mountain Alternatives**

**Bonsall Community Plan Area**

| | 2012[a] | 2045[a] | Numeric Change | Percentage Change |
|---|---|---|---|---|
| Population | 10,276 | 16,091 | 5,815 | 57% |
| Housing | 4,005 | 5,786 | 1,781 | 44% |
| Employees | 3,373 | 4,235 | 862 | 26% |
| Job/Housing Ratio | 0.8 | 0.7 | (0.1) | (0.1) |

**North County Metro Community Plan Area**

| | 2012[a] | 2045[a] | Numeric Change | Percentage Change |
|---|---|---|---|---|
| Population | 46,309 | 74,985 | 28,676 | 62% |
| Housing | 17,013 | 25,158 | 8,145 | 48% |
| Employees | 7,468 | 11,403 | 3,935 | 53% |
| Job/Housing Ratio | 0.4 | 0.5 | 0.1 | 20% |

[a] *All estimates for 2012 and Employment estimates for 2045 are interpolated from nearest years reported on the SANDAG website.*

*Source: PCR Services Corporation; SANDAG 2050 Regional Growth Forecast*

## 4.13.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on socioeconomics if it would:*

- *Substantially alter the location, distribution, density, or growth rate of the human population planned for the area and result in a demand for housing and public and private services which exceeds long term supply; or*
- *Generate population or employment that is inconsistent with the regional growth management plans.*

**Impact Statement Gopher SOC-1: The Gopher Canyon Road Alternative would require relocation of a few residential units and would convert an approved, not yet built, 35 unit subdivision to a landfill. The alternative would not generate notable new population or housing in the region. It would include approximately 35 jobs during initial construction and 22 employees during full operations. This increase in employment would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. No significant adverse effects on demographic distribution would occur.**

The Gopher Canyon Road Alternative would require acquisition of a few residential units with relocation of the existing households. Relocation of the few units would not substantially alter the forecasted distribution of housing in the region and Community Plan Area nor notably alter the ability to meet future housing needs. Conversion of the approved 35 residential subdivision to a landfill use would also not be expected to cause notable affects on meeting housing needs as the number of units is relatively few and notable amounts of new housing are expected between 2012 and 2045.

It is expected that the majority of employees would be drawn from the existing labor pool in the region. A few employees may move to the County, but such families would likely move into housing units that would otherwise have been available on the market and would have negligible effect on the regional and local demographic patterns. Some long-term employees currently located within the County might move to be closer to their place of work. Again, the relocation of a few families within the County would have a negligible effect. These minimal effects would occur within the North County East Major Statistical Area which is estimated to grow by 163,361 people, 44,651 housing units and 61,135 employees between 2012 and 2045.

If all of the 22 long-term employees were to move into the County from other areas to work at the landfill, it would represent 2.5 percent of the 862 new employees projected to begin workin the Bonsall Community Plan Area between 2012 and 2045. The employees represent 0.5 percent of the new employees projected to begin work in the immediately adjacent North County Metro Community Plan Area during this time. If all of the employees were to relocate within the two local planning areas they would occupy 0.2 percent of the 9,962 estimated housing units to be constructed within the two local planning areas during the time period.

Therefore, the few employees and possible residential relocations would be consistent with the regional and local forecasts and would not alter the location, distribution, density, or growth rate of the population planned for the area. The demand for housing and public and private services would not exceed long term supply.

The Gopher Canyon Road Alternative site is designated Semi-Rural Residential, (SR-4), Rural Lands (RL-20), Specific Plan Area, Public/Semi-Public Facilities, and Public Agency Lands in the County's General Plan. A mix of uses, including crop or animal agricultural uses; mining, quarrying, borrow pits, and oil extraction uses; after adoption of a specific plan, any uses allowed by the specific plan; and rural residential uses, are allowed by the zoning. As noted above, the site includes a few existing residences, and an approved subdivision. General Plan Update designations indicate that that a small amount of added population would be added to the area with a few additional jobs. New development would be at rural densities and would not add substantial changes to the distribution of population in the Region or Community Plan Areas. Therefore, the Gopher Canyon Road Alternative would be generally consistent with the forecasted demographic projections and no significant adverse effects would occur.

Mitigation Measures

The Gopher Canyon Road Alternative would not result in a significant adverse effect with regard to the amount and distribution of population, housing and employment. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on socioeconomics if:*

- *Substantial physical environmental effects on surrounding uses would interfere with their normal functions in a manner that could lead to substantial adverse socioeconomic consequences.*

**Impact Statement Gopher SOC-2: The Gopher Canyon Road Alternative would contribute financial benefits to the region. At the same time, the alternative would locate the landfill in an area with a few residential units, an approved subdivision, and land that might potentially be mined. These effects**

**on socioeconomics would be limited and would be off-set through the economic benefits of a landfill and land purchases that would compensate current landowners within the boundaries of the alternative site. Therefore, the alternative would not result in adverse socioeconomic effects regarding social and economic activity.**

The construction and operation of the Gopher Canyon Road Alternative would provide a number of economic benefits to the County and its population. The alternative would benefit the local economy by hiring employees that would benefit directly and that would spend their income at local businesses, providing secondary benefits. Also, the landfill operations would involve business to business spending for purchases and rentals of materials, supplies and equipment. The landfill operation would generate tax revenue through the payment of property taxes and sales taxes associated with the previously noted business transactions. Such economic benefit would likely be similar to that of the Applicant's Proposed Alternative.

At the same time, the landfill use would generate low demand for public services and utilities. As described in Sections 4.12.01, Law Enforcement; 4.12.02, Fire Protection and Emergency Medical Services; 4.12.03 Schools; and 4.12.04, Recreation, the Gopher Canyon Road would not generate new population that would increase demand for public services and would include design features related to site security and fire protection to reduce demand for public services. Therefore, services from public agencies would not normally be required and demand for such services associated with the alternative would be limited.

Depending on agreements and contracts amongst jurisdictions and the waste companies, locating a landfill in North County may reduce the distance that haulers travel to dispose of waste generated in or near North County. As shorter distances may result in savings of time and money, it may be reasonably assumed that some haulers would choose to reduce their costs for landfill vehicle operations, contributing to reductions in vehicle miles traveled and associated vehicle fuel and maintenance costs. Also, an additional landfill in San Diego County may contribute to lower tipping fees through landfill competition amongst multiple providers. To the extent to which haulers of North County generated waste use the Gopher Canyon Road Alternative, there could be economic benefits to the County.

Potential public costs of operating the alternative would be reduced through financial guarantees required by state regulations. Certain financial responsibilities would remain with the private owner/operator and not with a public agency. These include financial provisions for closure of the landfill; post-closure maintenance; monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities; and $1,000,000 in liability insurance.

The Gopher Canyon Road Alternative site includes a few existing residences, and Panoramic Estates, an approved, but undeveloped residential subdivision with 35 lots and some infrastructure in place. The site is mostly designated Semi-Rural Residential, (SR-4), Rural Lands (RL-20), Specific Plan Area, Public/Semi-Public Facilities, and Public Agency Lands in the County's General Plan. Also, a portion of the site lies adjacent to an existing quarry and overlaps an area designated as MRZ-2, i.e. having known mineral resources. That area has been mined over the years for cutting and polishing of granite, granite saws, extraction and processing of dimension stone, and aggregate mining.

Landfill uses and mining uses would not necessarily be incompatible and could exist simultaneously. However, development of a landfill at the alternative site might cause a loss of geologic resources that are of value to the County. At the same time, construction of the landfill might provide an opportunity to coordinate mining and landfill activities, and thereby encourage some mining activity that would not occur otherwise.

The nearest uses that might be subject to socioeconomic impacts include residential development immediately to the west of the site, a health spa located to the northwest, and a private golf course and residential development located along the eastern side of the site. There are some more distant uses that would not be subject to landfill impacts, but that would be subject to the effects of landfill traffic along Gopher Canyon Road, the main access route to alternative site.

The Gopher Canyon Alternative would require the acquisition of several homes, as well as an approved subdivision, which would have adverse effects associated with relocation, such as having to find new homes. However, it is expected that current residents and property owners would receive a fair market value for their properties.

The remaining surrounding uses noted above would be subject to the following environmental impacts:

- **Residential Uses and Spa located to the west.** The Gopher Canyon Road Alternative site is located at the eastern edge of a largely developed residential area that continues westerly and southwesterly into the City of Vista. The spa is located somewhat farther from the landfill site and less subject to its impacts than alternative adjacent residential development. The nearest residential units would be the remaining units just outside the site boundary. Access to and from the residential development is from the west and or north and would not be affected by the placement of a landfill to east and southeast.

  Design features that would control nuisance factors so as not to spill-over into surrounding communities include a Dust Control Plan that would address maintenance and treatment of roads, watering of roads and soils, planting of vegetation for soil cover, limited traffic speeds and covering of loads. A Vector Control and Management Plan would limit vector impacts through such measures as application of daily cover, use of closed containers, pest control services, inspection for signs of rodent activity, bird dispersal techniques, shredding of tires, elimination of puddles and wet areas, and repair of building openings. Odors would be controlled by confining the active working face, by the application of daily cover and via a landfill gas control system. Measures to control litter would include such features as tarping of haul loads, unloading at the working face of the landfill, use of temporary fencing to control windblown papers, suspension of operations during high winds, litter collection, and a litter fence along the bridge. Therefore, the alternative would not change the quality of surrounding development as a result of these nuisance factors.

  Section 4.1, Aesthetics, of this EIS provides an evaluation of the aesthetics impacts that would occur with development and operation of a landfill at the alternative site. As indicated therein, the alternative's visually prominent elements would introduce man-made geometry into an area of undeveloped and rounded slopes, peaks, and valleys and, thus, would contrast with the existing natural landform character of the area. Further, the landfill mass would create a new ridgeline that would be seen from some locations. The analysis proposes mitigation measures to reduce the

impacts such as landform and landscape screening, landform blending, placement of major tree groupings, use of native revegetation and landscaping, replanting of vegetation, texture mating of landfill elements and surrounding elements. All of these measures are intended to soften the visual impacts of the landfill and blend its appearance with the surrounding areas. The aesthetics analysis concludes that the alternative would not be consistent with plan policies seeking to retain the rural character of the area. While the aesthetics impacts would lessen the quality of views from the residential locations, they would not substantially alter the character of view opportunities from the residential locations, which are mostly located at some distance from the landfill activities. The residential units that would be most subject to aesthetic impacts would be the housing units located immediately adjacent to the west. Views from these units would be over the highest landfill elevations toward distant hills as it is today. The highest landfill element would be at the southern end of the landfill prism to the south of these residential units. Residential properties would continue to have expansive views, thus maintaining the character of their properties as currently used and without adverse economic effect to their properties.

As indicated in Section 4.11, Noise and Vibration, the residents to the west of the site would likely hear some noise from the landfill. A significant adverse noise effect would occur due to blasting associated with construction. However, this would be an intermittent effect similar to such effects that occur with construction throughout the region. Otherwise, design features would limit the maximum sound at the property boundary to avoid significant adverse effects at any residential location per the County thresholds, and assuring that sound design features (such as limitations on equipment and installation of berms, along with buffer areas between landfill components) are included to avoid an exceedance of the criteria. Noise impacts at locations not immediately adjacent to the alternative site would quickly diminish to substantially lower levels due to distance, existing buildings that block sound transmission and intervening topographic features. Further, the maximum noise levels that might occur, would occur intermittently, when landfill activities occur at their closest location to the property boundaries and during day-time operating hours. Therefore, changes to the sound character of the area would occur at a few residences, would not substantially alter the general character of the area, and therefore would not be expected to have adverse effects on social activities or economic conditions.

- **Golf Course and residential units located to the east.** The eastern side of the alternative site is located next to a golf course with residential development located east of the golf course. The edge of the golf course abuts the boundary of the alternative site and the residential development is located approximately 600 feet beyond. As such the golf course would act as a buffer between the landfill and the residential units.

  The golf course and residential development would be protected from nuisance factors through design features that would control nuisance factors so as not to spill-over into surrounding communities and thus avoid impacts that might otherwise affect those activities. As noted above these include a Dust Control Plan, a Vector Control and Management Plan, odor control via landfill operations procedures, and litter control. Therefore, the alternative would not change the quality of surrounding development as a result of these nuisance factors.

  As noted above, Section 4.1, Aesthetics, of this EIS provides an evaluation of the aesthetics impacts that would occur with development and operation of a landfill at the alternative site and proposes a number of mitigation measures to reduce impacts. The aesthetics analysis indicates that impacts of introducing man-made geometry into the area, with mitigation, would not have significant adverse

effects with regard to landforms, visual quality, visual resources, view quality and dark skies. The golf course is located at a lower elevation than the landfill and therefore would be somewhat buffered from the landfill activity, and the general aesthetic character would be retained (notwithstanding the potential of some landfill elements to be seen atop the bluff from some locations). Likewise, residential development further east would continue to have short-range views of the golf course and the bluff face, with some landfill elements being seen beyond. Those residential units at higher elevations are located even farther to the east. Therefore, the general aesthetic character of the near environment would be retained.

As indicated in Section 4.11, Noise and Vibration, the residents and golfers would experience increases in noise levels due to landfill activities. A significant adverse noise effect would occur due to blasting associated construction. However, this would be an intermittent effect similar to such effects that occur with construction throughout the region. Otherwise, the noise levels would increase to the County evaluation criterion of 62.5 dBA $L_{eq}$ at the property boundary line. However, landfill design features would limit the maximum sound to a level that avoids exceedance of the criterion. Sound levels at the golf course and more importantly residential uses to the east would be less than the noise levels at the boundary due to the lower elevation with intervening topography and distance from the landfill noise activity sources. Further, the maximum noise levels that might occur would occur intermittently from time to time, only when landfill activities occur at their closest location to the property boundaries and only during day-time operating hours. In addition, the sound levels from trucks along the new access road would be limited. Therefore, changes to the sound character of the area may have minor, perceptible changes, but not sufficient to substantially alter the general character of the area, and therefore would not be expected to have adverse effects on social activities or economic conditions.

- **Uses and Travelers along Mission Road.** Site access for the Gopher Canyon Road Alternative would be along Gopher Canyon Road. This roadway has rural residential and agricultural uses along its length. As indicated in Section 4.15, Transportation, the alternative would not have significant adverse effects along this roadway with the implementation of proposed mitigation measures, and therefore would not cause changes in land use activities along the corridor. Noise impacts to sensitive receptors would not result in noticeable change to the sound environment. Therefore, there would be smooth traffic flows and the additional traffic would not substantially alter the character of activity along these road segments. Therefore, there would not be adverse effects on population activities and economic conditions along the road segments.

In summary, the above discussion shows that the Gopher Canyon Road Alternative could adversely affect some mining activity in the vicinity of the site, but at the same time would provide a number of economic benefits to the County. Residential development adjacent to the site would be subject to environmental effects that may be adverse. However, for the reasons stated above, while distracting, the adverse effects would not substantially alter day-to-day activity of residents, or alter the effective use of their properties. Therefore, this alternative would not produce physical environmental effects on surrounding uses that interfere with their normal functions in a manner that could lead to adverse socioeconomic consequences regarding social and economic activity.

Mitigation Measures

The Gopher Canyon Road Alternative's impacts would not interfere with day-to-day activities of the population, nor cause adverse economic consequences to other land uses in the vicinity of the landfill. No mitigation measures are proposed.

## 4.13.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.13.7.1 Affected Environment

#### Regional Setting

The Merriam Mountain Alternative is, like the Applicant's Proposed Alternative, located within the County of San Diego; and would draw on its employee base and related distribution of population and housing. Therefore, the regional demographic characteristics of the Merriam Mountain Alternative would be similar to those of the Applicant's Proposed Alternative, as described in Section 4.13.3.1 above.

As indicated, therein, the County is projected to grow in population size by 1,016,441 people, or 31 percent between 2012 and 2045. The number of housing units is projected to grow by 310,368, or 26 percent; the number of employment opportunities is projected to grow by 399,765 jobs, or 25 percent. The jobs/housing ratio is currently estimated and future projected to be 1.3 jobs per housing unit.

#### Local Setting

As with the Applicant's Proposed Alternative, the Merriam Mountain Alternative is located in the North County East MSA, which is described above. The site is located within the North County Metro Community Plan area, and just adjacent to the Bonsall Community Plan Area. Population, housing and employments projections for the Community Plan areas, as well as job/housing ratios for both, are shown in Table 4.13-4, *Demographic Data for Community Plan Areas – Gopher Canyon Road and Merriam Mountain Alternatives,* on page 4.13-25. As indicated therein, growth in the North County Metro Community Plan area is expected to include an increase of 28,676 people, 8145 housing units, and 3,935 employees. The Bonsall Community Plan Area is estimated to grow by 5,815 people, 1,781 housing units and 862 employees.

The Merriam Mountain site is undeveloped, with the exception of several paved and dirt access roads that traverse the site. The site is designated Semi-Rural Residential, (SR-4), Rural Lands (RL-20), Specific Plan Area, Public/Semi-Public Facilities, and Public Agency Lands in the County's General Plan.

### 4.13.7.2 Design Features

As with the Applicant's Proposed Alternative, design features that reduce impacts on the physical environment have been identified in other sections of this EIS. Of particular note are design features that would limit impacts on Aesthetics, such as the implementation of a landscape plan (see Section 4.1); Noise and Vibration, such as limitations on equipment and installation of berms (see Section 4.11); and Human Health and Safety, such as litter pick up and the installation litter fences as needed, use of daily cover, and reduction of vehicle speeds on unpaved road (see Section 4.8). In reducing impacts on the physical environment, these design features would limit the potential for changes to the physical environment to generate secondary, indirect impacts on social activity or economic conditions.

Further, pursuant to state landfill regulations, the Merriam Mountain Alternative would be required to provide financial guarantees including the following: Provisions for closure of the landfill; 30 years of post-closure maintenance; and monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities. The financial burden for this long-term liability would rest with the private owner/operator and not with a public agency. In addition, Aspen Road Alternative would be required to provide a minimum of a $1 million liability insurance policy for operational risks. Economic design features of the Applicant's Proposed Alternative not required under the regulations would not be included with this alternative, such as additional liability insurance, an economic agreement with the local Water District, and payment of $1,000,000 to Caltrans for roadway improvements to enhance traffic operations.

### 4.13.7.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on socioeconomics if it would:*

- *Substantially alter the location, distribution, density, or growth rate of the human population planned for the area and result in a demand for housing and public and private services which exceeds long term supply; or*
- *Generate population or employment that is inconsistent with the regional growth management plans.*

**Impact Statement Merriam SOC-1: The Merriam Mountain Alternative would not remove housing stock, nor generate notable new population or housing in the region. The alternative would result in approximately 35 jobs during initial construction and 22 employees during full operations. This increase in employment would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. No significant adverse effects on demographic distribution would occur.**

The Merriam Mountain Alternative would not remove housing stock or otherwise directly affect the availability of housing stock. No residential uses are proposed that would bring new population to the area.

It is expected that the majority of employees would be drawn from the existing labor pool in the region. A few employees may move to the County, but such families would likely move into housing units that would otherwise have been available on the market and would have negligible effect on the regional and local demographic patterns. Some long-term employees currently located within the County might move to be closer to their place of work. Again, the relocation of a few families within the County would have a negligible effect. These minimal effects would occur within the North County East MSA which is estimated to grow by 163,361 people, 44,651 housing units and 61,135 employees between 2012 and 2045.

If all of the 22 long-term employees were to move into the County from other areas to work at the landfill, it would represent 0.5 percent of the new employees projected to begin work in the North County Metro Community Plan Area during this time. The employees represent 2.5 percent of the 862 new employees projected to begin workin the Bonsall Community Plan Area between 2012 and 2045. If all of the employees were to relocate within the two local planning areas they would occupy 0.2 percent of the 9,962 estimated housing units to be constructed within the two local planning areas during the time period. Therefore, the few employees and possible residential re-locations would be consistent with the regional and local

forecasts; and would not alter the location, distribution, density, or growth rate of the population planned for the area. The demand for housing and public and private services would not exceed long term supply.

The Merriam Mountain Alternative site is designated Semi-Rural Residential, (SR-4), Rural Lands (RL-20), Specific Plan Area, Public/Semi-Public Facilities, and Public Agency Lands in the County's General Plan. The size is zoned Limited Agriculture Use Regulations (A-70). These are rural uses that would not be expected to generate notable population activity at the site.

Therefore, the site as considered in the SANDAG forecasts would not be projected to be a focus of population or employment activity; and if not used for those purposes would not have notable effect on the SANDAG projections. As a small number of employee opportunities would be generally consistent with the forecasted demographic projections and no significant adverse effects would occur.

Mitigation Measures

The Merriam Mountain Alternative would not have significant adverse effects on socioeconomic conditions with regard to the amount and distribution of population, housing and employment. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on socioeconomics if:*

- *Substantial physical environmental effects on surrounding uses would interfere with their normal functions in a manner that could lead to substantial adverse socioeconomic consequences.*

**Impact Statement Merriam SOC-2: The Merriam Mountain Alternative would contribute financial benefits to the region. The physical impacts would not interfere with the normal operations of other uses in the vicinity of the site in a manner that would lead to adverse socioeconomic consequences.**

The construction and operation of the Merriam Mountain Alternative would provide a number of economic benefits to the County and its population. The alternative would benefit the local economy by hiring employees that would benefit directly and that would spend their income at local businesses, providing secondary benefits. Also, the landfill operations would involve business to business spending for purchases and rentals of materials, supplies and equipment. The landfill operation would generate tax revenue through the payment of property taxes and sales taxes associated with the previously noted business transactions. Such economic benefit would likely be similar to that of the Applicant's Proposed Alternative.

At the same time, the landfill use would generate low demand for public services and utilities. As described in Sections 4.12.01, Law Enforcement; 4.12.02, Fire Protection and Emergency Medical Services; 4.12.03 Schools; and 4.12.04, Recreation, the Merriam Mountain Alternative would not generate new population that would increase demand for public services and would include design features related to site security and fire protection to reduce demand for public services. Therefore, services from public agencies would not normally be required and demand for such services associated with the alternative would be limited.

Depending on agreements and contracts amongst jurisdictions and the waste companies, locating a landfill in North County may reduce the distance that haulers travel to dispose of waste generated in or near North

County. As shorter distances may result in savings of time and money, it may be reasonably assumed that some haulers would choose to reduce their costs for landfill vehicle operations, contributing to reductions in vehicle miles traveled and associated vehicle fuel and maintenance costs. Also, an additional landfill in San Diego County may contribute to lower tipping fees through landfill competition amongst multiple providers. To the extent to which haulers of North County generated waste use the Merriam Mountain Alternative, there could be economic benefits to the County.

Potential public costs of operating the alternative would be reduced through financial guarantees required by state regulations. Certain financial responsibilities would remain with the private owner/operator and not with a public agency. These include financial provisions for closure of the landfill; post-closure maintenance; monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities; and $1,000,000 in liability insurance.

The Merriam Mountain site is undeveloped, with the exception of several paved and dirt access roads that traverse the site. The site is located in a rural area, and a substantial amount of land surrounding the site is vacant. The nearest land uses in the vicinity include a dwelling unit about 500 feet north of the alternative's boundary, orchard/vineyard uses about 1,500 feet west of the site, and former extractive uses to the west of the site. The Lawrence Welk Village is located approximately 700 feet to the east of the site across I-15. The site is designated Semi-Rural Residential, (SR-4), Rural Lands (RL-20), Specific Plan Area, Public/Semi-Public Facilities, and Public Agency Lands in the County's General Plan.

The western edge of the site extends into an area designated as MRZ-2 and zoned for mining by the County. The use of a potential mining site might potentially cause a loss of geologic resources that are of value to the County, thereby off-setting to some extent the benefits associated with a landfill project. At the same time, construction of the landfill might provide an opportunity to coordinate mining and landfill activities, and thereby encourage some mining activity that would not otherwise occur.

The Merriam Mountain Alternative site is somewhat isolated from adjacent activity that might be subject to socioeconomic impacts. The nearest agricultural uses are located approximately 1,500 feet from the site, sufficiently far to not be affected by landfill activities. Also, as noted for previous alternatives (e.g. the Applicant's Proposed Alternative), design features would limit such factors as dust and vectors, thus avoiding potential impacts at off-site agricultural locations.

Potential effects regarding residential development would be limited to one residential unit, which is located north of the alternative site. Given its proximity to the landfill activities, it would be subject to some alterations in the general character of its setting. However, impacts would not be so substantial as to preclude use of the property in a manner similar to that occurring today. Impacts regarding nuisance factors (dust, litter, vectors and odors), aesthetics and noise would be limited. As has been described for the previous alternatives, off-site impacts from nuisance factors would keep impacts from migrating off-site through the use of a Dust Control Plan, a Vector Control and Management Plan, odor control via landfill operations procedures, and litter control. Although views of the landfill entryway buildings might be seen, aesthetic impacts would be somewhat limited due to topographic features whereby most of the landfill activity would be atop a hillside and not seen, leaving views into the hillside similar to those occurring today. Also, views from the residential unit would not be altered for scenes to the west, north and east. As indicated in Section 4.11, Noise and Vibration, landfill design features would limit the maximum sound at the boundary

of the landfill. A significant adverse noise effect would occur due to blasting associated with construction. However, this would be an intermittent effect similar to such effects that occur with construction throughout the region. Otherwise, the noise levels would exceed the County threshold of 62.5 dBA $L_{eq}$ at the property boundary line. Further, noise levels would be less than that level due to distance between the unit and actual landfill activities, and topographic features that would block sound transmission. The maximum noise levels that might occur at the residential unit due to landfilling activity would occur intermittently from time to time, only when landfill activities occur at their closest location to the property boundaries and only during day-time operating hours. The landfill access road would be located behind the residential unit, at a lower elevation, adjacent to the I-15; and would further contribute to visual and noise impacts. However, due to the lower elevation of the roadway and its proximity to I-15, it would tend to blend into the character of the existing transportation corridor. For these reasons, the general character of the area would not be so substantially altered as to preclude the effective use of the residential site.

The Lawrence Welk Village is a large residential/resort community. However, it is located east of the I-15, and Champagne Boulevard roadways. As such, Lawrence Welk Village lies within a separate, distinct setting, buffered from the alternative site by the two major roadways with adjacent parkways, varied topography and landscaping. Therefore, the activities and use of properties within Lawrence Welk Village would not be affected by activities at the alternative site. The Village would be exposed to landfill traffic along Champagne Boulevard. Champagne Boulevard runs parallel to I-15 and provides the primary access to the alternative site from the freeway intersection of I-15 at Deer Springs Road. The added traffic would not affect the general conditions along the roadway. There would be no significant adverse traffic or noise effects. Further, it may be noted that the residential units along the roadway have some protection from roadway impacts due to topographic variation and/or notable vegetation barriers. Therefore, there would be no adverse effects regarding social and economic activity.

Mitigation Measures

The Merriam Mountain Alternative would not interfere with day-to-day activities of the population, nor cause adverse economic consequences to other land uses in the vicinity of the landfill. No mitigation measures are proposed.

## 4.13.8 EAST OTAY MESA ALTERNATIVE

### 4.13.8.1 Affected Environment

#### Regional Setting

The East Otay Mesa Alternative is, like the Applicant's Proposed Alternative, located within the County of San Diego and would draw on its employee base and related distribution of population and housing. Therefore, the regional demographic characteristics of the East Otay Alternative would be similar to those of the Applicant's Proposed Alternative, as described in subsection 4.13.3.1 above.

As indicated, therein, the County is projected to grow in population size by 1,016,441 people, or 31 percent between 2012 and 2045. The number of housing units is projected to grow by 310,368, or 26 percent; the number of employment opportunities is projected to grow by 399,765 jobs, or 25 percent. The jobs/housing ratio is currently estimated and future projected to be 1.3 jobs per housing unit.

### Local Setting

The East Otay Mesa Alternative is located in the South Suburban MSA. As noted in Table 4.13-1, this MSA is projected to grow at a faster rate than the County generally. South Suburban MSA is expected to grow by 150,012 people, 40,717 housing units and 88,188 employees. The future employees represent an increase in employment of 71 percent in contrast to an increase of 26 percent for the County as a whole. Therefore, a shift is expected to occur in employment distribution with relatively more job opportunities presenting themselves in this MSA, and increasing its jobs housing ratio by 28 percent.

The site is located within the boundaries of the Otay Community Plan area. Population, housing and employment projections for the Community Plan area are shown in Table 4.13-5, *Demographic Data for Community Plan Area – East Otay Mesa Alternative*. The population data shown reflects household population that represents permanent population in the area.[8] The Otay Community Plan Area is estimated to grow by 5,593 people, 1,989 housing units and 9,144 employees.

**Table 4.13-5**

**Demographic Data for Community Plan Areas – East Otay Mesa Alternative**

| Otay Community Plan Area | | | | |
|---|---|---|---|---|
| | **2012a** | **2045 a** | **Numeric Change** | **Percentage Change** |
| Population | 446 | 6,039 | 5,593 | 1254% |
| Housing | 167 | 2,156 | 1,989 | 1194% |
| Employees | 3,831 | 12,975 | 9,144 | 239% |
| Job/Housing Ratio | 23.0 | 6.0 | (17.0) | (74%) |

[a] *All estimates for 2012 and Employment estimates for 2045 are interpolated from nearest years reported on the SANDAG website.*

*Source: PCR Services Corporation; SANDAG 2050 Regional Growth Forecast*

The East Otay Mesa site is vacant. The alternative site is designated as Public/Semi-Public Lands with a Solid Waste Facility Designator in the County General Plan.

## 4.13.8.2 Design Features

As with the Applicant's Proposed Alternative, design features that reduce impacts on the physical environment have been identified in other sections of this EIS. Of particular note are design features that would limit impacts on Aesthetics, such as the implementation of a landscape plan (see Section 4.1); Noise and Vibration, such as limitations on equipment and installation of berms (see Section 4.11); and Human Health and Safety, such as litter pick up and the installation litter fences as needed, use of daily cover, and reduction of vehicle speeds on unpaved road (see Section 4.8). In reducing impacts on the physical

[8] *SANDAG data also includes a larger group housing population associated with detention facilities located northwest of the Alternative Site (A number of incarceration and law enforcement facilities are clustered on Otay Mesa: These include the Richard J. Donovan State Correctional Facility, the George Bailey County Detention Facility, the City of San Diego East Mesa Detention facility, and a new law enforcement training complex).*

environment, these design features would limit the potential for changes to the physical environment to generate secondary, indirect impacts on social activity or economic conditions.

In addition, pursuant to state landfill regulations, the East Otay Mesa Alternative would be required to provide financial guarantees including the following: Provisions for closure of the landfill; 30 years of post-closure maintenance; and monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities. The financial burden for this long-term liability would rest with the private owner/operator and not with a public agency. In addition, Aspen Road Alternative would be required to provide a minimum of a $1 million liability insurance policy for operational risks. Economic design features of the Applicant's Proposed Alternative not required under the regulations would not be included with this alternative, such as additional liability insurance, an economic agreement with the local Water District, and payment of $1,000,000 to Caltrans for roadway improvements to enhance traffic operations.

### 4.13.8.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on socioeconomics if it would:*

- *Substantially alter the location, distribution, density, or growth rate of the human population planned for the area and result in a demand for housing and public and private services which exceeds long term supply; or*
- *Generate population or employment that is inconsistent with the regional growth management plans.*

**Impact Statement East Otay SOC-1: The East Otay Mesa Alternative would not remove housing stock, nor generate notable new population or housing in the region. It would include approximately 35 jobs during initial construction and 22 employees during full operations. This increase in employment would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. No significant adverse effects on demographic distribution would occur.**

The East Otay Mesa Alternative would not remove existing housing stock. No residential uses are proposed that would bring new population to the area.

It is expected that the majority of employees would be drawn from the existing labor pool in the region. A few employees may move to the County, but such families would likely move into housing units that would otherwise have been available on the market and would have negligible effect on the regional and local demographic patterns. Some long-term employees currently located within the County might move to be closer to their place of work. Again, the relocation of a few families within the County would have a negligible effect. These minimal effects would occur within the South Suburban Major Statistical Area which is estimated to grow by 146,803 people, 40,717 housing units and 88,188 employees between 2012 and 2045.

If all of the 22 long-term employees were to move into the County from other areas to work at the landfill, they would represent 0.2 percent of the 9,144 new employees projected to begin working in the East Otay Mesa Community Plan Area between 2012 and 2045. If all of the employees were to relocate within the

planning area they would occupy 1.1 percent of the 1,989 estimated housing units to be constructed within the local planning area during the time period.

The alternative site is designated for use as a landfill, and represents a use that is consistent with uses considered for the site over the years. Therefore, the few employees and possible residential re-locations would be consistent with the regional and local forecasts; and would not alter the location, distribution, density, or growth rate of the population planned for the area. The demand for housing and public and private services would not exceed long term supply.

Mitigation Measures

The East Otay Mesa Alternative would not have a significant effect on socioeconomic conditions with regard to the amount and distribution of population, housing and employment. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on socioeconomics if:*

- *Substantial physical environmental effects on surrounding uses would interfere with their normal functions in a manner that could lead to substantial adverse socioeconomic consequences.*

**Impact Statement East Otay SOC-2: The East Otay Mesa Alternative would contribute financial benefits to the region. The physical impacts would not interfere with the normal operations of other uses in the vicinity of the alternative site in a manner that would lead to adverse socioeconomic consequences regarding social and economic activity.**

The construction and operation of the East Otay Mesa Alternative would provide a number of economic benefits to the County and its population. The alternative would benefit the local economy by hiring employees that would benefit directly and that would spend their income at local businesses, providing secondary benefits. Also, the landfill operations would involve business to business spending for purchases and rentals of materials, supplies and equipment. The landfill operation would generate tax revenue through the payment of property taxes and sales taxes associated with the previously noted business transactions. Such economic benefit would likely be similar to that of the Applicant's Proposed Alternative.

At the same time, the landfill use would generate low demand for public services and utilities. As described in Sections 4.12.01, Law Enforcement; 4.12.02, Fire Protection and Emergency Medical Services; 4.12.03 Schools; and 4.12.04, Recreation, the East Otay Mesa Alternative would not generate new population that would increase demand for public services and would include design features related to site security and fire protection to reduce demand for public services. Therefore, services from public agencies would not normally be required and demand for such services associated with the alternative would be limited.

Locating a landfill in the East Otay area to accommodate the needs for disposal of wastes generated in or near North County could add to vehicle miles traveled and could increase time on the road along with vehicle fuel and maintenance costs. As with the other alternatives, except for the Sycamore Canyon Expansion Alternative, an additional landfill at this location may contribute to lower tipping fees through landfill competition amongst multiple providers.

Potential public costs of operating the alternative would be reduced through financial guarantees required by state regulations. Certain financial responsibilities would remain with the private owner/operator and not with a public agency. These include financial provisions for closure of the landfill; post-closure maintenance; monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities; and $1,000,000 in liability insurance.

The East Otay Mesa site is undeveloped and designated as Public/Semi-Public Lands with a Solid Waste Facility Designator in the County General Plan. The site contains areas designated Farmland of Local Importance. Some areas surrounding the site are used for grazing or other farming operations, such as annual field crops and grasses. Other areas, the majority, are vacant and not actively used.

The nearest existing land use development in the vicinity is located along the U.S.–Mexico border, approximately 0.25 miles south of the alternative site. It includes border facilities and a mixed-use community (intermixed residential, commercial and industrial uses) located in Mexico. The land immediately west of the alternative site lies within the boundaries of the East Otay Mesa Business Park Specific Plan. The East Otay Mesa Specific Plan sets forth a comprehensive vision for the development of the approximately 3,013 acres of land within its boundaries. Approximately 2,110 acres of the Specific Plan area is planned as a modern industrial and business center while about 552 acres is set aside for conservation or very low-density residential use. The Specific Plan is a regulatory document that establishes standards for development, environmental conservation, and public facilities to implement the objectives of the County of San Diego General Plan and Otay Mesa Subregional Plan.

The East Otay Mesa Alternative would not have adverse socioeconomic effects on existing or planned uses in the vicinity of the alternative site. The alternative would not have adverse effects on the scattered agricultural uses in the area. To the extent that such uses may remain for a period of time, they represent scattered operations not subject to immediate landfill impacts. As noted for previous alternatives (e.g. the Applicant's Proposed Alternative), design features would limit nuisance factors such as dust and vectors to the boundary, thus avoiding potential impacts at off-site agricultural locations. However, the scattered agricultural uses to the west of the site lie within the area is designated for industrial/business park uses and would therefore, be converted to industrial uses independent of landfill activities at the alternative site. The East Otay Mesa site contains a small section that is identified as "Farmland of Local Importance," and the rest of the site is identified as "Grazing Land." However, there is no indication that a scattered agricultural use at the site would be desirable. Therefore, the alternative would not affect agricultural activities or potential economic value associated with agricultural activities.

The alternative would not have adverse socioeconomic effects on the mixed-use community that lies south of the site. The border establishes a boundary between that community and the alternative site so as to avoid intermixing of socioeconomic activities. Also, the alternative would not affect existing or potential future border crossing locations that could affect activities for Mexican population seeking to enter the United States. Given the distance to the Mexican community (more than 1,300 feet), and the design features that would contain impacts from nuisance factors to the site, there would be no spillover effects into the community further south that would affect the activities of the population.

As described above, the land west of the alternative site is proposed for development with industrial/business uses, pursuant to an approved Specific Plan. The Specific Plan establishes a 1,000-foot

wide Landfill Buffer Overlay Zone adjacent to the landfill. The Specific Plan limits the uses within the buffer area to those that would be most compatible with the landfill activities; and provides a permit (plan review) process for implementing design features for the development that would be constructed. Therefore, the East Otay Mesa Alternative would not affect socioeconomic activities in the Specific Plan area other than as already anticipated and accounted for in the preparation of the Specific Plan.

Mitigation Measures

The East Otay Mesa Alternative would not interfere with day-to-day activities of the population, nor cause adverse economic consequences to other land uses in the vicinity of the landfill. No mitigation measures are proposed.

## 4.13.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.13.9.1 Affected Environment

#### Regional Setting

The Sycamore Canyon Expansion Alternative is, like the Applicant's Proposed Alternative, located within the County of San Diego and would draw on its employee base and related distribution of population and housing. Therefore, the regional demographic characteristics of the Sycamore Canyon Expansion Alternative would be similar to those of the Applicant's Proposed Alternative, as described in subsection 4.13.3.1 above.

As indicated, therein, the County is projected to grow in population size by 1,016,441 people, or 31 percent between 2012 and 2045. The number of housing units is projected to grow by 310,368, or 26 percent; the number of employment opportunities is projected to grow by 399,765 jobs, or 25 percent. The jobs/housing ratio is currently estimated and future projected to be 1.3 jobs per housing unit.

#### Local Setting

The Sycamore Canyon Expansion Alternative is located in the North City MSA. As noted in Table 4.13-1, above, this MSA is the largest in terms of population and employment. It also includes the largest number of employees on a relative basis, giving it a substantially greater job/housing ratio than other MSAs. North City Suburban MSA is expected to grow by 213,333 people, 69,497 housing units and 99,541 employees. The projected future development is expected to increase population and housing at a greater rate than the growth in employment, thereby slightly reducing the jobs/housing ratio.

The site is located within the City of San Diego within the boundaries of the East Elliot Community Plan area. Population, housing and employments projections for the Community Plan area are shown in Table 4.13-6, *Demographic Data for Community Plan Areas – Sycamore Canyon Expansion Alternative*. The Community Plan Area is estimated to grow by 1,110 people, 389 housing units and 776 employees.

The Sycamore Canyon Expansion Alternative site is currently operating as a landfill, and would continue operating as such. The majority of the landfill site is currently designated as "Industrial Employment." Parts of the site are designated as "Park, Open Space, & Recreation," and "Commercial Employment, Retail and Services" (a small area at the landfill entrance).

**Table 4.13-6**

**Demographic Data for Community Plan Areas – Sycamore Canyon Expansion Alternative**

| East Elliot Community Plan Area | | | | |
|---|---|---|---|---|
| | **2012[a]** | **2045[a]** | **Numeric Change** | **Percentage Change** |
| Population | 227 | 1,337 | 1,110 | 489% |
| Housing | 84 | 473 | 389 | 465% |
| Employees | 55 | 776 | 721 | 1319% |
| Job/Housing Ratio | 0.7 | 1.6 | 0.9 | 129% |

[a] *All estimates for 2012 and Employment estimates for 2045 are interpolated from nearest years reported on the SANDAG website.*

*Source: PCR Services Corporation; SANDAG 2050 Regional Growth Forecast*

## 4.13.9.2 Design Features

As with the Applicant's Proposed Alternative, design features that reduce impacts on the physical environment have been identified in other sections of this EIS. Of particular note are design features that would limit impacts on Aesthetics, such as the use of grading and landscaping techniques to reduce contrast with surrounding areas (see Section 4.1); Noise and Vibration, such as limitations on equipment and installation of berms (see Section 4.11); and Human Health and Safety, such as litter pick up and the installation litter fences as needed, and use of daily cover (see Section 4.8). In reducing impacts on the physical environment, these design features would limit the potential for changes to the physical environment to generate secondary, indirect impacts on social activity or economic conditions.

In addition, pursuant to state landfill regulations, the Sycamore Canyon Expansion Alternative would be required to provide financial guarantees including the following: Provisions for closure of the landfill; 30 years of post-closure maintenance; and monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities. The financial burden for this long-term liability would rest with the private owner/operator and not with a public agency. In addition, Aspen Road Alternative would be required to provide a minimum of a $1 million liability insurance policy for operational risks. Economic design features of the Applicant's Proposed Alternative not required under the regulations would not necessarily be included with this alternative, such as additional liability insurance.

## 4.13.9.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on socioeconomics if it would:*

- *Substantially alter the location, distribution, density, or growth rate of the human population planned for the area and result in a demand for housing and public and private services which exceeds long term supply;*
- *Generate population or employment that is inconsistent with the regional growth management plans.*

**Impact Statement Sycamore SOC -1: The Sycamore Canyon Expansion Alternative would not remove housing stock, nor generate notable new population or housing in the region. It would increase the**

**number of on-site jobs from approximately 40 workers to 50 workers. This increase in employment would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. No significant adverse effects on demographic distribution would occur.**

The Sycamore Canyon Expansion Alternative would not remove existing housing stock. The alternative would generate an increase in employment from approximately 40 to approximately 50 jobs. After closure of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance.

It is expected that the additional 10 employees would be drawn from the existing labor pool in the region. Some long-term employees currently located within the County might move to be closer to their place of work. Again, the relocation of a few families within the County would have a negligible effect. These minimal effects would occur within the North City Major Statistical Area which is estimated to grow by 213,333 people, 69,479 housing units and 99,541 employees between 2012 and 2045.

The addition of 10 employees to support the expanded landfill operations is negligible. If the 10 employees were new residents to the County, or relocated locally to be closer to their jobs, they would represent 1.4 percent of the 721 new employees projected to begin working in the East Elliot Community Plan Area between 2012 and 2045. If all of the employees were to relocate within the planning area they would occupy 2.6 percent of the 389 estimated housing units to be constructed within the local planning area during the time period.

The alternative site is a currently operating landfill that is proposed for expansion, and has been so-considered during preparation to the SANDAG 2050 growth projections. Therefore, the few employees and possible residential re-locations would be consistent with the regional and local forecasts; and would not alter the location, distribution, density, or growth rate of the population planned for the area. The demand for housing and public and private services would not exceed long term supply.

Mitigation Measures

The Sycamore Canyon Expansion Alternative would not have significant adverse effects on socioeconomic conditions with regard to the amount and distribution of population, housing and employment. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect on socioeconomics if:*

- *Substantial physical environmental effects on surrounding uses would interfere with their normal functions in a manner that could lead to substantial adverse socioeconomic consequences.*

**Impact Statement Sycamore SOC-2: The Sycamore Canyon Expansion Alternative would contribute financial benefits to the region. The physical impacts would not interfere with the normal operations of other uses in the vicinity of the alternative site in a manner that would lead to adverse consequences regarding social and economic activity.**

The Sycamore Canyon Expansion Alternative would provide a number of economic benefits to the County and its population. The alternative would benefit the local economy by increasing its economic activity by providing a small number of new jobs, and increasing the level of business to business spending for purchases and rentals of materials, supplies and equipment. The landfill operation would generate tax revenue through the payment of property taxes and sales taxes associated with the previously noted business transactions.

At the same time, the landfill use would generate low demand for public services and utilities. As described in Sections 4.12.01, Law Enforcement; 4.12.02, Fire Protection and Emergency Medical Services; 4.12.03 Schools; and 4.12.04, Recreation, the Sycamore Canyon Expansion Alternative would not generate new population that would increase demand for public services and would include design features related to site security and fire protection to reduce demand for public services. Therefore, services from public agencies would not normally be required and demand for such services associated with the alternative would be limited.

Given the geographic location of the Sycamore Canyon Landfill, the Expansion Alternative would not provide a facility in close proximity for waste generated in or near North County. Therefore, the alternative would not provide certain economic benefits associated with the alternatives that would be located in North County. It would not provide reductions in vehicle miles traveled, time on the road, vehicle fuel consumption and maintenance costs. Further, expansion of the existing landfill site would not add the competitive benefits of development of a new landfill at one of the other alternative sites; such as possible contributions to lower tipping fees.

Potential public costs of operating the alternative would be reduced through financial guarantees required by state regulations. Certain financial responsibilities would remain with the private owner/operator and not with a public agency. These include financial provisions for closure of the landfill; post-closure maintenance; monitoring surface and groundwater quality and leachate collection, with remediation of environmental effects detected through monitoring activities; and a minimum of $1,000,000 in liability insurance.

The Sycamore Canyon Expansion Alternative site is currently operating as a landfill with a capacity for continued operations of approximately 20 years. In addition, the proposed expansion is included in the County's Siting Element. The site sits within a large undeveloped area surrounded amidst rolling hills designated as "Park, Open Space & Recreation." A small facilities component of the landfill including an existing scale house and administration facilities is located at the landfill entrance at Mast Boulevard. This component is proposed to receive new upgraded facilities including a new administration building under the expansion plan.

The closest development to the alternative site consists of urbanized development in the City of Santee. This development is somewhat isolated from the landfill prism due to distance and topographic features. However, the landfill facilities area at the site access is located directly across from the Santee development. West Hills Park, West Hills High School and a residential community are located across Mast Boulevard from the landfill entrance. The distance from the proposed new administrative building to the nearest residential unit is 500 feet.

The development in the vicinity of the landfill access location/facilities area and along Mast Boulevard would be the development most directly affected by the types of impacts that might affect socioeconomic conditions: aesthetics, traffic, noise and nuisance factors (odors, litter, dust, vectors). While more distant locations would be subject to environmental impacts, such impacts would be of a regional character and would not be subject to interference with activities at those locations.

Impacts on nearby uses would be limited and not so substantial as to interfere with on-going activities at those properties. As the Sycamore Canyon site is currently a landfill, its expansion would not alter land use patterns in the area, nor expose nearby residents to a new use not already occurring in the area. Increased impacts from nuisance factors (odors, litter, dust, vectors) would not be expected to increase due to (1) the distance and topographic barriers between the landfill prism and the closest uses; and (2) the design features that limit such impacts (e.g. Dust Control Plan, Vector Control and Management Plan, the application of daily cover, and a litter control program).

As described in Section 4.1, Aesthetics, of this EIS, the alternative would not result in significant adverse effects associated with obstruction of views or vistas from public viewing areas, creation of a negative aesthetic site, nor alternation of the existing landform. However, a significant aesthetic impact was identified that pertains to the contrast between the altered landform and the surrounding neighborhood character, in conflict with City of San Diego and City of Santee General Plans. These significant adverse effects would not directly intrude into existing development areas, but would be observed as an element within a larger viewshed, thus not affecting nearby uses.

As indicated in Section 4.11, *Noise and Vibration*, accept for one minor exception, the noise from the alternative would be consistent with noise standards and regulations at all locations (including sensitive uses and roadway locations) and would not have a significant adverse effect. The one exception is a significant adverse effect that would occur at four residential parcels located along the landfill access road between the facilities area on Mast Boulevard and the landfill footprint. This impact is limited as it would occur only during the daytime hours, only to the few parcels and only if future residential units were to be located within 165 feet of the landfill access road. Further, there are currently no residential units located within these parcels and none are proposed at this time; and the existing character along the access road consists of haul route traffic.

As indicated in Section 4.15, Transportation, mitigated traffic impacts would not have significant adverse effects at analyzed intersections and roadway segments. In fact, with the addition of landfill traffic with proposed improvements, local roadways would operate at better levels than they do today. Therefore, local roadway conditions would not adversely affect socioeconomic conditions for development along those roadways. However, the traffic analysis identifies significant adverse effects at multiple freeway segments. These impacts would be components of congestion that affects the region generally, and would affect access to the landfill area without affecting the character and activities at local development locations.

In summary, the Sycamore Canyon Expansion Alternative would provide a continuation of an existing use, consistent with current land use pattern and activity in the vicinity of the site. Further, the impacts to local development due to aesthetics, traffic, noise and nuisance factors would be limited. Physical impacts would not be so great as to substantially interfere with the normal operations of other uses in the vicinity of the

alternative site in a manner that would lead to adverse socioeconomic consequences effects regarding social and economic activity.

Mitigation Measures

The Sycamore Canyon Expansion Alternative would not interfere with day-to-day activities of the population, nor cause adverse economic consequences to other land uses in the vicinity of the landfill. No mitigation measures are proposed.

# 4.14 SURFACE HYDROLOGY

## INTRODUCTION

This section provides an analysis of the potential effects of each of the alternatives with respect to surface hydrology and discusses the potential effects associated with global climate change relative to flooding. The section includes an overview of regulations pertinent to surface water quality and stormwater management for the alternatives, provides a description of existing regional and local surface water conditions, as well as historical and existing flooding. The analysis for the Applicant's Proposed Alternative evaluates the hydrogeomodification of the river and potential scour effects that would result from the proposed development.

The surface hydrology analysis for the Applicant's Proposed Alternative is based on the USACE's approved Jurisdictional Determination (JD) (January 13, 2010, November 2, 2011, and February 13, 2012) and hydrology and stormwater studies and surface water control plans contained in the Joint Technical Document (JTD) and other technical studies that have been peer reviewed by Balance Hydrologics, Inc. and the San Diego County Water Authority (SDCWA). The peer reviews are contained in Appendix L of this EIS. Analysis of the Aspen Road Alternative is based in part on the 1990 Draft EIR/EIS prepared for a County Class III landfill on that site. The analysis of the Merriam Mountain Alternative is based, in part, on the 2009 Merriam Mountains Specific Plan EIR. Similarly, the analysis of the Sycamore Canyon Expansion Alternative is based largely on the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012).

## 4.14.1 REGULATORY FRAMEWORK

### 4.14.1.1 Federal

#### Clean Water Act

The Federal Water Pollution Control Act of 1972 (Clean Water Act or CWA) is the basic federal law dealing with surface water quality control. The objective of the Clean Water Act is to "restore and maintain the chemical, physical and biological integrity of the Nation's waters" to make all surface waters "fishable" and "swimmable." Pursuant to provisions of Section 404 of the CWA, the USACE regulates discharge of dredge or fill material into "waters of the U.S." These include tidal waters, interstate waters, and all other waters that are part of a tributary system to interstate waters or to navigable waters. Under Section 404, any dredging or potential discharge of dredge or fill material into waters of the U.S. that would potentially bring an area of the navigable waters into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired, or the reach of such waters would be reduced, would require a permit from the USACE.

Section 328 of the CWA defines waters of the U.S. as it applies to the jurisdictional limits of the authority of the USACE. These include all interstate wetlands, rivers, streams (including intermittent streams), wetlands, wet meadows, natural ponds, the degradation or destruction of which could affect interstate commerce or recreation, and wetlands adjacent to waters (other than waters that are themselves wetlands (Section 328.3(a)). Section 328.3(e) defines "ordinary high water mark" (OHMW) as that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line

impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other means that consider the characteristics of the surrounding area.

The CWA requires that states adopt water quality standards to protect public health or welfare, enhance the quality of water, and serve the purposes of the CWA. CWA sections 106, 205(j), 205(g), 208, 303 and 305 establish requirements for state water quality planning, management, and implementation in regard to surface waters. CWA Section 401 requires that any applicant for a federal permit involving activities resulting in a discharge to waters of the U.S. must receive Water Quality Certification from the state in which the discharge is proposed. The state certification needs to conclude that the discharge would comply with the applicable provisions under the federal CWA. Section 402(p) of the CWA mandates that municipal permits must effectively prohibit the discharges of non-stormwater to the stormwater system except under certain provisions, and requires controls to reduce pollutants in discharges from the stormwater system to the maximum extent practicable, including the use of Best Management Practices (BMPs), control techniques, and system, design, and engineering methods.[1]

### National Pollutant Discharge Elimination System Program

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate both point source discharges and nonpoint source discharges to surface waters of the U.S. Point sources may include industrial facilities, such as manufacturing, mining, oil and gas extraction, and service industries such as waste management and power generation. The NPDES program consists of characterizing receiving water quality, identifying harmful constituents, targeting potential sources of pollutants, and implementing a comprehensive stormwater management program. Construction and industrial activities are typically regulated under statewide general permits that are issued by the State Water Resources Control Board (SWRCB). The Regional Water Quality Control Board (RWQCB) also issues Waste Discharge Requirements (WDRs) that serve as NPDES permits under the authority delegated to the RWQCBs, under the CWA. Since 1990, municipalities serving populations of 100,000 or more, or contributing significant pollutants to waters of the U.S. have been required to obtain coverage under a NPDES municipal stormwater permit as well as to develop and implement an urban runoff management program to reduce pollutants in urban runoff and stormwater discharges. The NPDES authorizes the State of California to serve as the NPDES permitting authority in lieu of the U.S. Environmental Protection Agency (USEPA). The following general permits are required for industrial operations and construction projects in accordance with NPDES permit program:

- SWRCB Order No. 2009-009-DWQ, NPDES Permit No. CAS000002, WDRs for Discharges of Stormwater Runoff Associated with Construction Activity (General Permit). The permit requires a risk-based permitting approach, dependent upon the likely level of risk imparted by a project;
- SWRCB Water Quality Order No. 97-03-DWQ NPDES General Permit No. CAS000001 (General Permit) WDRs for Discharges of Stormwater Associated with Industrial Activities Excluding Construction Activities.

[1] *State Water Resources Control Board Fact Sheet for Water Quality Order 99-08-DWQ.*

### 4.14.1.2 State

#### Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (Division 7 of the California Water Code) is the water quality legislation for California. The Porter-Cologne Water Quality Control Act, enacted in 1969, authorizes the SWRCB to adopt, review, and revise policies for all waters of the state (including both surface and ground waters) and directs the RWQCBs to develop region-specific Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans. The purpose of these plans is to designate beneficial uses of the region's surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives. Enforcement procedures include mandatory stormwater management, wastewater treatment, water quality monitoring, wetlands protection, ocean protection, environmental education, environmental justice, contaminated sites cleanup, and low-impact development. The SWRCB also approves regional basin plans, reviews petitions of RWQCB actions, administers financial assistance programs (such as for water pollution control or cleanup), addresses enforcement, and provides administrative and other functions that support the Water Boards. The SWRCB is also responsible for allocating water rights and adjudicating water right disputes.

In accordance with the Porter-Cologne Water Quality Act, the SWRCB developed the *2008-2012 Strategic Plan* with the mission to preserve, enhance, and restore the quality of California's water resources. Implementation actions include the development of a standard total maximum daily load (TMDL) plan format that considers pollutant or TMDL groupings, and addresses impairment pollutants in priority watersheds. Where appropriate, the SWRCB considers possible amendment of water right permits where pollutant source control measures and a water body's capacity to receive pollutants is insufficient to meet water quality standards. The SWRCB also works with the California Department of Fish and Game (CDFG) and other agencies to list priority streams and to develop minimum stream flow objectives. For priority streams where minimum flow objectives are not being met, the SWRCB mandates actions to protect the public trust.

CCR Title 27, Section 20415 of the Porter-Cologne Act establishes water quality monitoring and protection standards for landfills. Specifically, the water quality protection standards include: establishment of monitoring systems for the groundwater, surface water, and unsaturated zone, including background and compliance monitoring points for each medium; establishment of COCs; establishment of monitoring parameters; and establishment of a monitoring protocol and a compliance period. In accordance with 27 CCR, Section 20410, an operator must continue monitoring until the discharger demonstrates continuous compliance with the sites established water standard for three consecutive years.

#### Cobey-Alquist Floodplain Management Act

Under the Cobey-Alquist Floodplain Management Act (1965), local governments are encouraged to plan, adopt and enforce land use regulations for floodplain management, in order to protect people and property from flooding hazards. This Act also identifies requirements that jurisdictions must meet in order to receive state financial assistance for flood control. San Diego County has used the guidelines established by this legislation to produce ordinances, such as San Diego County's Flood Damage Prevention Ordinance, which promotes public health, safety, and general welfare, and minimizes public and private losses due to flood conditions in specific areas throughout the County. Furthermore, the Act has influenced the direction of

County's Board of Supervisors policy decisions, such as defining watercourses in the County subject to flood control.

### California Department of Fish and Game Code

Section 1602 of the California Department of Fish and Game (CDFG) Code requires any entity (e.g., person, state or local government agency, or public utility) who proposes a project that would substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, must first notify the CDFG of the proposed project. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support, or have supported, riparian vegetation. The CDFG's jurisdiction extends to the river, stream, or lake top-of-bank, or to the outer edge of the adjacent riparian vegetation (i.e. riparian "drip line"). If the CDFG determines that a proposed project may substantially adversely affect existing resources, a Lake or Streambed Alteration Agreement (Section 1602 Permit) would be required. If an agreement is required, CDFG may conduct an on-site inspection and submit a draft agreement to the applicant. The draft agreement includes measures to protect fish and wildlife resources during the conduct of a project.

## 4.14.1.3 Regional

### San Diego Regional Water Quality Control Board Basin Plan

The San Diego RWQCB developed the Water Quality Control Basin Plan (Basin Plan) in 1995 (amended in 2007), as a program for preserving and enhancing water quality and protecting the beneficial uses of all regional waters. Specifically, the Basin Plan: (1) designates beneficial uses for surface and ground waters; (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy; (3) describes implementation programs to protect the beneficial uses of all waters in the region; and (4) describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan [California Water Code sections 13240 thru 13244, and section 13050(j)]. Additionally, the Basin Plan incorporates by reference all applicable SWRCB and RWQCB plans and policies. The goal of the RWQCB is to achieve a balance between the competing needs for water of varying quality. Often times the constituents and quality of water needed to protect various beneficial uses will be different. The Basin Plan is the RWQCB's plan for achieving the balance between competing uses of surface and ground waters in the San Diego Region.

Accordingly, the Basin Plan establishes or designates beneficial uses and water quality objectives for all the surface and ground waters of the Region. Beneficial uses are the uses of water necessary for the survival and well-being of man, plants and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals of the community. The Basin Plan's water quality objectives are the levels of water quality constituents or characteristics which must be met to protect the beneficial uses. This Basin Plan also establishes an implementation program describing the actions by the RWQCB and others that are necessary to achieve and maintain the designated beneficial uses and water quality objectives of the Region's waters.

### 4.14.1.4 Local

**San Diego County Watershed Protection Ordinance**

The purpose of the County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) (updated December 8, 2010) is to protect water resources and to improve water quality by controlling the storm water conveyance system and receiving waters, to enforce management practices that will reduce the adverse effects of polluted run-off discharge on waters of the state; to secure benefits from the use of storm water as a resource; and to ensure the County is compliant with applicable state and federal law. The WPO defines the requirements that are legally enforceable by the County in the unincorporated parts of San Diego County and provides regulatory context for the County's Standard Urban Stormwater Mitigation Plan (SUSMP). The SUSMP refers to various documents prepared in connection with implementation of the stormwater NPDES permit mandate to control pollutants from new development and redevelopment, including the Storm Water Pollution Prevention Plan (SWPPP) and Stormwater Management Plan (SWMP).

The San Diego County Stormwater Standards Manual (Appendix A of the WPO) establishes criteria for Regulated Industrial Facilities, including the facilities that store or handle refuse (Part D.1.1). The Stormwater Standards Manual is intended to prohibit polluted non-stormwater discharges and to establish minimum requirements for stormwater management to prevent and reduce pollution, to prevent erosion, and to enhance water dependent habitats. A State Industrial Discharge Permit is also required under Part D. Also applicable to high priority industrial facilities are requirements for the preparation of a SWPPP (Part D.3.2). The SWPPP is a plan providing for temporary measures to control sediment and other pollutants during construction. The WPO also establishes Best Management Practices (BMP) requirements (Part D.3.3). These include activity-specific BMP, pollution prevention practices, non-structural BMPs and structural controls. The WPO also establishes monitoring requirements for High Priority Industrial Facilities.

Section F of the WPO applies to land disturbance activities and standards applicable to erosion control, sediment control, off-site sediment control, velocity reduction, materials management, and structural BMP sizing. Standards include performance standards for velocity reduction and BMP sizing (such as size and capacity of desilting basins).

The SUSMP Manual, mandated by the WPO and approved January 2011, provides regulations related to operation and maintenance of stormwater facilities and development of a Major SWMP for high priority projects. The purpose of the Major SWMP is to describe how the project would minimize the short and long-term impacts on receiving water quality. The County may require, as part of an application for approval of a phased project, a conceptual or master SWMP which describes and illustrates how the drainage for the project will comply with the SUSMP requirements. The level of detail in the conceptual or master SWMP must be consistent with the scope and level of detail of the development approval being considered. The conceptual or master SWMP should specify that a more detailed SWMP for each later phase or portion of the project would be submitted.

The SUSMP also provides a Hydromodification Management Plan (HMP), which is applicable to priority projects greater than 50 acres. The HMP was developed under California RWQCB Order R9-2007-0001, which requires San Diego County to manage increases in runoff discharge rates and durations from Priority Development Projects where such increased rates and durations are likely to cause increased erosion of

channel beds and banks, sediment pollutant generation, or other adverse effects to beneficial uses and stream habitat due to increased erosive force. The HMP requires Priority Development Projects to implement hydrologic control measures so that post-project runoff flow rates and durations (1) do not exceed pre-project runoff flow rates and durations for the range of runoff flows where the increased flow rates and durations will result in increased potential for erosion or other significant adverse effects to beneficial uses, attributable to changes in the flow rates and durations; and (2) do not result in channel conditions which do not meet the channel standard.

### San Diego County Floodplain Management Plan

The San Diego County Floodplain Management Plan (FMP) (2007) assesses flooding hazards within the unincorporated areas of the County. The FMP summarizes historical floods that impacted the County and identifies the County's flood hazard risks. As described in the FMP, the most common flood hazard risks are riverine flooding and flash flooding events. The FMP is intended primarily to address concerns with respective loss under the National Flood Insurance Program (NFIP) and to provide basic requirements of the NFIP's Community Rating System. The Community Rating System (which is implemented by FEMA) is intended to recognize and encourage community floodplain management activities that exceed minimum NFIP standards. A basic goal of the County's floodplain management program is to reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to floods. The FMP builds upon the flood hazard identification and risk assessment for the unincorporated County incorporated into the Multi-Jurisdictional Multi-Hazard Mitigation Plan and identifies the types of flooding the County experiences as well as specific "hot-spot" areas that have experienced repeated flooding. Some "hot-spot" areas of the County include the Santa Margarita River near Sandia Creek Drive and Rock Mountain Drive and the San Luis Rey River at Shearer Crossing (San Luis Rey River at I-15) and at Pauma Valley Drive.

### San Diego County Drainage Design Manual

The Drainage Design Manual developed by the San Diego County Flood Control District establishes design standards and procedures for stormwater drainage and flood management facilities throughout the County. The Flood Control District is authorized to protect the land, properties, facilities, and people of the County's unincorporated areas from damage caused by storms and floodwaters. The design standards set forth in the manual are applicable to storm drains and inlets, culverts, open channels, detention basins, energy dissipaters, and debris basins and barriers. The Flood Control District also recognizes that certain critical facilities might require a higher level of protection than standards established under the Design Manual. In such cases (extraordinary conditions), flood control prevention and stormwater drainage features are considered on a case-by-case basis. The Flood Control District also recognizes the natural conveyance systems designed with natural materials (i.e., drainage ways and channels lined with vegetation rather than impervious materials) are inherently more beneficial than impervious systems.

### San Diego County Flood Damage Prevention Ordinance

The San Diego County Flood Damage Prevention Ordinance (Ord 9998) applies to all areas of special flood hazards within the jurisdiction of the County of San Diego that are shown on a County flood plain or alluvial fan map, FIRM, or Flood Insurance Study. Special flood hazard areas are defined as those areas located within the 100-year floodplain. The Ordinance requires a development permit before new construction, substantial improvements, or development begins within any area of special flood hazards. Applications

require the identification of the 100-year flood plain and floodway lines, both before and after proposed development. Under Section 811.403(c)(3), whenever a watercourse would be altered or relocated, the flood carrying capacity of the altered or relocation portion of the watercourse must be maintained.[2] The ordinance includes methods and provisions for:

a. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;

b. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

c. Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;

d. Controlling filling, grading, dredging, and other development which may increase flood damage; and

e. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

### City of San Diego Storm Water Management and Discharge Control Ordinance

City of San Diego surface water requirements pursuant to the Storm Water Management and Discharge Control Ordinance (San Diego Municipal Code §43.03 *et seq*.) is applicable to new development in the City. Under this ordinance, new development is required to comply with the storm water pollution prevention measures identified in the Land Development Code Chapter 14, Article 2, Divisions 1 (grading) and 2 (storm water runoff control and drainage). These measures require that development projects prevent erosion, sedimentation, and pollutant discharge to the maximum extent practicable. Both construction and permanent erosion, sedimentation, and water pollution control measures are required, including efforts such as erosion prevention; sediment control; phased grading; LID, source control, priority project, and treatment control BMPs; hydromodification avoidance/control; and monitoring and maintenance. These requirements are implemented through conformance with applicable water quality standards including pertinent elements of the City Grading Ordinance, City Storm Water Standards, Urban Runoff Management Programs (URMPs), and the City's Standard Urban Storm Water Mitigation Plan (SUSMP). Solid waste landfills operate under WDRs from the RWQCB, and are covered by the NPDES Industrial General Permit (implemented as an associated SWPPP) and are exempt from the discharge prohibitions of Municipal Code §43.03 *et seq*., as long as the facilities comply with the associated WDRs and NPDES Permit requirements (although monitoring under the Municipal Permit is required). Landfills are required to file an Industrial Self-Certification Form with the City Storm Water Pollution Prevention Program, identifying the appropriate SWPPP under the NPDES Industrial General Permits.

[2] *Grading and other activities in watercourses are further regulated under the San Diego County Grading, Clearing, and Watercourses Ordinance (Ord. 9547), which requires under Section 87.214 (Grading within Certain Waterways) that grading within jurisdictional waters of the U.S must receive USACE approval, grading that may involve a river or stream must receive California Fish and Game Approval.*

### City of San Diego Storm Water Standards

The City Storm Water Standards provide detailed information regarding compliance with permanent and construction-related storm water requirements for new development projects in the City. These standards were updated in January 2011, and reflect applicable requirements in the previously described 2007 NPDES Municipal Permit, as well as related documents such as the URMPs and SUSMP. Specific guidelines in the Storm Water Standards include detailed requirements for identifying pollutants of concern; determining appropriate BMP categories, types, locations, and design; establishing BMP implementation and maintenance requirements; and addressing potential hydromodification concerns.

## 4.14.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts regarding surface hydrology.

### 4.14.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. The alternative would have a significant adverse effect on surface hydrology if it would:

- Result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Walter Quality Control Plan for the receiving water body;
- Place objects or structures or create disturbance within a 100-year floodplain or alter the floodway in a manner that would redirect or impede flow resulting in the following:
  - Increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height and in the case of the San Luis Rey River 2/10 of a foot or more in height;
  - Result in increased velocities and peak flow rates exiting the site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site or provide substantial additional sources of polluted runoff; or
  - Result in placing housing, objects or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety and property; or
- Result in substantial changes in channel morphology.

### 4.14.2.2 Methodology

The surface hydrology analysis for the Applicant's Proposed Alternative is based on the USACE's approved JDs (January 13, 2010; November 2, 2011; and February 13, 2012) and on hydrology and stormwater studies and surface water control plans that have been peer reviewed by Balance Hydrologics, Inc. Peer-reviewed studies include the *Stormwater Pollution Prevention Plan for Gregory Canyon Landfill* (URS, 2010) (JTD Appendix D), *100-Year Developed and Undeveloped Hydrology Study* (Stirrat 2004) (JTD, Appendix I), *Stormwater Management Plan for Gregory Canyon Landfill* (URS, December 2007) (JTD Appendix I-1), *Fluvial*

*Study and Bridge Scour Analysis for the Proposed Gregory Canyon Bridge on the San Luis Rey River* (Chang, 2011), *Sensitivity Analysis for Roughness Coefficient Utilized in the HEC RAS Analysis of the Gregory Canyon Reach of the San Luis Rey River* (Excel, 2011), *Water Surface Analysis Study* (Excel Engineering, 2011). The *Fluvial Study and Bridge Scour Analysis for the Proposed Gregory Canyon Bridge on the San Luis Rey River* (Chang, 2011) was further peer reviewed by SDCWA (AECOM, May 28, 2012). Balance Hydrologics evaluated the adequacy of these analyses and proposed mitigation measures where potential adverse effects were indicated. A copy of the Balance Hydrologic's technical memorandum pertinent to this review is contained in Appendix L of this EIS. Methodologies implemented for the analysis of surface hydrology, desilting basins, flooding conditions on the San Luis Rey River, river scouring and off-site alternatives are discussed below.

Analysis of the Aspen Road Alternative is based in part on the 1990 Draft EIR/EIS prepared for a County Class III landfill on that site as well as other generally available information. The analysis of the Merriam Mountain Alternative is based, in part, on the 2009 Merriam Mountains Specific Plan EIR. Similarly, the analysis of the Sycamore Canyon Expansion is based largely on the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012).

## Applicant's Proposed Alternative

### Jurisdictional Delineation

The approved JD prepared by the USACE describes the USACE's geographic jurisdiction (waters of the U.S.) on the site. The JD describes the general characteristics of the San Luis Rey River and wetlands that flow directly or indirectly into the river, with primary focus on the Gregory Canyon drainage area, Gregory Canyon mainstem, the San Luis Rey River floodplain, and the area of the proposed bridge crossing the San Luis Rey River. However, all wetlands and drainages within the Gregory Canyon site are evaluated. Methodologies for determination of the geographic extent of waters of the U.S. include review of hydrologic records, models, and antecedent conditions prior to site visits by a field team; evaluation of aerial photographs; and OWHM field indicators discovered by a field team. The November 2, 2011, JD delineates the San Luis Rey River through the site and other tributaries that are not part of the Gregory Canyon system. The determination of jurisdiction for the Gregory Canyon mainstem is found in the January 13, 2010 JD, which concluded that the Gregory Canyon stream comprises approximately 438 acres of the Gregory Canyon site. According to the JD, the mainstem channel conveys water and sediment to its confluence with the San Luis Rey River within the area. Based on the 2009 JD field report, the JD states that the amount of water being conveyed in the mainstem is evidenced by Ordinary High Water Mark (OHWM) field indicators, including defined bed and banks (e.g., break in bank slopes), sand and gravel deposits, silt and sediment transport and sorting, racking and scour. Step/pool complexes of boulders, exposed bedrock, and large cobbles were identified in the upper reach of Gregory Canyon (above the dirt road). The OHWM indicators in lower Gregory Canyon included coarse sand deposits, debris and drift deposits, and vertical deposition of organic litter, and measurable low-flow channel widths consistent with a sandy, braided channel morphology. Although the indicators cannot be linked to a particular historic flow event, they do demonstrate that water flows through the channel.

### Surface Water Runoff

Technical reports in the JTD related to the analysis of surface water were peer reviewed by Balance Hydrologics, Inc.[3] The approach to the analysis of surface water runoff in the JTD is based on the identification of a landfill as a priority project and descriptions of the property, treatment control BMPs, and beneficial uses on waters of the U.S. The estimate of hydrologic parameters is based on the total development land area, percentage of impervious area and runoff coefficient before construction, percentage of impervious area and runoff coefficient after construction, and anticipated stormwater flow to the site based on changed conditions. The analysis of surface water runoff is based on a 10-year, 6-hour Rational Method runoff to Perimeter Drains [Stormwater Pollution Prevention Plan (URS 2008), amended by Stirrat 2010, Appendix G of the JTD]. All calculations would be updated at the time of approval based on guidelines contained in the HMP. Impervious areas include landfill lining, surface paving, compacted roadways and graded/activity areas and take into account vegetation removal.

With respect to methodology used to determine stormwater runoff, Balance Hydrologic's peer review indicates that the event based model (6- hour vs. 24-hour storm) used in the URS analysis may be appropriate for rainfall in a dry watershed; however, runoff would be much higher when the watershed is saturated by previous rainfall. The peer review stated that continuous (24-hour) modeling for hydromodification analyses incorporates the variability of such runoff response by using actual storm distributions and accounts for corresponding changes in soil moisture conditions, giving a more realistic depiction of the distribution of responses to the range of rainfall events. According to the peer reviewer, the use of 24-hour rather than 6-hour rainfall values could result in higher flows and, correspondingly, the need to control higher excess flows under post-project conditions. However, the peer review confirmed that infiltration area sizing for the Applicant's Proposed Alternative is consistent with the current San Diego County HMP's BMP sizing tool, which is based on a 24-hour continuous rainfall model. Additional documentation of the alternative's Low Impact Development (LID) BMP sizing tool outputs, and comparison to the originally planned infiltration areas also indicated that the infiltration areas proposed to receive stormwater runoff from the developed area are consistent with the County's LID BMP sizing tool. Based on the conclusion that adequate sizing would be provided, the 6-hour storm methodology used in the *Stormwater Management Plan (URS)* satisfies hydromodification control requirement of the San Diego County HMP.[4] However, Balance proposed further mitigation to ensure appropriate maintenance of infiltration areas.

### Desilting Basins

Technical reports in the JTD related to the design of desilting basins were peer reviewed by Balance Hydrologics, Inc. According to the technical report, the capacity of desilting basins is based on the potential volume of silt generated from the contributing watershed area and is determined based on the Universal Soil Loss Equation (USLE). One of the coefficients in the USLE is an empirical value that is a summation of individual storm products of the kinetic energy of rainfall, in hundreds of foot-tons per acre, and the maximum rainfall intensity, in inches per hour of all significant storms on an average annual basis. Only flows from the disturbed areas within the refuse footprint would be directed to the desilting basins and,

[3] *Balance Hydrologics, Inc. Technical Review of Hydrology Studies for the Proposed Gregory Canyon Landfill in Northern San Diego County is contained in Appendix L of this EIS.*

[4] *Ibid, Page 7.*

therefore, basin efficiency calculations render the maximum disturbed area that could be maintained at any given time over the life of the landfill including active operations and the post-closure maintenance period.[5]

### San Luis Rey River Flood Conditions

Technical reports prepared by Excel Engineering related to the flow rates and flood conditions on the San Luis Rey River were peer reviewed by Balance Hydrologics, Inc. According to Excel Engineering, the flow rate information for the San Luis Rey River is based on a "Flood Insurance Study, San Diego County, California and Incorporated areas, Volume 1 of 7, Revised June 16, 1999" by FEMA. As stated by Excel Engineering, this study, which employed USACE HEC-2 calculations in use at the time, specified flow rates expected through the Gregory Canyon Reach during the 10, 50, 100 and 500 year storm events. In addition to analyses of hydraulic characteristics of flooding from FEMA, Excel Engineering performed additional analysis in order to provide estimates of flood elevations for the selected recurrence intervals (10, 50, 100 and 500 year storm events). Water surface elevations for floods of the selected recurrence intervals were computed through the use of USACE HEC-RAS version 4.1.0 January 2010 program. Topographic data, which serve as the basis for determining river basin contours and flood basin cross sections in current reports, were recently updated.[6] The location of each cross section is based on the computer surface modeling projections of the updated topographic data.[7]

Based on this data, and utilizing Table 3.1 from the HEC-RAS River Analysis System Hydraulic Reference Manual Version 3.1 dated November 2002, the determined roughness "n" factor of 0.035 was calculated for the main channel and 0.05 was calculated for the floodplain.[8] In addition, in response to Balance Hydrologic's review of Excel's March 2011 report and subsequent request for additional analysis to determine if a variance in the interpretation of roughness factors could cause significant variations to the flood plains calculated in Excel's March 30, 2011, report, HEC-RAS "n" factors utilizing a roughness coefficient under two alternate conditions were evaluated. These include: (1) a condition in which the main river channel had not experienced clearing due to a larger storm and the flood plain remained in a cultivated pattern (under this scenario, the main channel would utilize an "n" factor of 0.045 and the floodplains would utilize an "n" factor of 0.04); and (2) a condition in which the main channel had not experienced clearing due to a larger storm with the flood plain was no longer being cultivated, with chaparral replacing crops (under this scenario, the main channel would utilize a "n" of 0.045 and the flood plain would utilize an "n" factor of 0.05). The latter is used to provide a conservative comparison with flood conditions under existing conditions. Historical aerial photos were reviewed to determine any knock down patterns in the channel vegetation. It was found that after larger storms the channel is significantly cleared. It was also determined that the historical crop production adjacent to the channel is quickly consumed by the fast growing chaparrals located within the area when the fields are abandoned. To determine the effects of channel vegetation on flooding, Excel Engineering performed field reconnaissance of the channel and collected field survey data to better define the channel. The alternate study determined that the roughness factor when

[5] *URS, Storm Water Management Plan, Appendix G of the JTD (2008, amended by Stirrat in 2010).*

[6] *Excel Engineering, Component Topographic Datasets (originating from BAS/Tetra Tech, Analytical Photogrammetric Surveys, Inc., Nolte Engineering, and Excel Engineering), peer reviewed by Geosyntec Consultants (February 17, 2011).*

[7] *Excel Engineering, Water Surface Analysis Study for Gregory Canyon, page 6 (March, 2011).*

[8] *Excel Engineering, Sensitivity Analysis for Roughness Coefficient in the HEC RAS Analysis of the Gregory Canyon Reach of the San Luis Rey River, page 4 (December, 2011).*

compared to the original "n" factor conditions, would not result in any significant differences to the water surfaces through the Gregory Canyon reach of the San Luis Rey River.[9]

### Scour and Fluvial Analysis

Balance Hydrologics, Inc. conducted a peer review of *Fluvial Study and Bridge Scour Analysis for the Proposed Gregory Canyon Bridge on the San Luis Rey River* prepared by Chang Consultants (June 2011).[10] The SDCWA also obtained a peer review conducted by AECOM of the Chang Consultants' June 2011 report, as well as Chang Consultants' *Fluvial Study and Bridge Scour Analysis for the Proposed Gregory Canyon Bridge on the San Luis Rey River (*November 1999).[11] The scope of AECOM's work included reviewing hydrologic model documents relevant to the proposed landfill, and performing sediment transport modeling to compare results with that of Fluvial 12 and the results presented in the Chang reports of the impact of the proposed bridge on the San Luis Ray River. AECOM performed a site visit including a walk-over of the proposed bridge, photographs were taken of the proposed site and photographs of soil samples were also taken. AECOM used the Federal Highway Administration (FHWA) scour methodology as outlined in Hydraulic Engineering Circular 18 "Evaluating Scour at Bridges" to analyze the scour for the proposed bridge and its impact on the SDCWA's pipelines. The USACE's Hydrologic Engineering Center's computer model HEC-RAS Sediment Transport was also used to investigate long term degradation and/or aggradation of the San Luis River.

Scour is the removal of sediment (soil and rocks) from streambeds and streambanks caused by moving water. Although scour may occur at any time, it is usually more significant during high flows when the water is swift and deep. Swiftly moving water has more energy (turbulence and velocity) to lift and transport sediment than slowly moving water. According to AECOM, contraction scour occurs when the flow area of a stream at flood stage is reduced, either by a natural contraction of the stream channel or by a bridge. A decrease or narrowing of the channel (flow area) results in an increase in average velocity and friction on the river bed. Hence, there is a potential increase in the average velocity and more bed material is removed from the contracted reach than is transported into the reach.

Effects of flow hydraulics, sediment transport and river channel changes were simulated for the San Luis Rey River for a given period of flow based on mathematical modeling (the FLUVIAL-12 (Chang, 1988) computer model). Modeling was devised to cover two flood conditions, the possibility of pit capture, and the respective cases before and after the Gregory Canyon Bridge/Road project. The flood conditions include: (1) the 100-yr flood and (2) the flood series that may be expected in a 100-year time span. Short term changes were computed using the 100-year flood. These storm events are consistent with the County's design standards for facilities, such as bridges and culverts, located within a waterway. Long term adverse effects were simulated using the flood series that can be expected in a 100-year time span. Sediment delivery was defined as the cumulative amount of sediment that has been delivered passing a certain channel section for a specified period of time. The spatial variation of sediment delivery depicts the erosion and deposition along a stream reach. Several flood scenarios were simulated based on changes in longitudinal channel-bed

[9] *Excel Engineering, Op. Cit. (December, 2011).*

[10] *Balance Hydrologics, Inc. Technical Review of Hydrology Studies for the Proposed Gregory Canyon Landfill in Northern San Diego County (2012), which is contained in Appendix L of this EIS.*

[11] *Arthur C. Miller (AECOM), Gregory Canyon Projects, prepared for San Diego County Water Authority (May, 2012), which is contained in Appendix L of this EIS.*

profiles. Such changes were generally characterized by refill of the sand and gravel pits and channel-bed degradation outside the pits. Changes in longitudinal channel-bed profiles are presented for the cases before and after the 2.3-acre wetland restoration, which is part of the proposed Habitat Restoration and Resource Management Plan (HRRMP). Modeling runs with respect to scour at the First San Diego Aqueduct crossing took into account the proposed wetland restoration area. Cross-sectional changes at the aqueduct crossing were simulated for all case scenarios.[12]

#### Off-Site Alternatives

The analysis of the off-site alternative is based on the general surface conditions of the respective areas as determined through aerial photographs, land use maps, and topographic maps of the alternative sites and surrounding areas. The focus of the analyses for off-site alternatives is the occurrence of any blue-line streams; canyon drainages; and downstream water bodies. Information was also derived from the Final EIR for the San Diego County General Plan Update, the 1990 Draft EIR/EIS for a Class III North County Landfill (the Aspen Road Alternative site) and a 2009 Draft EIR for the Merriam Mountains Specific Plan, and from USGS maps of blue line streams on the respective alternative sites.

## 4.14.3 APPLICANT'S PROPOSED ALTERNATIVE

### 4.14.3.1 Affected Environment

#### Characteristics of the San Luis Rey River

The Applicant's Proposed Alternative site is located within the San Luis Rey River watershed, an area approximately 55 miles long and 16 miles wide. The San Luis Rey River water management area (WMA) is the third largest of the watersheds entirely or partially within the County of San Diego and drains approximately 560 square miles. The watershed contains two major water bodies: Lake Henshaw, which is the main reservoir for the San Luis Rey WMA and the third largest reservoir in San Diego County; and the San Luis Rey River, a major stream system. The San Luis Rey watershed is comprised of three Hydrologic Areas (HA)s, which have been delineated by the San Diego RWQCB based on drainage patterns. These include the Lower San Luis Hydrologic Area (HA 903.1), the Monserate Hydrologic Area (HA 903.2), and the Warner Valley Hydrologic Area (HA 903.3). The Gregory Canyon property is located in the Monserate HA (the section downstream from Lake Henshaw). The reach of the river referred to as the Gregory Canyon Reach flows through a section of the Applicant's Proposed Alternative site.

Based on the USACE's JD for the Applicant's Proposed Alternative site, the site supports 38 acres of USACE and RWQCB jurisdictional waters and wetlands. With the exception of isolated waters and wetlands, the RWQCB typically regulates the same extent of aquatic resources as the USACE and, as such, RWQCB jurisdictional waters of the state streambed are also associated with these drainages. The 38 acres include approximately 37.3 acres (5,944.98 linear feet) within the San Luis Rey River, with the remaining 0.70 acre (5,021.55 linear feet) located within the Gregory Canyon drainage. According to the JD, the San Luis Rey River flows approximately 11 months of the year and most likely contains ponded water during the 12th month within the area of the Applicant's Proposed Alternative site and downstream. The width of the San

[12] *Chang Consultants, Fluvial Study and Bridge Scour Analysis for the Proposed Gregory Canyon Bridge on the San Luis Rey River (June 2011).*

Luis Rey River is controlled through a series of rock and earthen levees on the north and south sides along much of its route to prevent flooding, but the river itself is not channelized.

A wetland and non-wetland waters of the U.S. delineation was performed from the low-flow channel of the river southward to the levee along the proposed bridge crossing along this section of the San Luis Rey. Wetlands were identified adjacent to the low-flow channel and extended southward, where the floodplain was determined to be non-wetland waters of the U.S. The wetlands in these locations had indicator features including hydrophytic vegetation and hydric soils based on stratified layers and hydrogen sulfide odor, and they met hydrology indicators based on oxidized rhizospheres, water-stained leaves, and the location of the water table three inches below the soil surface.[13] Wetlands and non-wetland waters of the U.S. are described in detail in Section 4.4, Biological Resources, of this EIS. The potential waters of the U.S. as illustrated in the November 2011 JD, are depicted in Figure 4.14-1, *Applicant's Proposed Alternative - Waters of the U.S*.

The USACE identified non-wetland waters of the U.S. along the San Luis Rey River based on OHWM indicators that were supported by research associated with ordinary events. The indicators in this section of the San Luis Rey River include bed and bank, drift, silt deposits, active sand and gravel sheets or benches, high-flow channels, and sparse vegetation with changes in texture of depositional materials and direct observation of flow patterns following storm events.[14] Wetlands were delineated from the point of the low-flow channel of the San Luis Rey and southward for a distance of about 200 feet. From the southern boundary of the wetlands, waters of the U.S. abutted and continued southward another 300 feet. At the proposed bridge crossing and north of the low-flow channel of the San Luis Rey River, wetlands continue until they intersect an abrupt change of topography that enters the mapped 500-year floodplain area on the north side. The low-flow channel for wetlands and waters on the north side of the San Luis Rey River were estimated based on similar vegetation and topography on the south side of the river and levee.

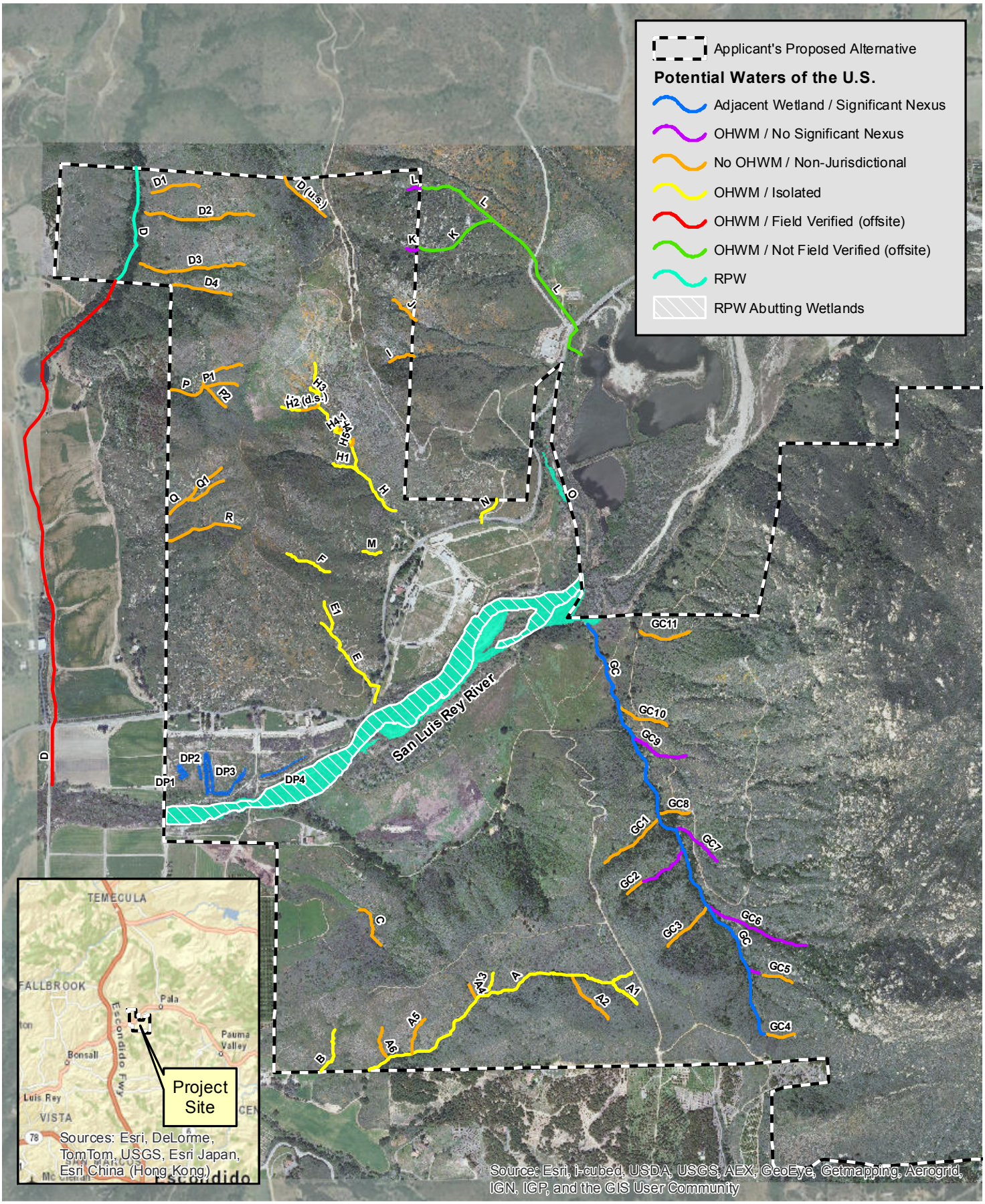
### Characteristics of Gregory Canyon Drainage

According to the USACE's January 2010 JD, a second order stream channel is located within Gregory Canyon (see Figure 4.14-1).[15] The channel traverses in south to north flow down a slope of approximately 25 degrees or greater. The channel itself is typically narrow, ranging from about 2 to 5 feet in width along most of its length until it crosses the base of the canyon in the toe slope area, where the slope is about 5 degrees and the width of the channel is about 15 to 30 feet. The channel itself is incised about 2 to 3 feet along most of the steeper slope positions and is contained in an incised channel of about 5 to 6 feet wide. The incised channel lacks eroded "wall" sides but is actively scowled along the base of the channel. The channel in the

[13] *Department of the Army, Los Angeles District, Corps of Engineers, Approved Jurisdictional Determination Regarding Presence/Absence of Geographic Jurisdiction, Figures 1a and 1b, Potential Waters of the U.S.; 5a, Wetland Delineation; and 5b, NWI and Westland Delineation, (November 2, 2011).*

[14] *Department of the Army, Los Angeles District, Corps of Engineers, Approved Jurisdictional Determination Regarding Presence/Absence of Geographic Jurisdiction (January 13, 2010).*

[15] *USACE Engineer Research and Development Center (ERDC) Final Gregory Canyon Report, Memorandum to Robert Lazor, (CEERD-EM-W, November 2, 2009, page 6), attachment to USACE Jurisdictional Determination (January 13, 2010).*




N

0 1,500 3,000 Feet

**Applicant's Proposed Alternative - Waters of the U.S.**

**Gregory Canyon**

Source: Aerial Express, 2009; PCR Services Corporation, 2012.

FIGURE

**4.14-1**

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steeper reaches is made up of a series of stepped dried pools of about 1 to 2 feet in height over boulders and then into pools constructed of an exposed sand deposit. In the sandy pools are deposits of transported materials moved by active water. In the lower stretch of the channel as it crosses the toe slope en route to the San Luis Rey River, the channel is flat bottomed and covered with sandy material. Unlike the steeper portion of the channel in Gregory Canyon, this section has shrubs and trees growing within the channel. Within the channel at various depths within a soil profile are large pieces of partially decomposed wood from tree branches and shrubs. In summary, the upper channel is composed of a stepped pool and boulder "falls" with exposed sand deposits in the pools and a lack of vegetation in the active part of the channel, while the lower and less sloped section is vegetated with trees and shrubs, has sandy fluvial soils that lack boulders, and is covered with a heavy leaf litter during years of low rainfall and surface flow. A series of OHWMs and wetland sample points were taken along the length of the channel in Gregory Canyon. As described in the 2010 JD, OHWM indicators were observed in the field within upper and lower Gregory Canyon; riffle/pool complexes were observed in upper Gregory Canyon; and wetland and secondary channels were observed at the confluence of the San Luis Rey River and Gregory Canyon.[16] Representative photographs of the Gregory Canyon drainage are provided in the 2010 JD and in the USACE's Final Determination Report.[17]

Gregory Canyon drains approximately 458 acres, ranging in elevation from approximately 300 feet amsl at the mouth of the canyon in the San Luis Rey River drainage to 1,200 feet amsl at the head of the canyon at the south. A prominent knoll extends into the drainage channel on the west side of the canyon mouth. As shown in Figure 4.14-1, the Gregory Canyon watershed is located entirely within the Gregory Canyon property. The stream that drains Gregory Canyon is representative of an ordinary active stream channel of the arid west. Maintaining an active appearance requires a minimum discharge corresponding to a low to moderate event (5- 10-year return interval). At the time data was collected by the USACE for the January 2010 JD, the field evidence indicated that the stream was ephemeral and primarily supported by runoff from rainfall. However, subsequent winter observations, including 2005, 2010, and 2011, the USACE observed flows following storm events that indicate groundwater discharge in high flow years. Photographs showing flow in Gregory Canyon in 2005 are contained in the 2010 JD.[18]

### Flooding Patterns

In San Diego County, flooding is a general or temporary condition of partial or complete inundation of normally dry land areas near water. According to the San Diego County General Plan EIR, the potential for flooding in the County is high.[19] The climate is semi-arid and the seasonal precipitation is highly variable in frequency, magnitude and location. Infrequent large bursts of rain can rush down steep canyons and flood areas unexpectedly. Flooding most frequently occurs during winter storms between the months of November and April, and occasionally during the summer when a tropical storm makes landfall in the region.

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[16] *USACE Approved Jurisdictional Determination Form, page 3 of 4 (December 15, 2009). Attachment to the USACE Jurisdictional Determination Memorandum (January 13, 2010).*

[17] *Significant Nexus Determination of Gregory Canyon to the San Luis Rey River Estuary (December 14, 2009) (Closure 4 to USACE Jurisdictional Determination Memorandum (January 13, 2010) and USACE ERDC Final Gregory Canyon Report, Memorandum to Robert Lazor, (CEERD-EM-W, November 2, 2009 (attachment to USACE Jurisdictional Determination (January 13, 2010).*

[18] *USACE ERDC Final Gregory Canyon Report, Memorandum to Robert Lazor, Figure 3a-c, Photographs Taken on January 10, 2005 of Water Flowing Across the Road Crossing (CEERD-EM-W, November 2, 2009). Attachment to USACE Jurisdictional Determination (January 13, 2010).*

[19] *San Diego County General Plan EIR, Section 2.8, Hydrology and Water Quality, page 2.3-21-25 (August 2011).*

Most flooding occurs over several days, but can also develop within a matter of hours, particularly in narrow valleys, or in desert alluvial fans that are prone to sheet flow. Flooding is commonly associated with the overflow of natural rivers or streams, but can also occur near low-lying areas not designed to carry water. In previous years, major storms have produced floods that caused significant property losses and resulted in extensive damage to public infrastructure throughout the County.[20] In addition to major storm events, flood risks also occur during periods of heavy rainfall in areas where land has been converted from pervious to impervious surfaces (e.g., grading, soil compaction, or installation of impervious services) or where vegetation has been cleared or reduced, such as after a wildfire. In such cases, the land loses its ability to absorb rainfall and more stormwater enters stream beds, river beds and reservoirs. The Hydrology Division of the County of San Diego Flood Control District is responsible for maintaining an historical database containing data from over 100 rain gauges.

According to the San Luis Rey Watershed Urban Runoff Management Program (WURMP), flood flow in the San Luis Rey River is limited to short durations. Flood discharges in the river are recorded throughout the basin at 32 United States Geological Survey (USGS) stream-gauging stations. The largest recorded flood occurred in January 1916 with a maximum discharge of 95,600 cubic feet per second (cfs) recorded at Oceanside. Since the completion of Henshaw Dam in 1924, the largest flood event (estimated to be a 40-year flood) occurred in February 1980 with an estimated peak discharge of 25,000 cfs at Oceanside and 15,000 cfs at the Monserate Narrows.[21]

The nearest rain gauge to the Applicant's Proposed Alternative site is the Fallbrook gauge, which is located approximately 10 miles northwest of the site (the gauge was the basis for the determination of mean annual rainfall in the stormwater analysis).[22] Based on USACE HEC-RAS computations of the San Luis Rey River floodway, including river channel slopes and detailed cross sections of the floodway, estimated flooding patterns of the San Luis Rey River at the Gregory Canyon site have been determined and are described below. Flood levels would be similar (although slightly higher) if the main channel has not experienced clearing due to a larger storm and surrounding areas are filled with chaparral or other vegetation.[23] Respective flood areas are illustrated in Figure 4.14-2, *Applicant's Proposed Alternative - San Luis Rey River Flood Map for the Gregory Canyon Site.*

As illustrated in Figure 4.14-2, existing conditions on the site during storm events are calculated to occur as follows:

- **10-year storm event:** There is a small island in between section 50+58.99 and 52+00 that is identified in the HEC-RAS[24] run; the vertical gap between water surface level and top ground surface of this island area varies from .0' to .78'. Since the accuracy of a 2 foot contour aerial utilized for this model is a half contour interval, and the maximum height above the 10 year storm surface between

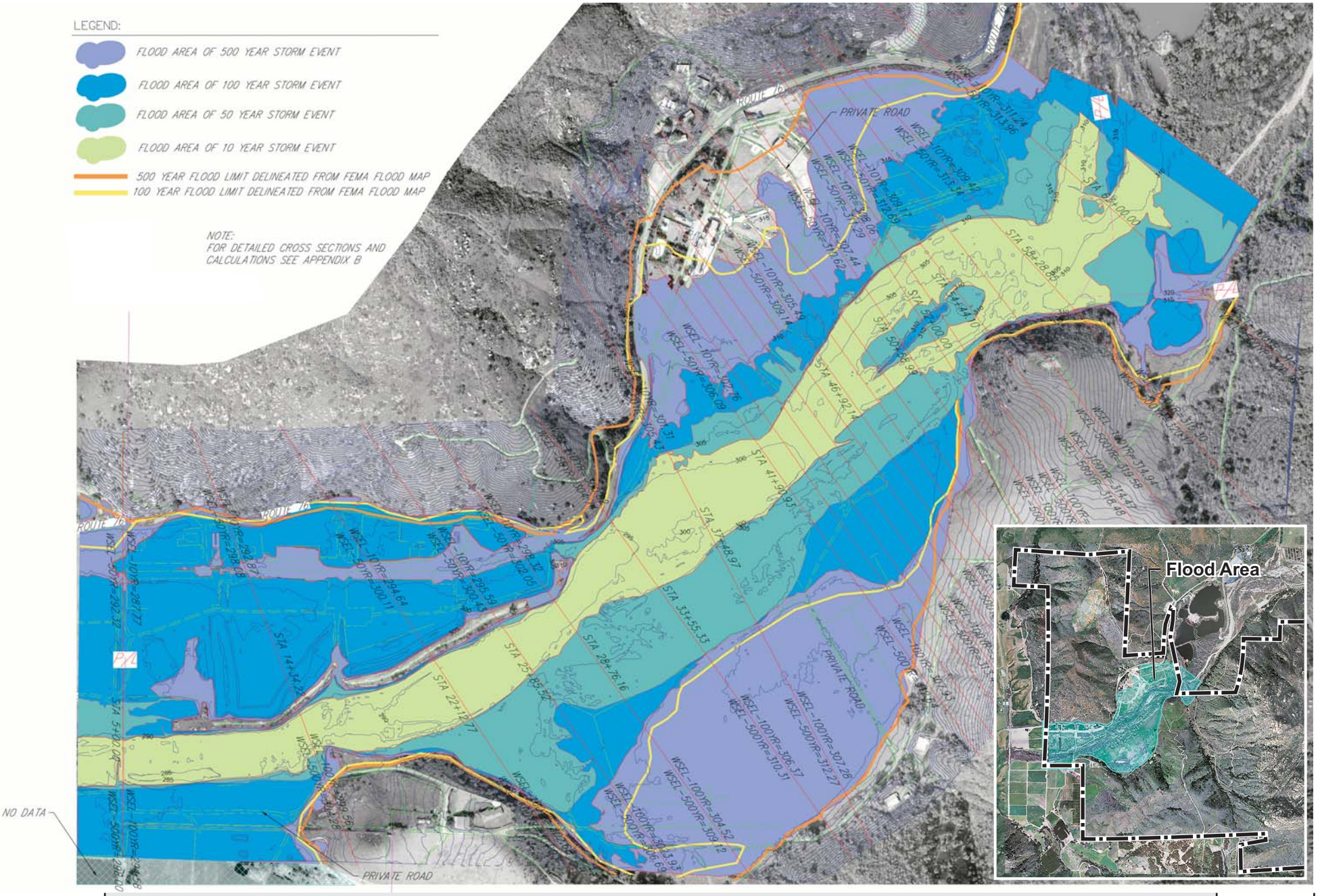
[20] *Ibid.*

[21] *California Regional Water Quality Control Board, San Diego District, San Luis Rey Watershed Urban Runoff Management Program, page I-11 (March 2008).*

[22] *JTD, Appendix I.1, Stormwater Management Plan for Gregory Canyon Landfill, page 2-2 (December 2007).*

[23] *Excel, Sensitivity Analysis for: Roughness Coefficient Utilized in the HEC RAS Analysis of the Gregory Canyon Reach of the San Luis Rey River page 4-7, (December 2011), contained in Appendix L of this EIS.*

[24] *HEC-RAS, version 4.1.0 January 2010, is used in the water level computations. HEC-RAS is USACE software used to determine flow conditions.*




N

0 600 Feet

## Applicant's Proposed Alternative - San Luis Rey River Flood Map

**Gregory Canyon**

Source: Excel Engineering, 2011.

FIGURE

**4.14-2**

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the river station is .78 feet this island area would be considered inundated or submerged for this calculation. The 10 year storm is contained within the existing channel.[25]

- **50-year storm event:** The 50-year storm exceeds the channel bank up to 600 feet past the existing channel.[26]
- **100-year storm event:** In this storm event, the flood area is more extensive ranging in width from 710 feet to 1,250 feet and covers existing uses adjacent to the river path including portions of SR 76.[27]
- **500-year storm event:** In this storm event, the flood area is the most extensive as compared to the 10, 50, and 100-year storm event. The 500 year storm flow covers a width ranging from 1,035 feet to 2,289 feet wide. The flooded area includes portions of SR 76 through the majority of the Gregory Canyon reach.[28]

Based on Balance Hydrologic's recommendation, an alternative scenario in which it is assumed that the main channel had not experienced clearing due to a larger storm, and in which the floodplains are filled with chaparral (unlike existing conditions, in which much of the floodplain has been grazed) was conducted. Under the alternative scenario, the projected 100-year channel flow is based on a "Roughness ("n") Factor" of 0.045 and the floodplain is based on an "n" factor of 0.05. The "n" factor is the degree to which vegetation slows the movement of the flood water and increases depth. The resulting 100-year floodplain is illustrated in Figure 4.14-3, *Applicant's Proposed Alternative - Flood Map Alternative with Value of 0.045 Main Channel; Value of 0.050 Floodplain.* With the higher "n" factor, the water level would increase by 0.65 foot in the100-year floodplain.[29] A comparison of Figure 4.1-3 with Figure 4.1-2 indicates that the 100-year floodplain would be similar under both scenarios (with and without the higher roughness or "n" factor).

Human activities including dams and reservoirs and former sand and gravel mining operations upstream from the Gregory Canyon property have disturbed the natural equilibrium of the stream channel and increased the potential for scour. Sand and gravel pits created by former mining along the San Luis Rey River include the Padre/Pankey operation at river miles 17.7 to 18.2, J.W. Mining, river miles 18.8 to 19.6, and Fenton/Hanson at river miles 21.4 to 22.1. The pits created by these operations have been partially or fully filled during floods on the river. The former Fenton/Hanson operation is immediately upstream from the Gregory Canyon property and the Padre/Pankey and J.W. Mining operations are located downstream from the Gregory Canyon property.[30]

At the Gregory Canyon Reach, the First San Diego Aqueduct pipeline bed is subject to scouring effects where it crosses under the river. Former Fenton/Hanson sand and gravel mining operations, which are located approximately 1,200 feet upstream of the San Diego First Aqueduct crossing, have created several major pits in the stream bed. A five-foot-high dike intended to separate the San Luis Rey River from the former sand and gravel extraction site was constructed in 1994. During storms exceeding a 10-year event, the 5-foot dike

[25] *Excel Engineering, Water Surface Analysis Study for Gregory Canyon, page 15 (March, 2011).*

[26] *Ibid.*

[27] *Ibid.*

[28] *Ibid.*

[29] *Excel, Sensitivity Analysis for Roughness Coefficient Utilized in the HEC RAS Analysis of the Gregory Canyon Reach of the San Luis Rey River, December 2011 (Appendix L of this EIS).*

[30] *Chang, Fluvial Study and Bridge Scour Analysis, June 2011, Figure 1, USGS Maps of the San Luis Rey River with Designated River Miles and Mining Sites (Appendix L of this EIS).*

is overtopped and portions of the streambed wash out. The dike also has the effect of constricting the river and increasing downstream deposition at the First San Diego Aqueduct crossing, as well as causing beneficial upstream deposition to counter scour effects. However, continued failure of the dike during large storm events would increase the potential for downstream scouring processes, particularly at the First San Diego Aqueduct crossing. The aqueduct crossing and the upstream dike on the Fenton/Hanson site are illustrated in Figure 4.14-4, *First San Diego Aqueduct Crossing and Fenton/Hanson Dike.*

### Water Quality and Beneficial Uses of the River

The November 2011 JD describes the San Luis Rey River as state-designated impaired water which is sometimes turbid. Impairment is based on total dissolved solids (TDS) and chlorides and local pollutants are identified as fertilizers, manure, pesticides, herbicides and other materials primarily associated with agricultural activities. Existing beneficial uses and water quality objectives are established by the RWQCB under the Basin Plan. Designated or observed beneficial uses for inland surface waters and ground waters adapted from the Basin Plan for the San Luis Rey River between Couser Canyon and Gomez Creek (Hydrologic Subarea 903.21), which would apply to the San Luis Rey River and the Gregory Canyon drainage (tributary), are municipal and domestic supply, agriculture, industrial services supply, contact and non-contact recreation, warm and cold freshwater habitat, and wildlife habitat.[31] Beneficial uses for municipal and industrial service supply are restricted. Approximately eight percent of the City of Oceanside's drinking water supply is pumped from wells in the San Luis Rey Valley groundwater basin and treated at a reverse osmosis plant before being distributed to Oceanside residents. Because the river itself has high levels of chloride and TDS, and the mouth of the river has had historical bacterial exceedances, the river is not used as a source of municipal drinking water.[32] However, surface waters provide beneficial uses for water- and non-water-contact recreation. The San Luis Rey River also supports dense riverine/riparian vegetation and maintains wildlife habitats. Surface waters and subsequent shallow ground water in the Pala Hydrologic Subarea provides warm- and cold-water habitats to sustain aquatic organisms, as well as providing a habitat suitable for fish spawning.

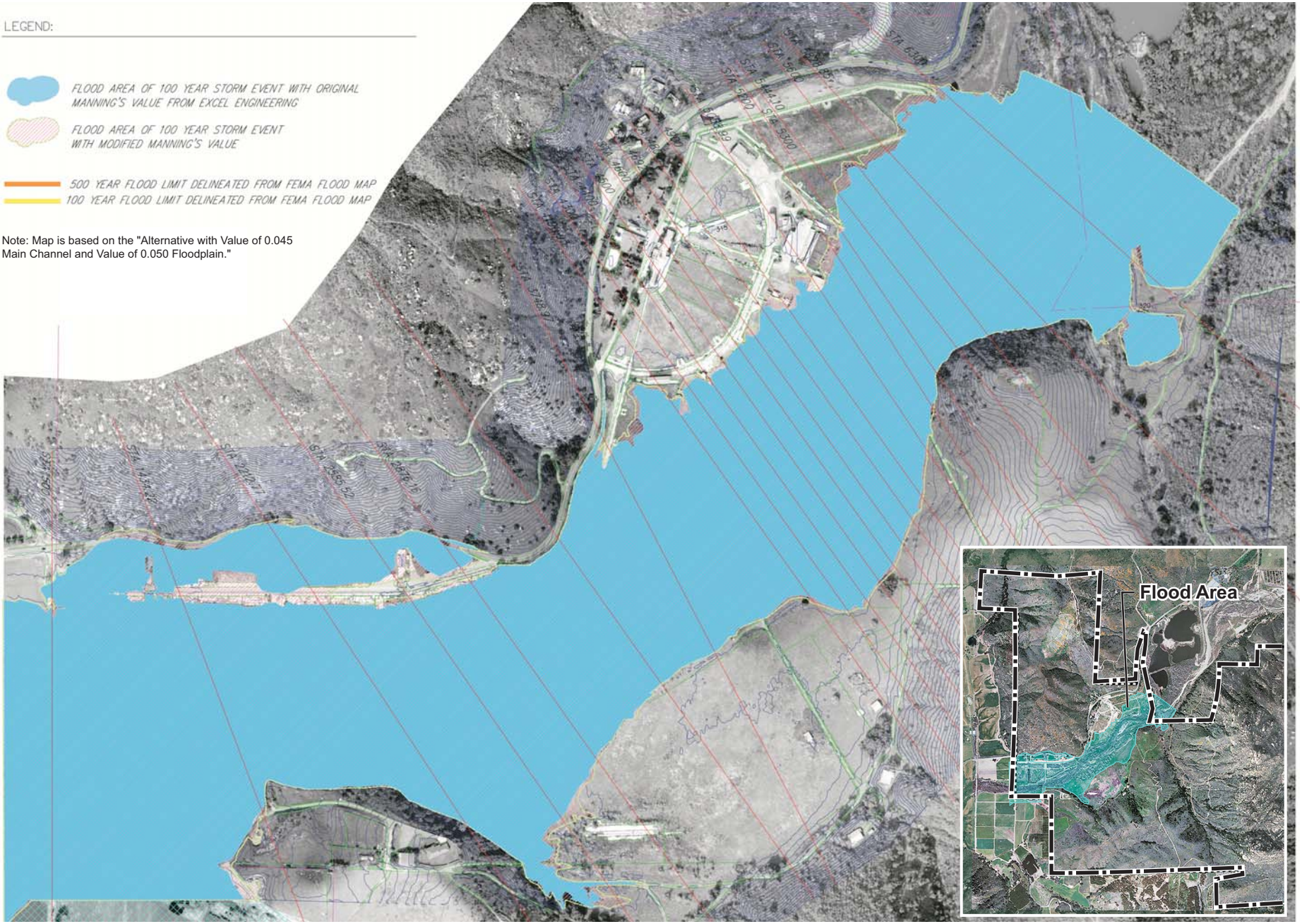
Under the San Luis Rey River WURMP, the San Luis Rey River is listed for 303(d) TDS (total of 19 miles), Chloride (lower 13 miles), and indicator bacteria (at the Pacific Coast shoreline) impairment. Total Maximum Daily Loads (TMDLs) and effluent limits have not been established for the San Luis Rey River. The WURMP has the goal of positively affecting the water quality of the WMA while balancing economic, social, and environmental constraints. This would be implemented through the following objectives: (1) Develop and implement a strategic plan to assess and improve water quality within the San Luis River WMA, which responds to identifiable problems and reflects the beneficial uses of the watershed; (2) Integrate watershed principles into land use planning that affects the WMA; (3) Enhance public understanding of watershed issues and pollution prevention within the WMA; and (4) Encourage and enhance public involvement within the WMA in activities related to urban runoff management.[33]

To address water quality problems, the WURMP identifies a series of watershed water quality and education activities and has focused on the potential sources that are most likely to be contributing the pollutants that

[31] *California Regional Water Quality Control Board, San Luis Rey Watershed Urban Runoff Management Program, March 2008.*

[32] *http://www.ci.oceanside.ca.us/ gov/water/ clean/ mass/sanluis.asp, accessed August 8, 2012.*

[33] *California Regional Water Quality Control Board, San Diego Region, San Luis Rey River Watershed Urban Runoff Management Program (March 2008).*




N

0 600 Feet

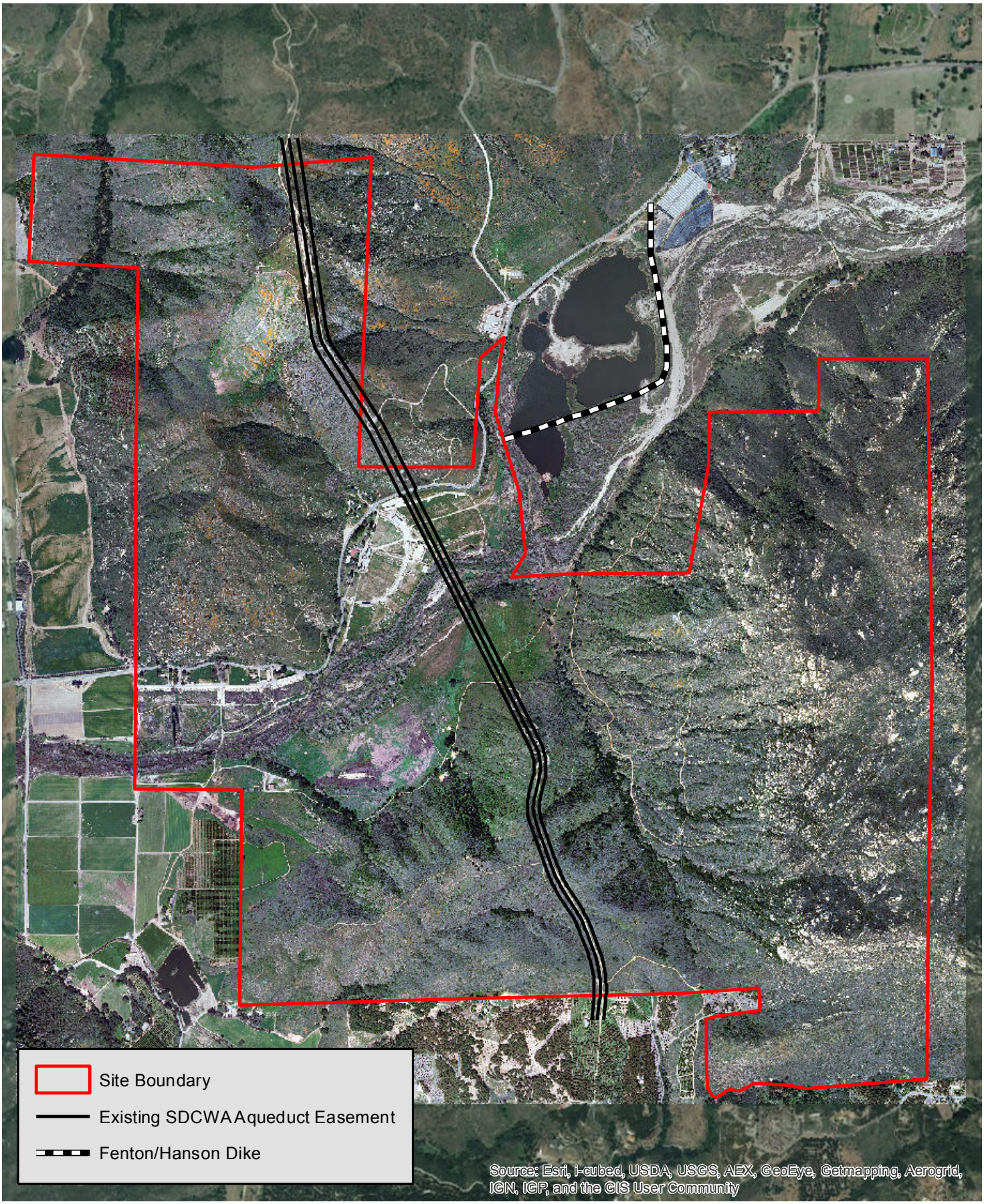
**Applicant's Proposed Alternative - Flood Map Alternative with Value of 0.045 Main Channel; Value of 0.050 Floodplain**

**Gregory Canyon**

Source: Excel Engineering, 2011.

FIGURE

**4.14-3**




N

0 1,600 3,200 Feet

**First San Diego Aqueduct Crossing and Fenton/Hanson Dike**

**Gregory Canyon**

Source: Aerial Express, 2010; PCR Services Corporation, 2012.

FIGURE

**4.14-4**

are causing the high priority water quality problems in the SLR WMA. Where receiving water conditions and pollutants sources are not clearly characterized, monitoring and source identification activities will be implemented. The Cities of Oceanside and Vista and the County of San Diego share the implementation responsibilities for the WURMP along with other interested stakeholders.[34]

### 4.14.3.2 Design Features from the Gregory Canyon EIR

The proposed landfill would be designed to meet all regulatory requirements regarding surface hydrology, including the development of a SUSMP in accordance with RWQCB regulations. The following design features would be included:

- Excavation in the river channel would be implemented upstream and downstream of the new bridge to maintain the 100-year flood elevations at or below existing elevations.
- The proposed bridge structure would be founded on deep pile-supported foundations to protect against potential stream scour effects. Standard seat type abutments on pile footing and five intermediate bents would be used to support the bridge superstructure. Seat type abutments would be protected from local scour by a surrounding blanket of rock slope protection and deeply founded concrete piles.
- To reduce scouring, rip-rap or some other protective material (e.g., armorflex.) would be used at the bridge abutments. It may also be placed at the low flow culvert at the south end of the bridge structure, and in limited areas along the banks of the access road south of the bridge. (The exact location of rip-rap placement would be determined during the final engineering design phase.)
- Sediment and erosion would be controlled with BMPs pursuant to regulations under the NPDES program, including the development of the project-specific SWPPP for review and approval by the RWQCB.
- The landfill working face and stockpile/borrow areas would be designed to direct runoff away from the landfill working face. On-site drainage features are designed to control stormwater that falls on the landfill and surrounding support facilities. The berm around the landfill deck perimeter would intercept stormwater flows and direct water into the downdrains which would convey the flows to perimeter channels. Water in the perimeter channels would flow into one of two desilting basins and would be tested prior to discharge to the San Luis Rey River.
- Before each rainy season, after each major storm, and monthly during the rainy season, all drainage facilities would be inspected and any required maintenance performed to ensure that the drainage channels and desilting basins function properly.

The following mitigation measure from Proposition C would be required under CEQA with implementation of the Gregory Canyon Landfill pursuant to a Mitigation Monitoring and Reporting Program (MMRP) adopted by the San Diego DEH on May 13, 2011. As this would be required as part of the project, it is referred to and considered to be a design feature in this EIS. The MMRP with the full text of the measures is included in Appendix A of this EIS.

[34] *Ibid.*

- **DF 4.4C5G**: **Compliance with applicable regulations.** *Requires compliance with all requirements of the Regional Water Quality Control Board to ensure protection of surface and underground water quality.*

## 4.14.3.3 Environmental Consequences and Mitigation Measures

### Surface Water Quality

*Criterion: An alternative would have a significant adverse effect if the alternative would result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Walter Quality Control Plan for the receiving water body.*

**Impact Statement Gregory HYDRO-1: With the implementation of BMPs, design features, and proposed mitigation measures, the construction, operation, and maintenance of the Applicant's Proposed Alternative would not result in discharges that would create pollution, contamination or nuisance for the San Luis Rey River, the receiving water body. Therefore, a significant adverse effect with respect to surface water quality would not occur.**

### Construction Impacts

Approximately 308 acres of the 1,770-acre site would be developed with the landfill and associated facilities, including the landfill footprint, borrow/stockpile areas, access roads, desilting basins, and ancillary facilities. The landfill footprint would comprise approximately 196.3 acres (including 13.2 acres for the relocation of SDG&E transmission line pads). The depth of excavation would range from about zero feet to a maximum of about 75 feet at the mouth of the canyon. The typical range of excavation depth would be 50 to 75 feet, with a gross excavation volume of 7.9 million cubic yards (mcy) (over the life of the landfill). As described in subsection 3.1.4 of this EIS, construction activities include initial construction[35] and periodic construction (i.e., the opening of additional phases/cells) and relocation of the SDG&E transmission lines.

Construction of the refuse area containment system (landfill) would require the mass excavation and removal of native material to generate a northerly sloping bottom area with interior side slopes on the west, south and east. The bottom area of the footprint would be graded to drain northerly at a minimum gradient of three percent. In addition to brush removal and excavation, landfill development would require crushing of excavated rock and concrete from the demolition of abandoned buildings on site. As during initial construction, during subsequent (or periodic) construction phases in the development of the landfill, material would be excavated from the footprint of the landfill.

In addition to the construction of the landfill footprint, initial construction would include the development of two borrow/stockpiles, haul roads to the stockpiles, realignment of approximately 1,700 linear feet of SR 76, a new asphalt-paved access road (with curbs) that would include a bridge over the San Luis Rey River. Ground clearing and excavation required for the development of these facilities could result in increased erosion due to soil exposure, dust, and increased velocities in stormwater runoff. The San Luis Rey River and

[35] *As described in subsection 3.1.4.1 of this EIS, initial construction activities would include demolition of existing structures, construction of the access road and bridge, realignment of SR 76, construction of ancillary facilities, Phase I excavation of the landfill footprint, crushing of rock and concrete debris, construction of subdrain system and desilting basins, construction of perimeter channels, preparation/use of Borrow/Stockpile A, and installation of monitoring wells.*

the intermittent stream in Gregory Canyon would be potentially exposed water bodies. Increased erosion could also lead to the deposition of sediment in downstream natural drainages and the San Luis Rey River.

To control such soil loss and potential water contamination, the SWPPP prepared for the Gregory Canyon site, in accordance with the alternative's SUSMP, would be required to comply with state and federal regulations under the NPDES program. The NPDES permit encompasses all federal guidelines regarding the discharge of stormwater. The purpose of the SWPPP is to identify potential pollutant sources that may affect the quality of discharges associated with construction and industrial activities, to identify non-stormwater discharges, and to design the use and placement of BMPs to effectively prohibit the entry of pollutants from the construction and industrial site into the storm drain system during construction and operation. Erosion and sediment source control BMPs must be considered for both active and inactive (previously disturbed) construction areas. BMPs for wind erosion and dust control are also included.[36] The SWPPP for the Applicant's Proposed Alternative incorporates BMPs in accordance with standard conditions and uniform codes adopted by the County of San Diego in accordance with the RWQCB and requirements of the CWA. BMPs are the regulatory requirements of both the SWRCB's Construction Activities General Permit and Industrial Activities General Permit and would be set forth under the required SWMPs. BMPs are defined regulatory requirements of the SWRCB permits as effective, practical means of preventing or reducing adverse effects.

As outlined in the preliminary SWPPP contained in Appendix D of the JTD, construction BMPs would provide both erosion control and sedimentation control. Erosion control includes maintaining vegetative cover to the extent feasible, use of erosion control seeding (such as hydroseeding), erosion control blankets, and lining swales. Sediment controls are structural measures that reduce sediment discharge from active construction sites by intercepting and settling out soil particles. These may include silt fencing, check dams, fiber rolls, gravel bag berm, street sweeping and vacuuming, stockpile management, spill preventions and control, and protection of any minor slopes created incidental to construction to be protected by plastic sheeting or tarps prior to any rain event and to provide vegetative cover within 180 days of completion of the slope. The implementation of these BMPs would control drainage and would reduce erosion and dust from exposed or stockpiled soils. BMPs are also intended to reduce pollutants from entering receiving water bodies via surface flow. Specific surface water control features for borrow/stockpiles areas and the landfill would include grading of the flatter deck areas to promote lateral runoff of precipitation into drainage control facilities such as downdrains and bench drains on the slopes. A detailed program for maintenance, inspection and repair of BMPs is also provided in the SWPPP. Specifically, inspections would be conducted as follows:

- Prior to a forecast storm;
- After a rain event that causes runoff from the construction site;
- At 24-hour intervals during extended rain events; and
- At any other time(s) or intervals of time specified in the contract documents.

Completed inspection checklists would be kept with the SWPPP. A tracking or follow-up procedure would follow any inspection that identifies deficiencies in BMPs.

[36] *JTD, Volume II-A, Appendix D.*

Grading for bridge construction and channel modifications could potentially increase erosion already occurring along the banks of the San Luis Rey River. However, BMPs (such as those noted above plus sediment basins, earth berms, rip-rap, diversion dams, etc.) would be implemented during bridge construction and channel modifications. Grading activities within the floodplain would be limited to the time of year specified by the USACE.

In addition to the SWPPP, the County WPO requires that all applications for a permit or approval associated with a priority project, such as a landfill, must be accompanied by a Major SWMP. The purpose of the SWMP is to describe how the project will minimize the short and long-term impacts on receiving water quality. As with the SWPPP, the SWMP requires the development of BMPs, Treatment Control BMPs, and to meet certain hydromodification requirements to minimize the potential for stormwater quality degradation and hydromodification impacts to the San Luis Rey River. The preliminary SWMP for the Applicant's Proposed Alternative is described in detail in Appendix I-1 of the JTD. Additional materials would be introduced to the site during construction, including moisture conditioned clays used to form an impermeable layer below the landfill prism and SOILTAC®. Water conditioned clays would have no effect on water quality. Although small particles would be subject to erosion if left exposed, because application of water to clays would occur prior to delivery, exposure of unwetted materials is not expected. Clays used for the construction of the liner are non-toxic and would not cause pollution of any surface waters. SOILTAC®, which is manufactured by Soilworks, LLC, would be used as a sealant/dust suppressant. SOILTAC®, is a polymer-based product that creates a flexible solid mass at the soil surface. Depending on the rate of application, SOILTAC® can provide a soil crust or at heavier application rates generate qualities similar to cement. More specifically, soil stabilizers/dust suppressants, such as SOILTAC®, work by binding to soil to prevent the generation of dust particles by wind or mechanical means such as driving upon treated unpaved roads. Although SOILTAC® is soluble in water, once the product cures (dries), the solubility is reduced, transport in storm water is minimized. However, because of the binding nature of this product, it is not likely that these products would be transported in water to other areas on the site. Vinyl chloride and acetone contained in SOILTAC® are volatile and evaporate quickly from water or soil, minimizing the possibility of transport to nearby water bodies.[37] Developed areas, including the internal haul roads on which the soil sealant would be used, are designed so that runoff would not discharge directly to the river. Because of the binding process of the SOILTAC® product, the evaporative properties of vinyl chloride and acetone, and the use of storm water BMPs, it is unlikely that vinyl chloride or acetone would impact nearby water bodies such as the San Luis Rey River.

Ecological toxicity tests have been performed for SOILTAC® for a range of animal species consistent with USEPA guidance. Test species used in the toxicity identification are sensitive to a variety of pollutants and would be representative of toxicity in other species. In general, USEPA uses fish toxicity data as a surrogate for aquatic-phase amphibians.[38] Toxicity data for Fathead Minnow (Fish) presented in the OSHA-mandated Materials Safety Data Sheets (MSDS) show that SOILTAC® is, in the words of the USEPA, practically non-toxic ($LC_{50}$>100 ppm) as defined in their ecological risk assessment guidelines.[39]

[37] *http://www.atsdr.cdc.gov/substances/index.asp, Accessed May 24, 2010.*

[38] *Technical Overview of Ecological Risk Assessment, http://www.epa.gov/oppefed1/ecorisk_ders/toera_analysis_eco.htm#WSAN, USEPA 2010.*

[39] *Ibid.*

With the implementation of BMPs to prevent direct runoff to the river during construction of the alternative, and because of the evaporative and drying properties of SOILTAC®, this product would not affect surface waters in a manner that would impact the beneficial uses of the water body.

During initial construction of the landfill, borrow/stockpiles, internal haul road, ancillary facilities, realignment of SR 76, access road, and bridge, and during periodic construction associated with opening new phases/cells at the landfill and changes in the borrow/stockpiles, surface water runoff from the site could be exposed to spills of oil or fuel from construction equipment, which could lead to adverse water quality effects if not addressed through a BMP. Therefore, as a BMP, all construction equipment would be prohibited from fueling adjacent to any natural or man-made drainage courses. Construction BMPs, which are described in detail in Appendices D and I-1 of the JTD, are illustrated in Figure 3-21, *Phase I Typical BMP Implementation*, in Chapter 3 of this EIS.

With implementation of BMPs set forth in the SWPPP and DF 4.4C5G, which requires compliance with applicable regulations of the RWQCB to ensure protection of surface and underground water quality, no significant adverse effects to surface waters during construction would occur. With the implementation of construction BMPs, the construction of the alternative would not result in discharges that create pollution, contamination or nuisance for the receiving water body.

### Operational Impacts

The Applicant's Proposed Alternative would be operated using the canyon and area fill method for refuse placement. This method of refuse disposal includes the excavation of an area, the stockpiling of the excavated soils, construction of the waste containment system and the placement of refuse. However, both at initial construction and during operation, the amount of area developed to accept waste would be limited by the development of individual cells, in order to reduce disturbance and avoid exposure of large areas at any certain time. Only a small portion of the entire refuse footprint would be excavated and prepared to accept waste during the initial construction phase. The first cell of Phase I would accommodate about 1.0 million tons of waste. Excavation and preparation of the next area would begin before the first cell is completely filled with waste. The size of the next cell would be dependent on the current and projected volume of the waste received. During the operational life of the landfill there would be times that construction to excavate and prepare the next cell would occur simultaneously with the landfill operation.

During operation, the landfill prism, the borrow/stockpile areas, unpaved road surfaces, and pavement within the facilities area would have the potential to expose surface runoff (from rainfall or surface water running onto the site) to soil particles and other pollutants. Because the landfill prism would be located within the Gregory Canyon drainage, rainfall and any off-site surface waters draining into the canyon would have the potential to drain toward the landfill prism. After such exposure, any such surface runoff has the potential to enter and pollute existing water bodies. The increase in impervious areas also has the potential to increase the volume and velocity of surface water runoff, which could result in uncontrolled erosion and possible sediment buildup in desilting basins. Any sediment buildup could reduce the effectiveness of the basins and energy dissipaters.

To address surface water pollution, the alternative's design features and SUSMP, which includes BMP's for the control of storm water and other surface water, would be developed consistent with NPDES General Permit requirements. The applicant must ensure that all earthwork activities and operation of the landfill meet the

provisions specified in the California RWQCB, San Diego Region, Order 2001-01, and NPDES No. CAS0108758 – Section F.2, to the satisfaction of the Director of Public Works.[40] As required by existing water quality control regulations, these plans and respective systems would reduce the potential for surface water contamination and erosion.

The primary function of the storm water drainage control system would be to divert and convey stormwater flows in a controlled manner, to minimize erosion, and to inhibit the potential infiltration of surface water run-on or precipitation into the refuse disposal areas. The drainage control system would consist of perimeter drainage channels, buried perimeter drainage pipes, drainage berms, downdrains, energy dissipaters, desilting basins, and infiltration areas. The proposed storm water control system would be designed to accommodate a 100-year, 24-hour storm event. A detailed description of this system is presented in subsection 3.2.1.2, Surface Water Drainage Facilities, in Chapter 3, Description of Alternatives, in this EIS. As described therein, surface water control would be handled by two separate systems, one collecting and conveying water from undisturbed areas and the other collecting and conveying water from disturbed areas. The system for undisturbed areas would collect and convey run-on from the surrounding areas as well as runoff from the undisturbed areas within the refuse footprint. A perimeter storm drain (PSD) system around the landfill footprint would consist of above ground perimeter drainage channels (i.e., the eastern and western perimeter channels) and energy dissipaters. The trapezoidal perimeter drainage channels would be constructed of reinforced concrete. The surface drainage plan is illustrated in Figure 3-20 in Chapter 3 of this EIS.

In addition to the drainage control system, a combination of BMPs, including erosion control mats, fiber rolls, straw wattle, straw/hay bale check dames, mulching, and hydroseeding to promote the establishment of a vegetative barrier to minimize exposure of soil from the elements, would be implemented in accordance with NPDES requirements as outlined in the SUSMP. Figure 3-22, *Applicant's Proposed Alternative - BMP Details and Sections*, in Chapter 3 of this EIS, presents BMPs details and sections that would be implemented during landfill operation. Once an area of the landfill is completed and native vegetation reaches a state of 70 percent coverage based on pre-development conditions, the stormwater flows from that area would be diverted into the perimeter drainage channels, which would not discharge downstream into the desilting basins.

Two desilting basins would serve as passive systems that collect and settle soil particles out of the water in a finite time period. The basins are designed to settle out material in the medium silt range to reduce the amount of silt ultimately discharged from the landfill site. The basins would not retain water. The eastern and western desilting basins are illustrated in Figure 3-23, *Desilting Basins*, in Chapter 3 of this EIS. Table 3-4 in Chapter 3 of this EIS provides a detailed description of the characteristics of the two desilting basins.

Additional treatment BMPs for the management of surface water runoff, which include outfalls for the landfill, desilting basins, and the facilities areas, associated with operation and maintenance of the landfill are presented in Appendix I.1 of the JTD and summarized below. These specific management measures are

[40] *The Gregory Canyon Landfill SWPPP, which was developed by URS in 2008 and amended by Bryan A. Stirrat & Associates in September 2010, contains the minimum BMPs and monitoring plans that should be implemented during the construction and initial operation phase. The SWPPP would be updated to reflect final grading and improvement plans and detailed long-term operational information. The SWPPP would require modification and amendment as the alternative progresses and as conditions warrant, and would require annual certification by the owner of compliance with SWRCB NPDES permits. A copy of the SWPPP is contained in Appendix D of the JTD.*

intended to prevent surface water pollution at each outflow and would reduce erosion that could affect water quality. The peer review of these management measures by Balance Hydrologics, Inc., provided recommendations that have been incorporated as mitigation measures in this section. Outfall design features are as follows:

- Outfall 1 - East Desilting Basin: This outfall would be the existing main canyon outlet point. Runoff from the eastside landfill operating area would be directed to a desilting basin that would provide both silt removal and some peak flow rate attenuation benefits. Runoff from the upper east canyon would be directed to the outlet in a perimeter drainage channel. To reduce the potential for increased flow rates and volumes, discharging the basin from the perimeter drainage channel would be directed with energy dissipation to an existing natural depression/infiltration area immediately east of the main canyon thalweg. The existing area has the required volume and infiltration rates to infiltrate proposed flow volumes to mimic natural conditions. However, Balance Hydrologics indicated that the potential exists that high groundwater levels during the wet season may inhibit infiltration and reduce the effectiveness of the proposed stormwater control. Erosion of the berm separating the depression from the San Luis Rey River could also occur if this discharge were not properly managed. In addition, the upper portion of the eastern perimeter drainage channel has a relatively low slope, which may be prone to deposition of sediment as a result of debris flows or other, similar sediment-laden flows (e.g., during large storms and/or following wildfire events). The accumulation of deposits in the perimeter channels could cause loss of capacity that could result in overflow from the channel and induce scour or gullying. Sediment could also accumulate in the infiltration area, resulting in reduced capacity and potentially reduced infiltration rates. To address these potential issues, MM Gregory SurfHydro-1 is proposed. With implementation of the proposed mitigation measure and design features that require inspection of all drainage facilities and any required maintenance performed before each rainy season, after each major storm, and monthly during the rainy season as well as compliance with all applicable regulations of the RWQCB no significant adverse effects at Outfall 1 would occur..
- Outfall 2 - West Desilting Basin: There is currently no existing defined outfall at the outlet from this desilting basin. Runoff from the west side of the landfill would be directed to a desilting basin that would provide both silt removal and peak flow rate attenuation benefits. Runoff from the upper southwest canyon would be directed with energy dissipation to the outlet in a perimeter drainage channel. Flows discharging the basin and from the perimeter drainage channel would be directed to the upland areas to the north and west of the desilting basin. Flows from the desilting basin and perimeter channels would be directed to level spreaders/energy dissipaters prior to discharge to the flat, highly permeable upland area. This design would allow for infiltration of all surface runoff from the west side of the landfill prior to reaching the San Luis Rey River. As identified in the peer review, any direct discharge of the western perimeter channel to the upland area or sediment clogging has the potential to create gully erosion. In order to ensure that flows are adequately spread to prevent erosion, MM Gregory SurfHydro-2 is proposed to require provisions in maintenance and monitoring plans to require spreaders to continue to operate adequately over the life of the alternative. With the implementation of the mitigation measure, no significant adverse effects at Outfall 2 would occur.
- Outfall 3 - Ancillary Facilities Area: Within the ancillary facilities area vehicular activities associated with routine operation and the receipt of refuse for disposal could result in trace petroleum hydrocarbons and tracking of sediments onto the paved surfaces of the facilities area including the queuing area for the fee booths and scales, main haul road, landfill equipment maintenance and re-

fueling areas. The source control BMPs to be implemented specific to the ancillary facilities areas would include dry measures such as cleaning the paved surfaces of sediment with a street sweeper and the use of absorbents for leaks and spills from vehicular activities. The equipment maintenance area has been designed to eliminate contact with stormwater by conducting operations in a covered area and diverting flows around the entire ancillary facilities area. In addition, the hazardous waste storage area, which is located in the ancillary facilities area, would be enclosed with secondary containment. Treatment control BMPs would consist of bio-filters around the draining perimeter of the facility. Bio-swales would be provided along the northwesterly side of the facility and, if required through site monitoring, bio-swales would be used along the drainage perimeter of the ancillary facility. At the time of final grading, bio-swales may be required along the northeasterly sides of the facility. The swales would be designed to treat runoff from the entire facility, assuming runoff would be directed via sheet flow to the swales. Porous pavement is not considered the best BMP solution at this location due to the heavy truck traffic and a fill slope condition along the northwesterly side of the pad where the runoff would be draining (infiltration above fill slopes is generally not recommended from a slope stability standpoint). Mechanical treatment with a media filtration device is considered a viable treatment control BMP option, but would be considered only if the swales are not considered feasible during detailed design.[41]

- Outfall 4 – Bridge (South): Runoff from the access road and bridge would be directed to overside drains or pipes that would discharge to energy dissipaters. Flows in excess of the water quality design flow (the amount that could be accommodated by overside drains), would sheet flow out into the relatively flat floodplain terrace area where infiltration would occur.
- Outfall 5 - Bridge (North): Runoff from the access road and bridge would be directed to overside drains or pipes that would discharge to small energy dissipaters. Flows in excess of the water quality design flow would sheet flow out into the relatively flat floodplain terrace area where infiltration would occur.

As discussed above, within the ancillary facilities area, dry management controls for sediment (i.e., sweeping) as well as absorbents for oil and gas releases would be implemented. The alternative would also include a storm drain inlet or outflow device from the ancillary facilities area (e.g., oil-water separators or other filtering devices required by the County stormwater discharge requirements) to protect surface water quality. Stormwater from the facilities area would be directed to a bioswale located to the west of the facilities area with structural media filtration at the end of the bioswale prior to discharge. Drainage from the landfill access road and the bridge would be to bioswales located on the east and west sides of the road and bridge, with structural media filtration.

Stormwater runoff from the bridge and access road would be treated with BMPs as described in the SWMP (see Appendix I-1 of the JTD) and would not be discharged to the San Luis Rey River's channel. Stormwater would be directed to both ends of the bridge and along the access road. Stormwater from the combined access road and bridge runoff would be directed to a series of energy dissipaters to ambient local ground levels to allow spreading and percolation of runoff in the unconfined basin formed by uplands outside of the San Luis Rey River channel. BMPs for treatment of stormwater runoff, including filtration dissipators to reduce velocity of runoff and other devices that would reduce runoff velocity and require infiltration of surface runoff prior to waters entering would protect water quality in the San Luis Rey River. Point sources

[41] *JTD, Appendix I.1, Updated Evaluation of Hydrogeomorphology and Beneficial Uses at Gregory Canyon, Section 3, Effects of the Project, page 3-2.*

and nonpoint sources of potential pollution would be controlled in accordance with water quality control plans and policies adopted by the SWRCB and San Diego RWQCB to protect designated beneficial uses of water.

Proper drainage control would be maintained in the borrow/stockpile areas. Surface water control features would include grading of the flatter deck areas to promote lateral runoff of precipitation into drainage control facilities such as downdrains and bench drains on the slopes. Surface waters from the borrow/stockpile areas would be conveyed and discharged into the existing natural drainage courses. Erosion control measures such as vegetation, desilting basins, sand bags, straw matting and/or rip-rap would be used to reduce downstream siltation potential for the borrow/stockpile areas. The internal haul road to Borrow/Stockpile Area A would be the existing dirt ranch-road alignment and would not be paved. Some alteration to the hydrology can be expected due to higher traffic volumes and the use of soil sealant for dust controls (which would reduce the infiltration capacity and increase runoff). As such, MM Gregory SurfHydro-3 is proposed to address runoff from the haul road and to implement standard erosion and stormwater control practices that would reduce concentration of flows. With the implementation of the proposed mitigation measure, no significant adverse effects would occur.

Surface water monitoring would be conducted to provide the RWQCB with data on the operational site containment system effectiveness. Surface water monitoring would be conducted to monitor seasonal surface water run-off at three proposed locations including samples within the landfill area (at the bottom of the canyon, if water is present), and within the San Luis Rey River, up and downstream of the point where the canyon intersects the river. Following rain events, sampling and testing of a downstream (compliance) location (GCSW-2) would occur in accordance with the site WDRs (see Chapter 3, Description of Alternatives). Surface water monitoring would be performed on a quarterly basis in accordance with the site WDRs, which would be issued by the RWQCB. The monitoring system is illustrated in Figure 3-24, *Applicant's Proposed Alternative - Proposed Detection Monitoring Network*, in Chapter 3 of this EIS. With the implementation of treatment BMPs, other water control measures under the SWMP, surface water monitoring, and proposed mitigation measures, operation of the alternative would not result in discharges that would create pollution, contamination or nuisance for the receiving water body.

With respect to site closure, a closure plan would be prepared and submitted to the appropriate regulatory agencies two years prior to the anticipated closure date of the landfill. The closure plan would include a proposed final cover design configuration in compliance with current state and federal regulatory requirements. The actual final cover to be placed on the landfill would be determined by the RWQCB with water pollution prevention as a foremost consideration at the time the cover is to be placed.

The closure plan would also address the final grading, permanent structural drainage features, stormwater management, and erosion controls in the borrow/stockpile areas. If the borrow/stockpile facilities were to be in existence at site closure, the interim environmental controls would be converted to permanent structures. The area would be graded to promote a drainage pattern as similar to the natural pre-developed drainage condition as possible. Permanent downdrains, bench drains, riprap pads, and other structural drainage features would be installed. Permanent erosion control measures (e.g., desilting basins, swales, and other features) would also be installed.

Permanent drainage in the landfill footprint would be constructed in conjunction with the landfill closure. Drainage facilities would control run-on, runoff, ponding and infiltration at the landfill. Closure of the landfill would entail requirements for the implementation of similar surface water quality protection measures as those described previously for operational effects. With permanent structural drainage features in accordance with BMPs, no significant adverse effects with respect to post-closure effects on surface water quality would occur. With the implementation of treatment and maintenance BMPs under the SWMP, the closure of the alternative would not result in discharges that would create pollution, contamination or nuisance for the receiving water body (the San Luis Rey River).

### First San Diego Aqueduct Relocation Option

The relocation option would relocate a portion of the aqueduct farther from the landfill footprint on the west side of the ridge (see Figure 3-16 in Chapter 3 of this EIS). After the relocation, if there were a rupture of the pipeline, any water would run to the west, away from the landfill footprint. If the aqueduct were relocated, exposed soils would be subject to erosion during construction activities and with the creation of a new access road. The existing access road would be left to revegetate, resulting ultimately in the same amount of disturbed area as under existing conditions. Construction and treatment BMPs would be implemented to reduce erosion potential and prevent surface water from entering the site's surface water bodies (the San Luis Rey River and the Gregory Canyon ephemeral stream). With the implementation of BMPs under the SWMP, the relocation of the aqueduct would not result in discharges that create pollution, contamination or nuisance for the San Luis Rey River.

#### Mitigation Measures

To ensure ongoing capacity of the drainage control system mitigation measures are proposed with respect to the capacity of infiltration areas and maintenance of system components. Mitigation measures would reduce significant adverse effects.

**MM Gregory SurfHydro-1**: Outfall 1: At final plan approval, as provided under the SUSMP, plans shall demonstrate that infiltration rates are not affected by seasonal-high groundwater levels in the designated infiltration area, (illustrated in the JTD, Appendix I.1, Stormwater Management Plan for Gregory Canyon Landfill, Figure 3) that sufficient capacity exists with seasonal high groundwater to provide control, and that the infiltration area has adequate capacity to accommodate any limitation caused by seasonal high groundwater. If capacity limitations are identified because of seasonal high ground water, the design of the designated infiltration area shall be adapted to accommodate this limitation. Adaptations may include adding berms to increase the capacity of the infiltration area without enlarging its horizontal extent. Design adaptations shall be consistent with acreages of infiltration areas presented in the JTD, Appendix I.1, Stormwater Management Plan for Gregory Canyon Landfill, Figure 3.

At final plan approval, as provided by the SUSMP, documentation shall be provided for review and approval to demonstrate that adequate routing and capacity of surface-water discharges during high-flow events (when stormwater volumes potentially exceed the capacity and infiltration rates of the designated infiltration area). Appropriate protection measures shall be included to prevent erosion of the outlet from the infiltration area.

Final designs and monitoring/maintenance plans shall address the potential for deposition of sediment within low-gradient portions of the perimeter channels. The eastern perimeter drainage channel shall discharge directly to the designated infiltration area. Allowances shall be made for maintenance of the infiltration area to remove sediment accumulation, and to rehabilitate loss of infiltration capacity due to silt clogging.

**MM Gregory SurfHydro-2:** Outfall 2: The western perimeter drainage channel shall discharge through level spreaders. Allowances shall be made for maintenance of the level spreaders and discharge areas to remove sediment accumulation to maintain adequate spreading to prevent gullying, and to rehabilitate loss of infiltration capacity due to silt clogging.

**MM Gregory SurfHydro-3:** Surface Roads: Final grading and erosion control plans shall include specific designs and measures for controlling runoff and associated sediment discharges from all dirt access roads, consistent with requirements set forth in the County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO), including design standards of the County SUSMP mandated by the WPO. Plans shall account for the fact that runoff rates may be increased due to the addition of soil sealant.

### Flood Hazard

*Criterion: An alternative would have a significant adverse effect if the alternative would place structures within a 100-year flood hazard zone or result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety and property due to flooding.*

**Impact Statement Gregory HYDRO-2: With the exception of a section of the access road and bridge abutments, the Applicant's Proposed Alternative would not place habitable structures or unanchored impediments within a 100-year floodplain area. Because the section of access road and bridge abutments would not increase or exacerbate flooding compared to existing conditions, the alternative would not have a significant adverse effect with respect flood hazard.**

The 100-year floodplain is illustrated in Figure 4.14-1. The proposed bridge and a portion of the access road would be located within the 100-year floodplain. The proposed realignment of SR76 would also encroach into the 100-year floodplain at its western limits. The deck of the bridge has been designed to be located above the 100-year floodplain elevation and as such, would not cause an obstruction to water flow that would exacerbate flooding. In addition, the location of a portion of the access road and SR 76 improvements would not increase flooding or cause secondary flooding within the property or downstream. The ancillary facilities area, including storage tanks, pipelines, debris basins, receiving office; landfill footprint; interior roadways, and borrow/stockpile areas would be located outside the 100-year floodplain.

During construction, the potential exists for the placement of unanchored impediments, such as construction equipment and piling forms, within the 100-year floodplain. However, the location of such equipment would be temporary in nature and the equipment would be moved out of the floodplain prior to anticipated storms.

No unanchored impediments would be located within the 100-year floodplain during the operation of the alternative.

An upstream dike associated with the former sand and gravel operation is prone to overtopping during large storm events (i.e., in excess of ten-year recurrence), and has the potential to affect flood patterns within the site. Future 100-year floodplain models have accounted for potentially varying conditions caused by the dike.[42] Mathematical modeling of the dike indicates that the dike would not increase the threat of flooding at the Gregory Canyon site. Because no habitable objects or unanchored impediments would be located within the 100-year floodplain, the alternative would not have a significant adverse effect with respect to this criterion.

Mitigation Measures

No significant adverse effects with respect to flood hazard would occur. No mitigation measures are proposed.

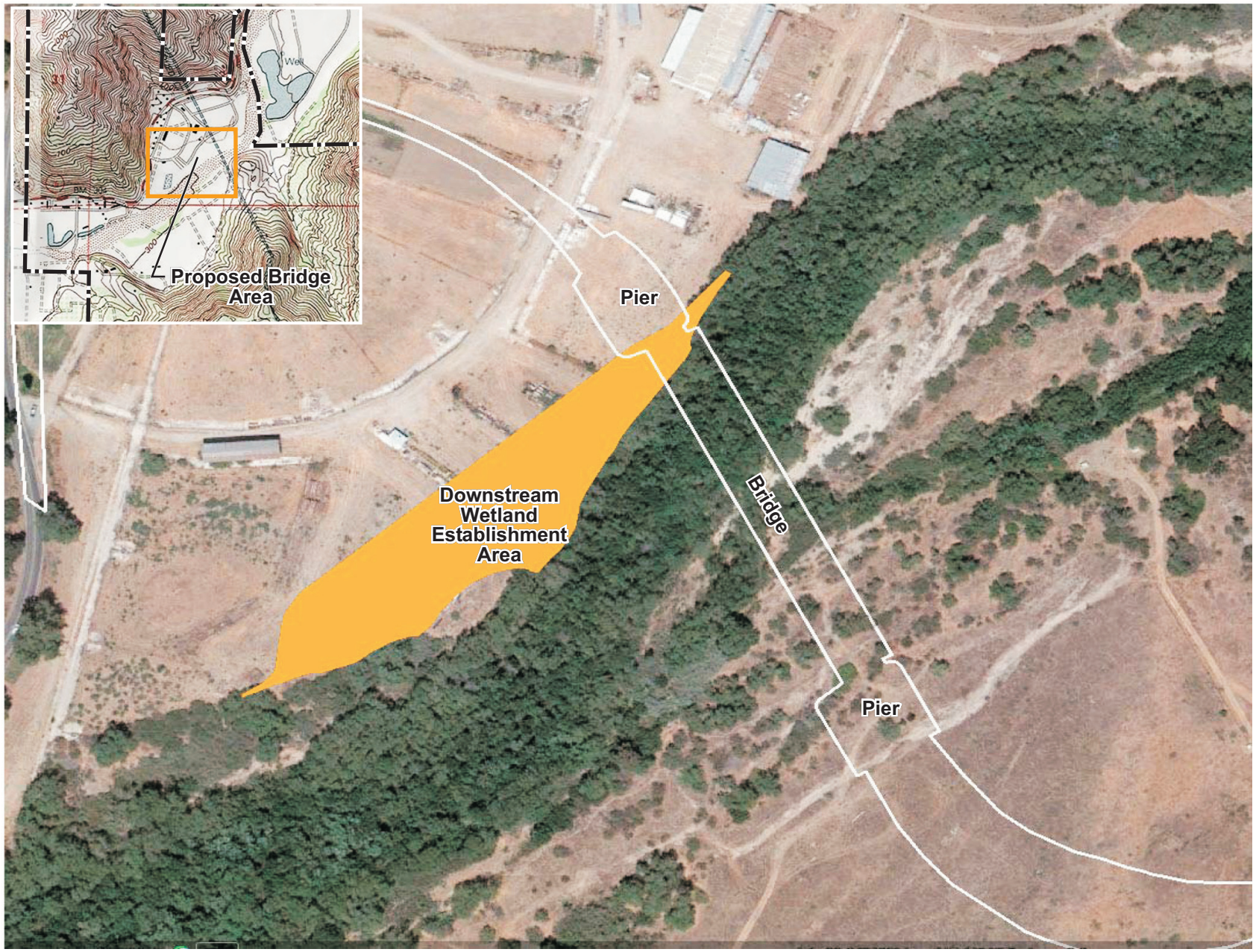
### Water Surface Elevation

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in the increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height and in the case of the San Luis Rey River 2/10 of a foot or more in height.*

**Impact Statement Gregory HYDRO-3: The Applicant's Proposed Alternative would not increase existing channel velocities and or increase existing flood elevations upstream and downstream of the bridge and habitat restoration area. Therefore, no significant adverse effect with respect to surface water elevation would occur.**

Development of the bridge would result in a localized constriction of the San Luis Rey River. For instance, pilings to support the bridge would be located within the river channel, which would constrict and affect the capacity of the channel. Bridge construction would cause approximately 0.194214 acre of San Luis Rey River waters of the U.S. to be filled (approximately 0.001839 acre for permanent bridge support piers and approximately 0.192375 acre for temporary construction access). Implementation of the proposed HRRMP would result in the establishment of a 2.3-acre jurisdictional wetland habitat along the northern bank of the river at the bridge location by excavating the current storage yard. The establishment of the wetland would include excavation to improve connectivity between the river channel and the wetland. This would improve river channel capacity and offset constriction caused by the bridge support piers. The bridge and proposed wetland area are illustrated in Figure 4.14-5, *Applicant's Proposed Alternative – Proposed Bridge and Adjacent Downstream Wetland* Establishment *Area.* The improvement in channel capacity would reduce any increases in 100-year flood elevations caused by the localized constriction of the river at the bridge and, as such, would not result in increases in water levels in the San Luis Rey River. The peer review for the SDCWA shows that surface water profiles for a 100-year flood event with and without the proposed bridge would cause no difference in the computed water surface elevations. As illustrated in the alternative floodplain diagram in Figure 4.14-3, vegetative growth in the floodplain would have minimal effect on the extent of flooding

[42] *Excel, Water Surface Analysis Study for Gregory Canyon (March 30, 2011), see Appendix L of this EIS.*

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**Applicant's Proposed Alternative - Proposed Bridge and Adjacent Downstream Wetland Establishment Area**

**Gregory Canyon**

Source: Chang Consultants, 2011.

FIGURE

**4.14-5**

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compared to existing conditions; however, baseline conditions with vegetative growth are calculated to be an average 0.46-inch higher than conditions without vegetative growth.[43] Because "with and without vegetation" are baseline conditions, they would have no relationship to relative increases in surface water levels with the development of the bridge and other alternative components.[44]

The proposed establishment of wetland habitat and floodplain modifications immediately downstream from the bridge have been designed to maintain the existing channel velocities and flood elevations upstream and downstream of those modifications. The proposed realignment and widening of SR 76, which would encroach into the 100-year floodplain at its western limits, and a section of the access road located within the floodplain would not cause any constriction of the floodway or increase flood water levels. This encroachment is minimal and would not impact the 100-year flood elevations or channel velocities.[45] In addition, surface water runoff from the site would be diverted away from the river and would not cause an increase in water levels caused by runoff from the site during storms. Therefore, with the new floodplain addition and excavation in the channel, existing channel velocities and flood elevations upstream and downstream of the bridge would be maintained. Development of the landfill and associated components would increase the site's impermeability and, thus, increase the rate and volume of storm water runoff. Design features, such as surface water control facilities that would direct surface water to desilting basins and outflows, and the use of infiltration basins at outflow areas, would control the rate and volume of storm water runoff. The redirecting of surface water from the impermeable landfill to outflows and infiltration areas would prevent these surface waters from entering the river during rain storms. Because additional surface water would be directed away from the river, the alternative would not cause an increase in the water level of the river. Therefore, with increases in channel capacity and implementation of water control facilities, the alternative would not alter the floodway in a manner that would redirect or impede flow or increase the surface water level of the river. No significant adverse effects with respect to this threshold would occur.

Mitigation Measures

No significant adverse effects relative to surface water elevations would occur. No mitigation measures are proposed.

### Floodway Alteration (Hydromodification)

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in increased velocities and peak flow rates exiting the site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site or provide substantial additional sources of polluted runoff.*

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[43] *Excel, Sensitivity Analysis for: Roughness Coefficient Utilized in the HEC RAS Analysis of the Gregory Canyon Reach of the San Luis Rey River (December 2011) contained in Appendix L of this EIS.*

[44] *The higher baseline conditions are reflected in the floodplain analyses in Figures 4.14-2 and 4.14-3. As shown in these figures, the higher baseline conditions (with vegetation and without vegetation) would be indiscernible with respect to flooding at a one-foot contour. However, the change in baseline conditions, which are existing conditions, would not affect the relative increase in water levels associated with the alternative. The relative increase is related to 2/10 of a foot over the existing condition, which may be variable depending on the presence of vegetation.*

[45] *Excel Engineering, Water Surface Analysis for Gregory Canyon (March 30, 2011) and Sensitivity Analysis for Roughness Coefficient Utilized in the HEC RAS Analysis of the Gregory Canyon Reach of the San Luis Rey River (December 12, 2011),.*

**Impact Statement Gregory HYDRO-4: With the implementation of treatment BMP's and design features, and proposed mitigation measures, the Applicant's Proposed Alternative would not impede or redirect flow in a floodway that would cause flooding downstream or cause substantial additional sources of runoff. Therefore, no significant adverse effect with respect to floodway alteration would occur.**

Development at the Applicant's Proposed Alternative site in the ancillary facilities area and landfill footprint would potentially increase surface water runoff resulting from greater areas of impermeability. Rational Method and the Unit Hydrograph Method were used to calculate flow rates from the site. The Rational Method was applied for the 100-year storm event and flow rates for lower storm events were determined based upon the ratio of rainfall intensity values assuming the same time of concentration and runoff coefficient. The Unit Hydrograph Method was used to simulate naturally occurring conditions within the canyon and calibrated based upon observed runoff events within Gregory Canyon.[46]

Rational Method runoff calculations indicate no increased flows within this area; however, the Unit Hydrograph Method hydrology calculations indicate the potential for increased flowrate and volume due to the proposed change in runoff patterns. Any new surface waters entering the river would potentially change the river floodway. To address this, treatment BMPs would be incorporated into the alternative to mimic the existing canyon flow in Gregory Canyon tributary to the San Luis Rey River. Reduction of water flow would be accomplished through the use of bio-swales and natural and/or infiltration areas described in the discussion of Outfalls 1 through 5, under Surface Water – Operational Impacts, above. Development of the landfill would result in establishment of channels around both sides of the landfill to direct occasional shallow concentrated flows past the landfill. The SUSMP provides BMPs for this type of stormwater runoff so that it would percolate into the floodplain of the San Luis Rey River as it presently does, without adverse hydromodification of the river. .

Design features which provide for inspection and required maintenance of all drainage facilities before each rainy season, after each major storm, and monthly during the rainy season, would ensure that drainage channels and desilting basins function properly. In addition, MM Gregory SurfHydro-1 and -2 would ensure that infiltration areas are of adequate size and capacity to receive the required water volume as well as the difference between the pre- and post-project condition runoff volumes for the 2- through 100-year storm events. The effect of these BMPs and mitigation measures would minimize the potential for hydromodification impacts (changes in flow) to the river resulting in runoff from the altered canyon. As such, no net increase in surface runoff from the developed area is anticipated. The borrow/stockpile areas are located in an isolated drainage area in the southwest portion of the Gregory Canyon site. Borrow/Stockpile Area A is located in the proximity of drainage area C (see Figure 4.14-1) and Borrow/Stockpile Area B is located in the area of drainages A, A1, and A4. As described in the USACE's 2010 JD, drainages C and A4 are small swale features and do not have OHWM or other indicators of flow. Drainages A and A1 are considered isolated. According to the USACE's 2010 JD, drainages A and A1 have OHWM characteristics, including bed and bank debris and silt along edges of drainages. However, these drainages flow into an agricultural area where the watercourse fans out, is very disturbed, and becomes bare ground vegetated with annual grasses with no OHWM potentially resulting from agricultural use of the area. As such, these drainages were also determined to be non-jurisdictional, with no evidence of connectivity to other water bodies in an ordinary rain year. Therefore, drainages in the vicinity of the borrow/stockpile

[46] *Calculations are contained in the JTD, Appendix I, Stormwater Management Plan for Gregory Canyon Landfill.*

areas are non-jurisdictional waters and isolated from the blue line stream in Couser Canyon and the San Luis Rey River. Because no change in permeability would occur, there would be no changes in existing drainage conditions. Therefore, development of the borrow/stockpile areas would not affect waters reaching Couser Canyon Creek or the San Luis Rey River.

Stormwater runoff from the bridge and access road would be treated with BMPs as required under the SUSMP and would not be discharged to the San Luis Rey River's channel. Stormwater would be directed to both ends of the bridge and along the access road. Stormwater from the combined access road and bridge runoff would be directed to a series of energy dissipaters to ambient local ground levels to allow spreading and percolation of runoff in the unconfined basin formed by uplands outside of the San Luis Rey River channel. With the implementation of the SUSMP and proposed mitigation measures, no additional surface water from Gregory Canyon or other areas of the site would enter the San Luis Rey River or cause the river floodway to be redirected or impeded in a manner that would increase velocities and peak flow rates that would cause flooding downstream. Therefore, the Applicant's Proposed Alternative would not have a significant adverse effect with respect to alteration of the floodway (hydromodification)

Mitigation Measures

MM Gregory SurfHydro-1 and -2, above, would reduce significant adverse effects related to floodway alteration.

### Scour

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology.*

**Impact Statement Gregory HYDRO-5: Alterations of the San Luis Rey River floodway, including the proposed bridge construction, under the Applicant's Proposed Alternative would not redirect or impede flow in a manner that would cause scouring in downstream areas. With the implementation of mitigation measures, the Applicant's Proposed Alternative would not cause significant local scouring at the bridge pilings. Therefore, no significant adverse scour effects would occur.**

The footings for the bridge have the potential to constrict water flow and cause general and local scour. General scour is related to the sediment supplied to and transported out of a channel reach, and local scour is due to any local obstruction to flow, such as by tree trunks, bedform, pipelines, pier supports and abutments. The maximum total scour at the bridge piers is the general scour plus the local scour. Simulated cross-sectional changes predict that the maximum general scour would reach the minimum bed elevation of 294 feet amsl at the bridge crossing.[47] It is generally recognized that the depth of abutment scour is directly related to the ratio of channel width to bridge opening width. On this basis, the proposed toe elevation for bank protection is 288 feet amsl. Balance Hydrologics, Inc. peer reviewed Chang's fluvial study and bridge scour analysis and expressed that the model is conservative and generally matches field conditions observed by Balance Hydrologics. However, Balance Hydrologics expressed the concern that Chang's analysis was based on a 1974 hydrology study prepared by the County of San Diego and not on more recent values used in

[47] *Chang, Fluvial Study and Bridge Scour Analysis, June 2011, pages 6 and 33, and Figures 26 and 27, Simulated Changes at Section 4600 and Simulated Changes at Section 4638, respectively (Appendix L of this EIS).*

Excel's 2011 surface water analysis. According the Balance Hydrologics, because the results of the scour analysis are considered similar to any based on Excel's hydrology analysis, the use of the 1974 study does not indicate an error in the modeling. The use of two varying sources, however, highlights a potential discrepancy in project documentation, if not the actual determination of potential impacts. [48]

According to Balance Hydrologics, Inc., flow conditions at the 100-year hydrograph modeled by the County and a 100-year hydrograph plus other smaller events that would be expected over a 100-year period were modeled by USACE methods, which do not include episodic or watershed disturbance effects (such as fires and landslides). Because this is an increasingly unrealistic assumption in southern California, the flow conditions in the Chang report do not consider the potential for additional loadings of the channel with sediment and wood. For instance, the presence of large wood growing in the channel upstream from the bridge could increase the potential for local scouring at the bridge. To ensure that potential local scour at the bridge is adequately addressed, Balance Hydrologics, Inc. recommends MM Gregory SurfHydro-4, which requires deeper pilings beyond that required for actual piling width, and MM Gregory SurfHydro-5, which requires a debris monitoring and removal protocol to minimize the cumulative effects of captured debris at the bridge piers. With the implementation of the proposed mitigation measures, no significant adverse effects with respect to scouring at the bridge would occur. It is further noted by Balance Hydrologics, Inc., that although the scour highlighted in Chang's model is appropriate for the analysis, scouring is not likely to occur at the described magnitude under real-world, post-project conditions. For instance, the model does not consider vegetation, which could buffer the effects of scouring, particularly during higher-frequency events.[49] Also, as described as a design feature, protective materials would be used at the bridge abutments. Protective material may also be placed at the low flow culvert at the south end of the bridge structure, and in limited areas along the banks of the access road south of the bridge. The exact location of protective material placement would be determined by the San Diego County Department of Public Works during the final engineering design phase and would be subject to USACE approval.[50]

Scour could also affect a segment of the river both upstream and downstream of the bridge. However, proposed bridge and floodplain modifications per the HRRMP, which would require excavation for the establishment of a wetlands comprising 2.3-acre at the bridge site, would maintain the existing channel velocities and flood elevations upstream and downstream of these modifications. Erosion control measures (BMPs) would also minimize erosion with scour protection and velocity dissipation.

Mathematical modeling of flood conditions include: (1) the 100-year flood and (2) the flood series that may be expected in a 100-year time span. Modeled longitudinal channel bed profiles indicate that changes in bed elevations in a 100-year event are limited, but that the channel bed near the bridge and SDCWA First Aqueduct crossing could undergo greater scour during the modeled flood series. With pit capture resulting from the upstream gravel pits, general bed degradation covers a long river reach and is primarily related to cut-off of sediment because of pit capture. However, modeling of cases before and after the bridge and wetland development indicates that the differences are insignificant. Based on this modeling, it is concluded that the bridge and establishment of new wetland would not have significant adverse effects on the changes in the longitudinal channel bed profile (Chang 2011).

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[48] *Balance Hydrologics, Inc., Technical Review of Hydrology Studies, October 2012, page 4.*

[49] *Balance Hydrologics, Inc., Technical Review of Hydrology Studies, October 2012, page 6.*

[50] *As discussed in Section 4.4, Biological Resources, of this EIS, no steelhead are found in this reach of the San Luis Rey River. Thus, steelhead would not be affected by rip rap or other protective material at the bridge abutments.*

Simulated cross sectional changes in at the crossing of the First San Diego Aqueduct pipelines (which cross the San Luis Rey River at river mile 21.025 upstream from the bridge) performed by Chang, indicate that the minimum ground cover of 6 feet below general scour is considered essential for the stability of the buried pipelines. Because pipelines buried under a stream bed must always stay beneath the ground cover, any exposure by potential stream bed scour is considered inadequate support because a buried pipeline is usually not designed to support itself. Local scour may be caused by any local obstruction to flow and if a pipeline is exposed, then, the pipeline itself becomes an obstruction to flow. Turbulence so created would usually result in additional local scour around the pipeline. Modeled results indicate that general scour alone would not reach the pipeline during the next 100-year flood but would reach the pipelines during the flood series. The maximum general scour during the 100-year flood would reach bed elevation that would be about 6 feet above the pipeline. In consideration of the total scour (general scour plus the local scour), the analysis concluded that the pipeline would be subject to exposure to the potential scour that currently exists (prior to the development of the bridge and wetland establishment). Simulated results show that the patterns of change for the scouring at the pipeline, before and after the bridge/wetland development, would be similar. Because the existing potential for scouring at the pipeline is unrelated to bridge development and because the proposed bridge would not exacerbate conditions at the pipeline, the proposed bridge would not adversely affect conditions at the pipeline. Modeling also indicates that the proposed bridge/wetland development would have insignificant effects on the changes in cross sectional and longitudinal channel-bed profiles at the aqueduct crossing.[51]

Also, according to AECOM, the proposed bridge would not impact the long term morphology of the river system. AECOM states that the contraction scour as determined by FHWA procedures would have an "insignificant impact on the San Luis Rey river system."[52] AECOM also states that the proposed bridge would not impact SDCWA's pipelines. The present study indicated that long term scour, channel bed degradation, would occur in the San Luis Rey River at the pipeline location and would be as much as eight foot lowering of the stream bed channel, as a result of the river's existing flow characteristics. AECOM states, however, that "long term scour will occur with or without the proposed bridge; therefore, the magnitude of the long term scour would be irrelevant."[53] No adverse scouring effects on the aqueduct pipelines would occur as a result of the bridge and wetlands. Although potential scouring would occur at the bridge piers, the implementation of MM Gregory SurfHydro-4 would reduce the effects of local scouring on the bridge piers. Therefore, the alternative would not cause a significant adverse effect with respect to alteration of the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology that would cause downstream scouring.

## Mitigation Measures

The following mitigation measures are proposed to reduce potential scour impacts at the bridge:

**MM Gregory SurfHydro-4: Bridge Design.** When selecting bridge piling depths to address local scour, the depths of piers shall be based on the assumption that design parameters for piers are two feet wider than actual to account for potential debris build-up (this would result in deeper pilings than indicated in the guide presented in Table 3 of the *Fluvial*

[51] *AECOM. Gregory Canyon Projects San Diego Water Authority, pages 7, 10, and 15 (May, 2012).*

[52] *AECOM. Gregory Canyon Projects San Diego Water Authority, page 4 (May, 2012).*

[53] *AECOM. Gregory Canyon Projects San Diego Water Authority, page 5 (May, 2012).*

*Study and Bridge Scour Analysis for the Proposed Gregory Canyon Bridge on the San Luis Rey River* (Chang, 2011).

**MM Gregory SurfHydro-5: Debris Monitoring**. A debris monitoring and removal protocol shall be developed to minimize the potential cumulative effects of "wracked" debris at the bridge piers. Some debris accumulation may be acceptable, but large debris jams shall be removed and broken up, as feasible.

## 4.14.4 NO FEDERAL ACTION ALTERNATIVE

### 4.14.4.1 Affected Environment

The No Federal Action Alternative generally represents existing conditions at the Gregory Canyon site. Therefore, the affected environment for the No Federal Action Alternative is the same as that for the Applicant's Preferred Alternative. Refer to Subsection 4.14.3.1 for a detailed description of the affected environment for hydrogeology at the Applicant's Proposed Alternative.

### 4.14.4.2 Design Features

The site would be maintained as a conservation bank containing permanent open space. The conservation bank use would potentially result in some ground disturbance in areas that are designated and required to be restored for their habitat value. To address the potential effects of these activities on the quality and amount (velocity and volume) of surface water runoff, a design feature consistent with Mitigation Measure 4.4C5TG from the MMRP would be implemented under the No Federal Action Alternative. This design feature obliges compliance with all requirements of the RWQCB, including implementation of BMPs, to ensure protection of surface water quality during any ground disturbance.

### 4.14.4.3 Environmental Consequences and Mitigation Measures

#### Water Quality

*Criterion: An alternative would have a significant adverse effect if the alternative would result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Walter Quality Control Plan for the receiving water body.*

**Impact Statement No Federal Action HYDRO-1: The No Federal Action Alternative would not involve any development activities or impacts to water quality compared to existing conditions. Therefore, the No Federal Action Alternative would not have an adverse effect with respect to water quality.**

The No Federal Action Alternative would generally maintain existing conditions and practices on the site. However, if permitted by the USFWS, the site would be used for a conservation bank for biotic resources. The No Federal Action Alternative would not require the construction of a bridge, access road, or other new structures. Existing structures would remain on the site but no maintenance would be undertaken to restore and/or maintain the buildings. Because no further construction or changes in the site would occur under the No Federal Action Alternative, no further changes in surface water runoff or generation of new pollutant

sources would occur. With the implementation of construction BMP's and the design feature described above, the alternative would not have an adverse effect with respect to this criterion.

Mitigation Measures

Impacts relative to water quality would not be adverse and no mitigation measures are proposed.

### Flood Hazard

*Criterion: An alternative would have a significant adverse effect if the alternative would place structures within a 100-year flood hazard zone or result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety and property due to flooding.*

**Impact Statement No Federal Action HYDRO-2: Under the No Federal Action Alternative, no habitable structures or unanchored impediments would be permanently located within a 100-year floodplain area. Temporary construction equipment in the floodplain could be moved in the event of a storm. Therefore, the No Federal Action Alternative would not have an adverse effect with respect to flood hazard.**

Under the No Federal Action Alternative, the construction of a bridge, access road, or other new structures would not occur. No new structures would be located on the property. Existing structures would remain on the site but the buildings would not be habitable and no maintenance would be undertaken to restore and/or maintain the buildings. The No Federal Action Alternative would not require the placement of any unanchored permanent unanchored structures in the floodplain. Therefore, this alternative would not have an adverse effect with respect to flood hazard.

Mitigation Measures

Impacts relative to flood hazard would not be adverse and no mitigation measures are proposed.

### Water Surface Elevation

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in the increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height and in the case of the San Luis Rey River 2/10 of a foot or more in height.*

**Impact Statement No Federal Action HYDRO-3: The No Federal Action Alternative would not involve any development activities or changes that would affect existing surface water conditions. Therefore, the No Federal Action Alternative would not affect the water level and would not have an adverse effect with respect to water surface elevation.**

The No Federal Action Alternative would not require the construction of a bridge within the floodway or construction of facilities or roads that would cause constriction of the river or an increase in the

impermeability of the site. Because no facilities would be constructed within the floodway and no other alterations of the floodway would occur, the alternative would not cause an increase in the river's surface level of more than 2/10 of a foot over existing conditions. Therefore, no adverse effect would occur with respect to the river's water surface elevation.

Mitigation Measures

Impacts relative to surface elevation of the river would not be adverse. No mitigation measures are proposed.

### Floodway Alteration (Hydromodification)

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in increased velocities and peak flow rates exiting the site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site or provide substantial additional sources of polluted runoff.*

**Impact Statement No Federal Action HYDRO-4: The No Federal Action Alternative would not involve activities that would increase velocities or peak flows in the San Luis Rey River or cause an increase in the downstream flooding. Therefore, the No Federal Action Alternative would not have an adverse effect with respect to this criterion.**

Under the No Federal Action Alternative the site would be maintained in its existing condition (open space) with a conservation bank. Therefore, no changes would occur on the site that would affect downstream flooding compared to existing conditions. As such, the No Federal Action Alternative would not have an adverse effect with respect to floodway alteration.

Mitigation Measures

Impacts relative to hydromodification would not be adverse. No mitigation measures are proposed.

### Scour

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology.*

**Impact Statement No Federal Action HYDRO-5: The No Federal Action Alternative would not involve any development activities or changes that would affect existing surface water flows or conditions and, as such, would not alter the floodway. Therefore, the alternative would not have an adverse effect with respect to scour.**

The No Federal Action Alternative would not require the construction of a bridge within the floodway. Because no development is associated with the No Federal Action Alternative, it would not change existing conditions or cause any alteration of the floodway. Potential scouring at the First San Diego Aqueduct pipelines would occur with or without development since it is related to the flows in the river under existing

conditions. The No Federal Action Alternative would not result in any changes compared to existing conditions or have an adverse effect with respect to scour.

Mitigation Measures

Impacts relative to scouring would not be adverse. No mitigation measures are proposed.

## 4.14.5 ASPEN ROAD ALTERNATIVE

### 4.14.5.1 Affected Environment

The Aspen Road Alternative site is located within the Santa Margarita River WMA. The Santa Margarita River WMA is the second largest in the County, covering more than 473,971 acres. Approximately three quarters of the watershed is located in Riverside County and about one quarter located in San Diego County. The WMA contains the Santa Margarita River, Temecula Creek, Murrieta Creek, Rainbow Creek, and other streams and reservoirs. Eight water bodies in the Santa Margarita River WMA have been placed on the CWA 303(d) list, including Rainbow Creek.

The Santa Margarita River Watershed Management Plan (WMP), which includes a high priority water quality program, identifies sedimentation as an issue within the river basin. The Santa Margarita River is considered to be in a critical period related to rapid growth that is occurring in the upper reaches of the river in Riverside County. The strategy to developing the Plan was to: (1) gather existing data and gain an understanding of the dynamics of the stakeholder group: (2) identify and prioritize the stakeholders' concerns; (3) analyze the existing data; and (4) address these concerns with specific actions and an implementation strategy.

Notable drainage features nearest the Aspen Road site are Rainbow Creek and Temecula Creek to the south and west of the site, respectively. Rainbow Creek runs through the southeast quadrant of the property and a section of Rainbow Creek, and other drainages within the site that potentially feed Rainbow Creek, are estimated to constitute approximately 18,296 linear feet and 1.6 acres of potential jurisdictional waters of the U.S. within the site. An RWQCB staff report, *Basin Plan Amendment and Technical Report for Total Nitrogen and Total Phosphorus Total Maximum Daily Loads for Rainbow Creek*, was approved for Rainbow Creek in 2005. The staff report established a TMDL program to address water quality impairment due to nitrogen and phosphorous. The Basin Plan was amended to provide a problem statement, numeric targets, source analysis, load allocations, linkage between numeric targets and pollutants, a margin of safety, a discussion of seasonal variation and critical conditions, and an implementation plan and monitoring strategy. Primary sources of contamination in Rainbow Creek are considered to be agricultural operations and septic tank disposal systems, which are now prohibited in Rainbow Valley. The San Diego County General Plan has also identified impairment of Rainbow Creek associated with high levels of iron, sulfates, and TDS.

Terrain in the Aspen Road area is highly varied and characterized by ridgelines with moderate to steep slopes and narrow valleys. Site elevations on the Aspen Road Alternative site range from approximately 1,475 feet asml near the eastern boundary to approximately 820 feet amsl in the Rainbow Creek Drainage at the southern portion of the site. Surface flow in the Rainbow Creek-stem drainage, which is represented as an intermittent blue line stream on USGS maps, flows southward in a minor tributary to an unnamed stream that joins Rainbow Creek located approximately than 1,000 feet southwest of the site boundary. Rainbow

Creek flows into the Santa Margarita River, located approximately 3 miles to the west. Sources of surface water on the site are rainfall and an active spring deriving from perched groundwater in the underlying rock formations. Species occur at several locations in the southeast portion of the site, suggesting the presence of USACE regulated wetlands.

### 4.14.5.2 Design Features

The Aspen Road Alternative would be designed to meet all regulatory requirements regarding surface hydrology, including the development of a SUSMP and Monitoring and Reporting Plan to ensure protection of surface and groundwater quality in accordance with RWQCB regulations. The SUSMP would be required to prevent direct surface runoff to Rainbow Creek. As with the Applicant's Proposed Alternative, the Aspen Road Alternative would include environmental monitoring and control systems, including the water conveyance and water quality monitoring system.

### 4.14.5.3 Environmental Consequences and Mitigation Measures

#### Water Quality

*Criterion: An alternative would have a significant adverse effect if the alternative would result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Walter Quality Control Plan for the receiving water body.*

**Impact Statement Aspen HYDRO-1: With the implementation of BMPs the construction and operation of the Aspen Road Alternative would not result in discharges that would create pollution, contamination or nuisance for the receiving water body (Rainbow Creek). Therefore, the alternative would not have a significant adverse effect with respect to water quality.**

The approximately 456-acre site would be developed with an approximately 165-acre landfill footprint and approximately 17 acres of borrow/stockpile areas. The landfill footprint would have a typical range of excavation depth of 20 to 70 feet, with a localized excavation depth of approximately 100 feet. Gross excavation volume of would be approximately 10.0 mcy. Three desilting basins would be located on the site. The 1.75-mile access road would be constructed at a width of 20 feet, which would comprise approximately 4.2 acres of ground disturbance.

Ground clearing and excavation required for the development of the site and associated facilities could result in increased erosion due to soil exposure (vegetation removal) and increased velocities in stormwater runoff. Construction of the refuse area containment system and other components would require the mass excavation and removal of native material. Increased erosion could also lead to the deposition of sediment in downstream natural drainages.

As with the Applicant's Proposed Alternative, a SWPPP and SWMP, which are required components of the County's SUSMP, would be developed to provide BMPs to control potential erosion and water contamination in accordance with RWQCB requirements. Standard construction BMPs would reduce pollutants resulting from exposure of stockpiled soils and eroded materials and would prevent such from entering surface water runoff. Construction BMPs may include the use of silt fences, fiber rolls, stockpile management, spill

preventions and control, and protection of any minor slopes created incidental to construction to be protected by plastic sheeting or tarps prior to any rain event and to provide vegetative cover within 180 days of completion of the minor slope. Stormwater BMPs would be similar to those represented in Figure 3-21, *Applicant's Proposed Alternative - Phase I Typical BMP Implementation*, in Chapter 3 of this EIS. All excavations for the landfill, roadway, and facilities, would maintain positive drainage consistent with existing drainage patterns at the edges of the site.

During construction of the landfill, surface water runoff from the site could be exposed to spills of oil or fuel from construction equipment, which could lead to significant water quality impacts if not addressed through BMPs. Therefore, as a BMP, all construction equipment would be prohibited from fueling near any natural or man-made drainage courses. With implementation of BMPs set forth in the SWMP's, impacts to surface waters during construction would not be significant adverse. With the implementation of construction BMPs under the stormwater management plan (SWMP), the construction of the alternative would not result in discharges that would create pollution, contamination or nuisance for the receiving water body.

Both at initial construction and during operation, the amount of area developed to accept waste would be limited to avoid disturbance and exposure of large areas at any certain time. As in the initial construction, in subsequent (or periodic) construction phases associated with the operation of the landfill, material would be excavated from the footprint of the landfill potentially requiring some drilling and blasting to loosen the material. This cycle would be repeated during the lifetime of the landfill.

During operation, the landfill prism facilities area, and any impervious road surfaces would have the potential to expose surface runoff to soil particles and other pollutants. Because the landfill prism would be located within a drainage area, rainfall and any off-site surface waters draining into the canyon would have the potential to drain toward the landfill prism. After such exposure, any such surface runoff has the potential to enter and pollute Rainbow Creek, which would be located down gradient from the landfill prism. The increase in impervious areas also has the potential to increase the volume and velocity of surface water runoff, which could result in uncontrolled erosion and possible sediment buildup in diversion and detention structures. This would reduce their effectiveness in preventing water infiltration into the landfill.

As with the Applicant's Proposed Alternative, a SUSMP, including a storm water control system, would be developed in accordance with NPDES General Permit requirements which apply to all landfill operations. The primary function of the storm water drainage control system would be to divert and convey stormwater flows in a controlled manner, to minimize erosion, and to inhibit the potential infiltration of surface water run-on or precipitation into the refuse disposal areas. The drainage control system would consist of perimeter drainage channels, buried perimeter drainage pipes, drainage berms, downdrains, energy dissipaters, desilting basins, and infiltration (percolation) areas. Although acreage for on-site infiltration would be available, the adequacy of conditions for infiltration, such as depth to bedrock, location of aquifers and other information, is not currently known. A 60-foot high engineered fill berm would be developed at the lower end of the canyon containing the landfill prism. This feature would also reduce direct exposure of surface runoff from the landfill from entering Rainbow Creek.

At the end of a working day during landfill operation, the refuse would be compacted using a dozer or compactor to complete the cell and would be covered with soil or an alternative daily cover (ADC) to help prevent excess infiltration of surface water (either running onto the site or from precipitation). Because the

site's natural materials are granitic and generally unsuitable for cover, the Aspen Road Alternative would be expected to ADC, as allowed under CCR Title 27. The alternative would include on-site rock crushing due to the nature of the material that would be excavated from the landfill footprint. Crushed rock would be stored for future use or would be ground for use as daily or intermediate cover or for use on the internal haul roads.

The proposed storm water drainage control system would be designed to accommodate a 100-year, 24-hour storm event. As with the Applicant's Proposed Alternative, it is expected that the surface water control would be handled by water collection and conveyance systems from disturbed and undisturbed areas. The system for undisturbed areas would collect and convey run-on from the surrounding areas as well as runoff from the undisturbed areas within the refuse footprint. A PSD system around the landfill footprint would consist of above ground perimeter drainage channels (i.e., the eastern and western perimeter channels) and energy dissipaters that would collect and disperse surface water to desilting basins infiltration areas.

In addition to the drainage control system, a combination of BMPs, including erosion control mats, coir logs, straw wattle, straw/hay bale check dames, mulching, and hydroseeding to promote the establishment of a vegetative barrier to minimize exposure of soil from the elements, would be implemented in accordance with NPDES requirements as outlined in the SUSMP. Three desilting basins would be designed to settle out material and to reduce the amount of silt ultimately discharged from the landfill site. BMPs, including ongoing maintenance and sediment removal in basins and at spreaders and dissipaters, would ensure the continued efficiency and capacity of the drainage control system.

Within the ancillary facilities area, dry management controls for sediment (i.e., sweeping) as well as absorbents for oil and gas releases would be implemented. The alternative would also include a storm drain inlet or outflow device from the ancillary facilities area (e.g., oil-water separators or other filtering devices required by the County stormwater discharge requirements) to protect surface water quality. Stormwater from the facilities area would be directed to a bioswale located between the facilities area and Rainbow Creek. Drainage from the landfill access road would be to bioswales, with structural media filtration, located along the edges of the road. Point sources and nonpoint sources of potential pollution would be controlled in accordance with water quality control plans and policies adopted by the SWRCB and San Diego RWQCB to protect designated beneficial uses of water.

Surface water monitoring would be conducted to provide the RWQCB with data on the operational site containment system effectiveness. Surface water monitoring would be conducted to monitor seasonal surface water run-off including samples within the landfill area. Surface water monitoring would be performed on a quarterly basis in accordance with the site WDRs issued by the RWQCB. With the implementation of treatment BMPs, other water control measures under the SUSMP, surface water monitoring, operation of the alternative would not result in discharges that create pollution, contamination or nuisance for the receiving water body.

As with the Applicant's Proposed Alternative, a final closure plan would include a proposed final cover design configuration in compliance with current state and federal regulatory requirements. The actual final cover to be placed on the landfill would be determined by the RWQCB with water pollution prevention as a consideration at the time the cover is to be placed. The closure plan would address the final grading, permanent structural drainage features, stormwater management, and erosion controls. The area would be graded to promote a drainage pattern as similar to the natural pre-developed drainage condition as possible.

Permanent downdrains, bench drains, and other structural drainage features would be installed. Permanent erosion control measures (e.g., silt fencing, desilting basins) would also be installed.

Permanent drainage in the landfill footprint would be constructed in conjunction with the landfill closure. Drainage facilities would control run-on, runoff, ponding and infiltration at the landfill. Closure of the landfill would entail requirements for the implementation of similar surface water quality protection measures as those described previously for operational impacts. With permanent structural drainage features in accordance with BMPs, no significant adverse effects to post-closure surface water quality would occur. With the implementation of treatment and maintenance BMPs under the SWMP, the closure of the alternative would not result in discharges that create pollution, contamination or nuisance for the receiving water body.

Mitigation Measures

No significant adverse effects relative to water quality would occur. No mitigation measures are proposed.

### Flood Hazard

*Criterion: An alternative would have a significant adverse effect if the alternative would place structures within a 100-year flood hazard zone or result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety and property due to flooding.*

**Impact Statement Aspen HYDRO-2: The Aspen Road Alternative site is not located within a 100-year floodplain, and the alternative would not have an adverse effect with respect to flood hazard.**

Rainbow Creek, which passes through the southeast quadrant of the Aspen Road Alternative site, is the nearest water body to the landfill site. No areas along this stream are characterized as 100-year floodplains on FEMA maps. The edges of Santa Margarita River to the south of the county line, approximately two miles to the west of the Aspen Road site, are designated as a 100-year floodplain. However because the Aspen Road property is more than two miles from the Santa Margarita River, flooding within the Santa Margarita River floodplain would have no effect on any structures or facilities within the Aspen Road Alternative property. Because the Aspen Road Alternative would not locate structures within a 100-year floodplain, the alternative would not have an adverse effect with respect to this criterion.

Mitigation Measures

No adverse impacts relative to flooding would occur. No mitigation measures are proposed.

### Water Surface Elevation

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in the increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height.*

**Impact Statement Aspen HYDRO-3: A culvert to allow the access road to cross Rainbow Creek would be designed to accommodate a 100-year storm. With this level of design, the alternative would not impede or redirect flow in Rainbow Creek floodway that would cause an increase in surface water elevation. Therefore, the alternative would not have an adverse effect with respect to water surface elevation.**

The Aspen Road Alternative is not located in proximity to a floodway that would be directly altered by the development of the landfill, access road, and ancillary facilities. A culvert would be installed at the road crossing of Rainbow Creek. The culvert would be designed to accommodate a 100-year storm in accordance with San Diego County Department of Public Works design standards. Because Rainbow Creek is not characterized by a 100-year floodplain, design features above the 100-year stormwater criteria would not be necessary. The alternative would incorporate construction and operational BMP's to collect and distribute additional runoff from impervious services so that no net increase in surface water runoff from the site would occur. Because the floodway would not be altered to a less than 100-year storm capacity and would not be redirected or impeded, and surface runoff from the development site would be redirected to infiltration areas on site, the Aspen Road Alternative would not increase water elevations in Rainbow Creek or the Santa Margarita River. The alternative would not have an adverse effect with respect to this criterion.

#### Mitigation Measures

Impacts relative to water surface elevation would not be adverse. No mitigation measures are proposed.

### Floodway Alteration (Hydromodification)

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in increased velocities and peak flow rates exiting the site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site or provide substantial additional sources of polluted runoff.*

**Impact Statement Aspen HYDRO-4: With implementation of construction and operation BMPs, the Aspen Road Alternative would not impede or redirect flows in Rainbow Creek in a manner that would cause downstream flooding or exceed the area's drainage system capacity. Therefore, the alternative would not have an adverse effect with respect to floodway alteration.**

The Aspen Road Alternative would require the construction of a culvert at Rainbow Creek to accommodate the access road to the landfill and ancillary facilities, which would be located to the north of Rainbow Creek. The culvert and the road would be constructed in accordance with existing San Diego County regulations, which require that all culverts in San Diego County meet 100-year storm design standards. With compliance with existing regulations, the development of the culvert would not impede or redirect flows within the stream area under 100-year storm conditions. Because construction and operation BMPs would control surface runoff and prevent flow from impermeable areas and the landfill prism to off-site areas, the

alternative would not increase runoff or cause an alteration of the creek, or change or redirect the creek in a manner that would generate downstream flooding or cause the area's drainage system capacity to be exceeded. Therefore, the alternative would not have an adverse effect with respect to this criterion.

Mitigation Measures

Impacts relative to hydromodification would not be adverse and no mitigation measures are proposed.

**Scour**

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology.*

**Impact Statement Aspen HYDRO-5: The Aspen Road Alternative would not alter Rainbow Creek in a manner that would result in scouring or channel morphology changes. The alternative would not have an adverse effect with respect to scour.**

The Aspen Road Alternative would require the construction of a culvert to accommodate a future road and the flows in Rainbow Creek. Rainbow Creek is not shown on FEMA maps of the area to constitute a flood-prone area and is generally intermittent. Under certain conditions, for instance if debris becomes trapped at the culvert entrance during a large storm, scouring could occur at the culvert. However, this scouring would be localized and would not cause active scouring in downstream or upstream locations. The existing 36-inch De Luz Heights Municipal Water District pipeline and the Second San Diego Aqueduct, which contains Metropolitan Pipelines 4 and 5, cross Rainbow Creek upstream from the proposed culvert. Because these pipelines are located upstream, any scouring activity at the Rainbow Creek culvert would not affect these sites. Therefore, the alternative would not alter the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology that would scour downstream habitat.

Mitigation Measures

Impacts relative to scouring would not be adverse. No mitigation measures are proposed.

## 4.14.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.14.6.1 Affected Environment

The Gopher Canyon Road Alternative site is located in the Bonsall Hydrologic Subarea of the Lower San Luis Rey Hydraulic Unit. The site features rugged and steep natural slopes, with typical steep slope inclinations. Elevations on site range from approximately 1,100 feet amsl at the southern boundary to approximately 480 feet amsl on the northern boundary. On-site drainages (unnamed) within the Gopher Canyon Road Alternative site are estimated to include approximately 15,999 linear feet and 1.3 acres of potential jurisdictional waters of the U.S. that are regulated by the USACE. Canyons on the site drain easterly and northerly toward the blue line drainage in South Fork of Gopher Canyon located to the east of the Gopher Canyon Road Alternative site. South Fork of Gopher Canyon collects surface runoff in an ephemeral stream beginning approximately 1.75-miles to the south of the Gopher Canyon Road Alternative site. The

confluence of the drainage from the Gopher Canyon Road site and the South Fork of Gopher Canyon drainage occurs at approximately 440 amsl, just to the east of the site's east boundary.

The South Fork of Gopher Canyon drainage flows parallel to the site's east boundary in a northwesterly direction through the Valley Vista County Club golf course. At Gopher Canyon Road, the drainage parallels the Gopher Canyon Road in a westerly direction until it joins Little Gopher Canyon Creek, approximately 0.75 mile to the northwest of the Valley Vista Country Club. Little Gopher Canyon Creek then flows northwesterly until it joins the San Luis Rey River approximately 1.5 miles to the northwest of the confluence with the South Fork drainage. The Gopher Canyon tributaries are not listed as impaired in the Basin Plan. The San Luis Rey River is located approximately 2.5 miles to the northwest of the Gopher Canyon Road Alternative site.

The site is generally undeveloped with a few existing residences and a water storage tank located in the western portion of the site. The Panoramic Estates, a gated residential subdivision with 35 lots (four acres plus in size), has been approved on the remainder of the site. Infrastructure, including roads (Panoramic Drive, Panoramic Way, and Panoramic Place), sidewalks, and curbs have been completed for the subdivision.. The Gopher Canyon Road Alternative area is generally rural and characterized by agricultural and large-lot rural residential development. Other land uses in the area include The Vista Valley Country Club and Golf Course, which is located immediately to the east of the site. Residences are also located immediately to the west of the site at a higher elevation than the property. National Quarries is located immediately southeast of the site. .

### 4.14.6.2 Design Features

The Gopher Canyon Road Alternative would be designed to meet all regulatory requirements regarding surface hydrology, including the development of a SUSMP and Monitoring and Reporting Plan to ensure protection of surface and groundwater quality in accordance with RWQCB regulations. As with the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative would include environmental monitoring and control systems, including the water conveyance and water quality monitoring system.

### 4.14.6.3 Environmental Consequences and Mitigation Measures

#### Water Quality

*Criterion: An alternative would have a significant adverse effect if the alternative would result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Walter Quality Control Plan for the receiving water body.*

**Impact Statement Gopher HYDRO-1: With the implementation of BMPs, the construction and operation of the Gopher Canyon Road Alternative would not result in discharges that would create pollution, contamination or nuisance for the water bodies in the area. Therefore, the alternative would not have a significant adverse effect with respect to water quality.**

The approximately 474-acre site would be developed with an approximately 180-acre landfill footprint and approximately 37 acres for borrow/stockpile areas. The landfill footprint would have a typical range of excavation depth of 20 to 100 feet, with a gross excavation volume of 11.8 mcy. Additional acreage would be disturbed for the desilting basins and an access road from Gopher Canyon Road.

As with the Applicant's Proposed Alternative, construction would require mass excavation and removal of native material that could result in increased erosion and potential pollution in downstream natural drainages. A SUSMP would be developed to provide BMPs to control potential erosion and water contamination in accordance with RWQCB requirements. Standard construction BMPs would reduce pollutants resulting from exposure of stockpiled soils and eroded materials and would prevent such from entering surface water runoff.

The landfill prism and other developed surfaces would expose surface runoff to soil particles and other pollutants. After such exposure, any such surface runoff has the potential to enter and pollute the South Fork of Gopher Canyon drainage, which is located down gradient from the landfill footprint. The increase in impervious areas would potentially increase the volume and velocity of surface water runoff, which could result in uncontrolled erosion and possible sediment buildup in diversion and detention structures.

As with the Applicant's Proposed Alternative, a SUSMP, including a storm water control system, would be developed in accordance with NPDES General Permit requirements which apply to all landfill operations. In addition to the drainage control system, a combination of BMPs would be implemented in accordance with NPDES requirements as outlined in the SWPPP. Two desilting basins would be designed to settle out material and to reduce the amount of silt ultimately discharged from the landfill site. Surface water monitoring would be conducted to provide the RWQCB with data on the operational site containment system effectiveness. Thus, with the implementation of treatment BMPs, other water control measures under the SWPPP, and surface water monitoring, operation of the alternative would not result in discharges that would pollute, contaminate, or cause a nuisance to the receiving water body (the South Fork of Gopher Canyon drainage).

Mitigation Measures

No significant adverse effects relative to water quality would occur. No mitigation measures are proposed.

### Flood Hazard

*Criterion: An alternative would have a significant adverse effect if the alternative would place structures within a 100-year flood hazard zone or result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety and property due to flooding.*

**Impact Statement Gopher HYDRO-2: The Gopher Canyon Road Alternative site is not located within a 100-year floodplain, and the alternative would not have an adverse effect with respect to flood hazard.**

Approximately 16,000 linear feet of waters of the U.S are located within the Gopher Canyon Road site and the South Fork of Gopher Canyon drainage is located immediately east of the east boundary. These water bodies and other streams, such as Little Gopher Canyon Creek, located between the Gopher Canyon Road site and the San Luis Rey River are characterized on FEMA maps as having 100-year floodplains. The San Luis Rey River is located approximately 2.5 miles to the northwest, and flooding within the San Luis Rey River floodplain would have no effect on any structures or facilities within the Gopher Canyon Road property.

Because the Gopher Canyon Road Alternative would not locate structures within a 100-year floodplain, the alternative would not have an adverse effects with respect to this criterion.

Mitigation Measures

No impacts relative to flooding would occur. No mitigation measures are proposed.

### Water Surface Elevation

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in the increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height.*

**Impact Statement Gopher HYDRO-3: The Gopher Canyon Road Alternative would not be located in proximity to a floodway and would not redirect or impede flow in a floodway that would affect surface water elevation. Therefore, the alternative would not have an adverse effect with respect to water surface elevation.**

The Gopher Canyon Road Alternative is not located in proximity to a floodway that would be directly altered by the development of the landfill, access road, and ancillary facilities. Because the alternative would not be located in proximity to a floodway, it would not redirect or impede flow in a floodway that would affect surface water elevation. Therefore, the alternative would not have an adverse effect with respect to water surface elevation.

Mitigation Measures

Impacts relative to water surface elevation would not be adverse. No mitigation measures are proposed.

### Floodway Alteration (Hydromodification)

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in increased velocities and peak flow rates exiting the site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site or provide substantial additional sources of polluted runoff.*

**Impact Statement Gopher HYDRO-4: With implementation of construction and operation BMPs, the Gopher Canyon Road Alternative would not increase surface water runoff over existing conditions or affect a floodway in manner that would cause downstream flooding or exceed the area's drainage system capacity. Therefore, the alternative would not have an adverse effect with respect to floodway alteration.**

The Gopher Canyon Road Alternative is not located in proximity to a floodway and would not alter a floodway in manner that would increase velocities and peak flows. Construction and operation BMPs would control surface runoff to maintain existing runoff conditions, which would prevent increased flow into the South Fork of Gopher Canyon drainage. Therefore, the alternative would not cause changes or redirection of

the floodway in a manner that would generate downstream flooding or cause the area's drainage system capacity to be exceeded. The alternative would not have an adverse effect with respect to this criterion.

Mitigation Measures

Impacts relative to hydromodification would not be adverse. No mitigation measures are proposed.

**Scour**

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology.*

**Impact Statement Gopher HYDRO-5: The Gopher Canyon Road Alternative is not located in a floodway and, therefore, would not alter a floodway in a manner that would result in scouring or changes in channel geomorphology. The alternative would not have an adverse effect with respect to scour.**

The Gopher Canyon Road Alternative is not located within or adjacent to a floodway. Thus, the alternative would not change or alter a floodway in a manner that would result in scouring or changes in channel geomorphology. The alternative would not have an adverse effect with respect to this criterion.

Mitigation Measures

Impacts relative to scouring would not be adverse. No mitigation measures are proposed.

## 4.14.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.14.7.1 Affected Environment

The Merriam Mountain Alternative site is located in the Moosa Hydrologic Subarea of the Lower San Luis Rey Hydraulic Unit. The site features rugged and steep natural slopes, with typical steep slope inclinations and is undeveloped, with the exception of dirt access roads. Elevations on site range from approximately 1,500 feet amsl at several locations along the western boundary to approximately 650 feet amsl on the eastern boundary.

On-site drainages (unnamed) within the Merriam Mountain site are estimated to include approximately 21,904 linear feet and 1.6 acres of potential jurisdictional waters of the U.S. that are regulated by the USACE. Canyons on the site generally drain toward the east. A blue line stream flows easterly through the site toward the South Fork of Moosa Canyon drainage. The South Fork of Moosa Canyon drainage runs through the Lawrence Welk Resort Golf Course to the east of I-15. The blue line stream crosses I-15 via an existing culvert and joins the South Fork Moosa Canyon drainage at an elevation of approximately 504 feet amsl within the golf course area. The South Fork Moosa Canyon drainage originates approximately 3 miles south of the Lawrence Welk Resort Golf Course. After joining the blue line stream, the South Fork of Moosa Canyon drainage continues to flow northerly at the east side of and parallel to I-15, approximately one mile to Moosa Canyon Creek. From that point, Moosa Canyon Creek flows approximately 4.75 miles to the west, where it

joins the San Luis Rey River. The Moosa Canyon tributaries are not listed as impaired in the Basin Plan. The San Luis Rey River is located approximately 5.75 miles to the northwest of the Merriam Mountain site.

### 4.14.7.2 Design Features

The Merriam Mountain Alternative would be designed to meet all regulatory requirements regarding surface hydrology, including the development of a SUSMP and Monitoring and Reporting Plan to ensure protection of surface and groundwater quality in accordance with RWQCB regulations. As with the Applicant's Proposed Alternative, the Merriam Mountain Alternative would include environmental monitoring and control systems, including the water conveyance and water quality monitoring system.

### 4.14.7.3 Environmental Consequences and Mitigation Measures

#### Water Quality

*Criterion: An alternative would have a significant adverse effect if the alternative would result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Walter Quality Control Plan for the receiving water body.*

**Impact Statement Merriam HYDRO-1: With the implementation of BMPs, the construction, operation, and maintenance of the Merriam Mountain Alternative would not result in discharges that would create pollution, contamination or nuisance for the water bodies in the area. Therefore, the alternative would not have a significant adverse effect with respect to water quality.**

The approximately 553-acre site would be developed with an approximately 199-acre landfill footprint and approximately 46 acres for borrow/stockpile areas. The landfill footprint would have a typical range of excavation depth of 20 to 100 feet, with a gross excavation volume of 7.5 mcy. Additional acreage would be disturbed for the approximately 0.5-mile access road and desilting basins.

Construction would require mass excavation and removal of native material that could result in increased erosion and potential pollution in downstream natural drainages. As with the Applicant's Proposed Alternative, a SUSMP would be developed to provide BMPs to control potential erosion and water contamination in accordance with RWQCB requirements. Standard construction BMPs would reduce pollutants resulting from exposure of stockpiled soils and eroded materials and would prevent such from entering surface water runoff.

The landfill prism and other developed surfaces would expose surface runoff to soil particles and other pollutants. After such exposure, any such surface runoff has the potential to enter and pollute the South Fork of Moosa Canyon drainage, which is located down gradient from the landfill prism. The increase in impervious areas would potentially increase the volume and velocity of surface water runoff, which could result in uncontrolled erosion and possible sediment buildup in diversion and detention structures.

As with the Applicant's Proposed Alternative, the Merriam Mountain Alternative would include environmental monitoring and control systems, including a water conveyance and water quality monitoring system. Similarly, a SUSMP, including as storm water drainage control system, would be developed in

accordance with NPDES General Permit requirements which apply to all landfill operations. In addition to the drainage control system, a combination of BMPs would be implemented in accordance with NPDES requirements as outlined in the SWPPP. With the implementation of treatment BMPs, other water control measures under the SWPPP, and surface water monitoring, operation of the alternative would not result in discharges that would pollute, contaminate, or cause a nuisance to the receiving water body (the South Fork of Moosa Canyon drainage).

Mitigation Measures

No significant adverse effects relative to water quality would occur. No mitigation measures are proposed.

### Flood Hazard

*Criterion: An alternative would have a significant adverse effect if the alternative would place structures within a 100-year flood hazard zone or result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety and property due to flooding.*

**Impact Statement Merriam HYDRO-2: The Merriam Mountain Alternative site is not located within a 100-year floodplain, and the alternative would not have an adverse effect with respect to flood hazard.**

A blue line stream constituting approximately 21,904 linear feet of waters of the U.S. crosses the Merriam Mountain Alternative site. The nearest off-site stream is the South Fork of Moosa Canyon drainage, which is located approximately 0.25 mile to the east of the Merriam Mountain Alternative site, to the east of I-15. These streams are not characterized as having 100-year floodplains on FEMA maps. The San Luis Rey River is located approximately 4.75 miles to the northwest, and flooding within the San Luis Rey River floodplain would have no effect on any structures or facilities within the Merriam Mountain property. Because the Merriam Mountain Alternative would not locate structures within a 100-year floodplain, no adverse effects with respect to this criterion would occur.

Mitigation Measures

No impacts relative to flooding would occur. No mitigation measures are proposed.

### Water Surface Elevation

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in the increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height.*

**Impact Statement Merriam HYDRO-3: The Merriam Mountain Alternative would not be located in proximity to a floodway and would not redirect or impede flow in a floodway that would affect surface water elevation. Therefore, the alternative would not have an adverse effect with respect to water surface elevation.**

The Merriam Mountain Alternative is not located in proximity to a floodway that would be directly altered by the development of the landfill, access road, and ancillary facilities. Because the alternative would not be located in proximity to a floodway, it would not redirect or impede flow in a floodway that would affect surface water elevation. Therefore, impacts with respect to water surface elevation would not be adverse.

Mitigation Measures

Impacts relative to water surface elevations would not be adverse. No mitigation measures are proposed.

### Floodway Alteration (Hydromodification)

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in increased velocities and peak flow rates exiting the site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site or provide substantial additional sources of polluted runoff.*

**Impact Statement Merriam HYDRO-4: With implementation of construction and operation BMPs, the Merriam Mountain Alternative would not increase surface water runoff over existing conditions or affect a floodway in manner that would cause downstream flooding or exceed the area's drainage system capacity. Therefore, the alternative would not have an adverse effect with respect to floodway alteration.**

The Merriam Mountain Alternative is not located in proximity to a floodway and would not alter a floodway in manner that would increase velocities and peak flows. Construction and operation BMPs would control surface runoff to maintain existing runoff conditions, which would prevent increased flow into the South Fork of Moosa Canyon drainage. Therefore, the alternative would not cause changes or redirection of the floodway in a manner that would generate downstream flooding or cause the area's drainage system capacity to be exceeded. Impacts with respect to this criterion would not be adverse.

Mitigation Measures

No adverse effects relative to hydromodification would occur. No mitigation measures are proposed.

### Scour

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology.*

**Impact Statement Merriam HYDRO-5: The Merriam Mountain Alternative is not located within a floodway and, therefore, would not alter a floodway in a manner that would result in scouring or changes in channel geomorphology. Impacts with respect to scour would not be adverse.**

The Merriam Mountain Alternative site is not located within or adjacent to a floodway. Therefore, this alternative would not alter a floodway in a manner that would result in scouring or changes in channel geomorphology. Impacts with respect to this criterion would not be adverse.

Mitigation Measures

Impacts relative to scouring would not be adverse. No mitigation measures are proposed.

## 4.14.8 EAST OTAY MESA ALTERNATIVE

### 4.14.8.1 Affected Environment

The East Otay Mesa Alternative site encompasses a south-trending wash in 911.12 hydrologic subarea, within the Tijuana River Hydraulic Unit. The Tijuana River WMA is the largest of the San Diego watersheds and covers over 1.1 million acres. The Tijuana River is formed by two drainage networks that merge in the City of Tijuana, then flow across the U.S./Mexico international border into the Tijuana River Estuary in Imperial Beach, and ultimately to the Pacific Ocean. The watershed is divided by the U.S./Mexico international border with just over 27 percent lying within the San Diego region. The watershed in the U.S. begins with tributaries originating in the Mt. Laguna area. The nearest tributary of the Tijuana River to the East Otay Mesa Alternative site is Cottonwood Creek, which flows southerly into Mexico, to the east of the site. In Mexico, Cottonwood Creek flows into Rio Tecate, a tributary of the Tijuana River, located approximately two miles to the south of the alternative site. Annual precipitation in the Tijuana WMA varies from less than 10.5 inches near the coast to more than 22.5 inches in the inland areas.

According to the Clean Water Act Section 303(d) list, July 2003, portions of the Tijuana River WMA are impaired. The river is impaired for eutrophication, coliform bacteria, organic enrichment/low dissolved oxygen, pesticides, solids, synthetic organics, trace elements, and trash. The Tijuana River Estuary is impaired for eutrophication, coliform bacteria, lead, nickel, pesticides, thallium, trash; and the Pacific Ocean at the Tijuana River mouth is impaired for coliform bacteria. Constituents of concern in the Tijuana River watershed coliform bacteria, nutrients, trace metals, pesticides, miscellaneous toxics, low dissolved oxygen, and trash.

With the exception of dirt roads crossing the property, the East Otay Mesa Alternative site is undeveloped. Existing development in the area include light industrial parks located approximately one mile to the west and a mixed residential/commercial/industrial area to the south of the international border, approximately 0.25 mile to the south of the site.

The East Otay Mesa Alternative site features rugged and steep natural slopes, with typical steep slope inclinations. Elevations on site range from approximately 560 feet amsl at the southwestern boundary to approximately 1,000 feet amsl near the eastern boundary. It is estimated that this alternative site includes 16,304 linear feet and 1.1 acres of potential jurisdictional waters of the U.S. that are regulated by the USACE, in addition to 29.7 acres of potentially USACE-regulated vernal pools.

### 4.14.8.2 Design Features

The East Otay Mesa Recycling Collection Center and Landfill Ordinance (Proposition A), Section 5.B, Water Quality, requires the alternative to comply with all requirements of the Regional Water Quality Control Board to ensure protection of surface and underground water quality. The East Otay Mesa Alternative would be designed to meet all regulatory requirements regarding surface hydrology, including the development of a SWMP that would identify any special site considerations, source control BMPs, treatment control BMPs, under the San Diego Municipal Storm Water Permit (SDRWQCB Order No. R-9-2007-0001) as implemented by the San Diego County Jurisdictional Urban Runoff Management Program. As with the Applicant's

Proposed Alternative, the East Otay Mesa Alternative would include environmental monitoring and control systems, including a water conveyance and water quality monitoring system.

The alternative would obtain a NPDES wastewater discharge permit or a state Waste Discharge Requirements permit, either of which would be issued by the RWQCB. The RWQCB could choose to incorporate stormwater provisions into that permit. If stormwater matters are left to the County and to applicable general permits, the alternative would conform to Countywide watershed standards in the Jurisdictional Urban Runoff Management Program and SUSMP, derived from state regulations and the RWQCB.

### 4.14.8.3 Environmental Consequences and Mitigation Measures

#### Water Quality

*Criterion: An alternative would have a significant adverse effect if the alternative would result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Walter Quality Control Plan for the receiving water body.*

**Impact Statement East Otay HYDRO-1: With the implementation of BMPs, the construction and operation of the East Otay Mesa Alternative would not result in discharges that would create pollution, contamination or nuisance for the water bodies in the area. Therefore, the alternative would not have a significant adverse effect with respect to water quality.**

The East Otay Mesa Alternative would occupy an approximately 344-acre site (with an additional approximately 110 acres of open space) and would include a recycling collection center, lined landfill, scale area, borrow and stockpile area, leachate collection system, storm water retention facilities, a facilities and operation area, and a new access route from Loop Road/Paseo De La Fuente. The facilities and operation area would include a visitors' center, office building, maintenance office, shop and yard, and landfill gas collection and recovery system.

The site is underlain by hard, unweathered rock, and blasting and rock crushing would be required to excavate and process excavated materials for use. As with all landfill operations, soils from that created on-site or imported would be used for daily cover of the waste prism. As such, construction and operation of the alternative would potentially generate dust and other soils and rock debris, which could affect water quality if allowed to enter natural drainages. A SWPPP would be developed to provide BMPs to control potential erosion and water contamination in accordance with RWQCB requirements. Standard construction BMPs would reduce pollutants resulting from exposure of stockpiled soils and eroded materials and would prevent such from entering surface water runoff.

The landfill prism and other developed surfaces would expose surface runoff to soil particles and other pollutants. After such exposure, any such surface runoff has the potential to enter and pollute the drainage that is located down gradient from the landfill footprint. The increase in impervious areas would potentially increase the volume and velocity of surface water runoff, which could result in uncontrolled erosion and possible sediment buildup in diversion and detention structures.

As with the Applicant's Proposed Alternative, a storm water control system would be developed in accordance with NPDES General Permit requirements which apply to all landfill operations. In addition to the drainage control system, a combination of BMPs would be implemented in accordance with NPDES requirements as outlined in the required SUSMP. Two desilting basins would be designed to settle out material and to reduce the amount of silt ultimately discharged from the alternative site. Surface water monitoring would be conducted to provide the RWQCB with data on the operational site containment system effectiveness. With the implementation of treatment BMPs, other water control measures under the SWPPP and SWMP, which are required under the SUSMP, and surface water monitoring, operation of the alternative would not result in discharges that would pollute, contaminate, or cause a nuisance to the receiving water body (the Tijuana River watershed).

Mitigation Measures

No significant adverse effects relative to water quality would occur. No mitigation measures are proposed.

### Flood Hazard

*Criterion: An alternative would have a significant adverse effect if the alternative would place structures within a 100-year flood hazard zone or result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety and property due to flooding.*

**Impact Statement East Otay HYDRO-2: The East Otay Mesa Alternative site is not located within a 100-year floodplain, and the alternative would not have an adverse effect with respect to flood hazard.**

The East Otay Mesa Alternative site includes 16,304 linear feet and 1.1 acres of waters of the U.S. The nearest off-site stream is the extension of Cottonwood Creek, located approximately two miles to the south of the international border. The alternative site is located within two miles of Johnson Canyon Creek and the Otay River to the north. However, the site is not within the Johnson Canyon Creek or Otay River watersheds and would not be affected by (or affect) flows in these streams.

The site is not within a 100-year floodplain on FEMA maps. Because the East Otay Mesa Alternative is not located near a 100-year floodplain and would not locate structures within a 100-year floodplain, no adverse effects with respect to this criterion would occur.

Mitigation Measures

No impacts relative to flooding would occur. No mitigation measures are proposed.

### Water Surface Elevation

*Criteria: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in the increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height.*

**Impact Statement East Otay HYDRO-3: The East Otay Mesa Alternative would not be located in proximity to a floodway and would not redirect or impede flow in a floodway that would affect surface water elevation. Therefore, the alternative would not have an adverse effect with respect to water surface elevation.**

The East Otay Mesa Alternative is not located in proximity to a floodway that would be directly altered by the development of the landfill, access road, and ancillary facilities. Because the alternative would not be located in proximity to a floodway, it would not redirect or impede flow in a floodway that would affect surface water elevation. Therefore, impacts with respect to water surface elevation would not be adverse.

Mitigation Measures

Impacts relative to water surface elevations would not be adverse. No mitigation measures are proposed.

### Floodway Alteration (Hydromodification)

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in increased velocities and peak flow rates exiting the site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site or provide substantial additional sources of polluted runoff.*

**Impact Statement East Otay HYDRO-4: With implementation of BMPs, the East Otay Mesa Alternative would not increase surface water runoff over existing conditions or affect a floodway in manner that would cause downstream flooding or exceed the area's drainage system capacity. Therefore, the alternative would not have an adverse effect with respect to floodway alteration.**

The East Otay Mesa Alternative is not located in proximity to a floodway and would not alter a floodway in a manner that would increase velocities and peak flows. Construction and operation BMPs would control surface runoff to maintain existing runoff conditions, which would prevent increased runoff into the Tijuana River basin. Therefore, the alternative would not cause changes or redirection of the floodway in a manner that would generate downstream flooding or cause the area's drainage system capacity to be exceeded. Impacts with respect to this criterion would not be adverse.

Mitigation Measures

Impacts relative to hydromodification would not be adverse. No mitigation measures are proposed.

### Scour

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology.*

**Impact Statement East Otay HYDRO-5: The East Otay Mesa Alternative is not located within or adjacent to a floodway and therefore, would not alter a floodway in a manner that would result in scouring or changes in channel geomorphology. Impacts with respect to this criterion would not be adverse.**

The East Otay Mesa Alternative is not located within or adjacent to a floodway. Therefore, this alternative would not change or alter a floodway in a manner that would result in scouring or changes in channel geomorphology. Impacts with respect to scour would not be adverse.

Mitigation Measures

Impacts relative to scouring would not be adverse. No mitigation measures are proposed.

## 4.14.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.14.9.1 Affected Environment

The Sycamore Canyon Expansion Alternative site encompasses a south-trending wash in within the San Diego River Hydraulic Unit. Surface water from the site flows primarily into Little Sycamore Canyon and, then, to the San Diego River. The San Diego River is located approximately 0.25 mile to the south of SR 52. The site also receives flow from off-site areas, including approximately 26 acres of runoff from the Marine Corps Air Station/Miramar property located to the north of the alternative site. A culvert under SR 52 accommodates the Little Sycamore Canyon 100-year storm flow to the San Diego River. The southernmost portion of the site, including the existing administration facility, portions of the paved landfill access road and Mast Boulevard, do not drain to Little Sycamore Canyon (either directly or via the detention/sedimentation basin).[54] Rather, runoff from these areas flows to an existing storm drain at the northwest corner of Mast Boulevard and the SR 52 westbound ramp, which directly discharges to the San Diego River.

The San Diego River WMA covers 277,543 acres and includes portions of the Cities of El Cajon, La Mesa, Poway, San Diego, and Santee. The watershed contains the San Diego River, El Capitan Reservoir, San Vicente Reservoir, Lake Jennings, Lake Cuyamaca, and Lake Murray. Much of the impounded water in the reservoirs is used to serve major population centers within the County. The San Diego River discharges into the Pacific Ocean between Mission Beach and Ocean Beach in the City of San Diego. Annual precipitation in the WMA ranges from 10.5 inches near the coast to nearly 35 inches in the eastern portion of the watershed. Approximately 74 percent of the San Diego River WMA is located in the unincorporated area of the County.

The San Diego River WMA currently experiences surface water quality degradation, habitat degradation and loss, sediment, invasive species, eutrophication, and flooding and is one of the seven rivers in San Diego County considered impaired. The river has been identified in the RWQCB's TMDL program and placed on the CWA 303(d) list. Constituents that resulted in water bodies being placed on the CWA 303(d) list include bacterial indicators, TDS, phosphorus, eutrophication, pH, dissolved oxygen, color, chloride, manganese, and sulfates. Factors that may be impairing water quality in the WMA include urban runoff, agricultural runoff, mining operations, sewage spills, sand mining, and other natural sources. Famosa Slough in the City of San Diego has also been identified in the new San Diego RWQCB Investigation Order and Technical Report for Lagoons TMDL Project – Order No. R9-2006-0076, which establishes monitoring requirements for

[54] *Sycamore Landfill Master Development Plan Revised Final EIR, page 5.12-23 and 24 (August 2012).*

dischargers. A basin plan amendment that would establish a TMDL for bacteria in this watershed has been approved by the San Diego RWQCB and is pending final approval from the SWRCB.[55]

The Sycamore Canyon Expansion Alternative represents the expansion of the existing Sycamore Canyon Landfill. Approximately 150 acres of the site have been disturbed by on-going operations.

### 4.14.9.2 Design Features

The Sycamore Canyon Expansion Alternative would implement existing and proposed design features, such as drainage control structures to divert flows away from active/completed landfill areas, unlined (vegetated or rock-filled) drainage facilities, detention/sedimentation basins, inlet filters, erosion control mats, mulching, straw/hay bales, berms, fiber rolls, silt fences, dikes, biofilter/compost bags, vegetated buffer strips, hydroseeding with native plants, preventative maintenance (e.g., sediment basin inspection and repair), and good housekeeping practices (e.g., removal of sediment, particulates, and trash from paved areas such as access roads before it enters the drainage system through efforts such as regular street sweeping).

Permits that are incorporated into the alternative include the following:

- NPDES Industrial Activities General Storm Water Permit conformance and SWPPP;
- NPDES) General Construction Activity Permit for Stormwater Discharges Compliance from the San Diego RWQCB and the SWRCB;
- NPDES Municipal Storm Water Permit Compliance from the RWQCB; and
- WDRs from the San Diego RWQCB.

### 4.14.9.3 Environmental Consequences and Mitigation Measures

#### Water Quality

*Criterion: An alternative would have a significant adverse effect if the alternative would result in discharges that create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Walter Quality Control Plan for the receiving water body.*

**Impact Statement Sycamore HYDRO-1: With the implementation of BMPs, the construction and operation of the Sycamore Canyon Expansion Alternative would not result in discharges that would create pollution, contamination or nuisance for the water bodies in the area. Therefore, the alternative would not have a significant adverse effect with respect to water quality.**

A component of the alternative is to generate aggregate resources for export and use off-site as well as to provide soil for use at the landfill. Construction activities would involve a net excavation of approximately

[55] *San Diego County General Plan Update EIR, Chapter 2, Hydrology and Water Quality, page 2.8-18 (August 2011).*

34 million cubic yards of native soil and rock to create the new disposal area.[56] The landfill footprint would increase by approximately 28.6 acres. The ultimate landform would consist largely of fill.

The relocation of the SDG&E power lines would increase the existing easement from 5,500 feet long and encompassing approximately 25 acres to approximately 7,150 feet long, and encompassing 32.8 acres. The new easement also would be 200 feet in width. All construction would be completed according to a required Construction Quality Assurance Plan approved by the SDG&E.

The new impervious surfaces (e.g., road improvements and administrative/processing facilities), and compaction of unpaved areas, and the conveyance of surface flows away from active and completed (filled/covered) landfill cells, would potentially increase the volume and velocity of surface water runoff, which could result in uncontrolled erosion and possible sediment buildup in diversion and detention structures. The expanded landfill prism and other developed surfaces would expose surface runoff to soil particles and other pollutants. After such exposure, any such surface runoff has the potential to enter and pollute the drainage that is located down gradient from the landfill footprint. To control such runoff and exposure, the proposed drainage system includes a series of slope drains and brow ditches (among other facilities) to route surface flows away from the landfill disposal areas. This design is intended to minimize ponding and infiltration, as well as to avoid erosion in active and completed portions of the landfill. Surface flow would enter a new detention/sedimentation basin located at the southern landfill waste footprint (which would replace the two existing sediment basins at this location). This flow would enter the adjacent portion of Little Sycamore Canyon as a controlled discharge through an appropriate energy dissipation structure (e.g., a riprap apron), and would continue south to the San Diego River (similar to discharge from the existing basins).

Under this alternative, however, the northern portion of Little Sycamore Canyon within the site boundary would ultimately be filled as part of the landfill operation, effectively blocking the off-site flows from entering the site. Accordingly, prior to extending the landfill operations into this portion of the canyon, an engineered detention basin would be constructed along the northern landfill property boundary to capture the off-site flow from the north. Three pumps (including two primary pumps and one backup pump) would also be installed at the basin site to remove water from the basin and discharge it into a concrete-lined drainage channel that would be constructed around the landfill site perimeter. Flows in this drainage channel would continue south and enter the detention/sedimentation basin at the southern end of the landfill footprint.

Potential impacts to surface water quality from the transmission line relocation would be limited to construction-related erosion and sedimentation, the potential discharge of construction-related hazardous materials. Downstream receiving waters include Little Sycamore and Spring Canyons (both within the San Diego River WMA). However, as with the landfill construction and operation, the required implementation of appropriate erosion and sediment control measures (including applicable NPDES requirements and SDG&E protocols) would address potential water quality impacts from construction-related hazardous materials and operational-related pollutants.

[56] *Sycamore Landfill Master Development Plan Revised Final EIR, page 5.4-21 (August 2012).*

Implementation of the landfill expansion and related facilities/activities would potentially result in both short- and long-term impacts to surface water quality, in association with erosion and sedimentation from grading/excavation, as well as the potential discharge of construction- and operational-related pollutants. These potential impacts would be avoided or reduced, however, through the implementation of BMPs, monitoring/reporting efforts, and other pertinent actions as part of, and in conformance with, applicable regulatory requirements. With the implementation of treatment BMPs, other water control measures under the SWPPP, and surface water monitoring, operation of the alternative would not result in discharges that would pollute, contaminate, or cause a nuisance to the receiving water body (the San Diego River drainage).

Mitigation Measures

No significant adverse effects relative to water quality would occur. No mitigation measures are proposed.

### Flood Hazard

*Criterion: An alternative would have a significant adverse effect if the alternative would place structures within a 100-year flood hazard zone or result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map or County Alluvial Fan Map, which would subsequently endanger health, safety and property due to flooding.*

**Impact Statement Sycamore HYDRO-2: The Sycamore Canyon Expansion Alternative site is not located within a 100-year floodplain, and the alternative would not have an adverse effect with respect to flood hazard.**

The nearest 100-year floodplain is associated with the San Diego River, located approximately 0.25 mile to the south of SR 52. This floodplain does not extend to the north of SR 52 or onto the Sycamore Canyon Expansion Alternative site. Because the Sycamore Canyon Expansion Alternative is not located near a 100-year floodplain and would not locate structures within a 100-year floodplain, no adverse effects with respect to flood hazard would occur.

Mitigation Measures

No adverse effects relative to flooding would occur. No mitigation measures are proposed.

### Water Surface Elevation

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in the increase water surface elevation in a watercourse within a watershed equal or greater than 1 square mile, by 1 foot or more in height.*

**Impact Statement Sycamore HYDRO-3: The Sycamore Canyon Expansion Alternative would decrease surface water runoff and, thus, decrease water entering the San Diego River from the site. Therefore, the alternative would not have an adverse effect with respect to surface water elevation.**

The Sycamore Canyon Expansion Alternative is not located in proximity to a floodway that would be directly altered by the development of the landfill, access road, transmission line relocation, and ancillary facilities. Any increase in impervious area, however, has the potential to increase surface flow collected at the Little Sycamore Canyon culvert below SR 52 or other flow into the San Diego River. Although the detention/sedimentation basin would reduce surface runoff, portions of the site, including the proposed scale facility and the paved on-site access road, as well as a number of adjacent undeveloped hillsides and adjacent off-site areas would not drain into this basin. In these areas, associated flows would enter downstream portions of Little Sycamore Canyon via existing storm drain facilities or as overland (sheet) flow. Calculated post development 100-year storm flow from the described areas would be approximately 310 cfs, with the majority of this derived from off-site locations. Based on the described flow estimates from the landfill site (via the detention/sedimentation basin) and the additional on- and off-site areas, total post-development peak 100-year storm flows in Little Sycamore Canyon at the culvert under SR 52 would be approximately 875 cfs, including 565 cfs from the detention/sedimentation basin, and 310 cfs from the additional on- and off-site areas. This would represent a net reduction of 288 cfs from the current peak 100-year storm flow of approximately 1,163 cfs at this location.[57]

The southernmost portion of the alternative site, including the administration facility, portions of the paved landfill access road, and the proposed widening of Mast Boulevard, do not drain to Little Sycamore Canyon (either directly or via the detention/sedimentation basin). Rather, runoff from these areas flows to an existing storm drain at the northwest corner of Mast Boulevard and the SR 52 westbound ramp, which ultimately discharges to the San Diego River. The alternative would increase impervious area from approximately 0.04 to 0.6 acre, with associated additional flows of less than one cfs during a 100-year storm event. Therefore, because the alternative would reduce peak flow at the culvert and ultimate flow into the San Diego River, it would not adversely affect surface water levels in the San Diego River.

Mitigation Measures

Impacts relative to water surface elevations would not be adverse. No mitigation measures are proposed.

### Floodway Alteration (Hydromodification)

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in increased velocities and peak flow rates exiting the site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site or provide substantial additional sources of polluted runoff.*

**Impact Statement Sycamore HYDRO-4: The Sycamore Canyon Expansion Alternative would not increase surface water runoff over existing conditions or affect a floodway in manner that would cause downstream flooding or exceed the area's drainage system capacity. Therefore, the alternative would not have an adverse effect with respect to floodway alteration.**

The Sycamore Canyon Expansion Alternative is not located in proximity to a floodway and would not alter a floodway in manner that would increase velocities and peak flows. Construction and operation BMPs would control surface runoff to reduce existing runoff conditions, which would prevent increased flow into the

[57] *Sycamore Canyon Master Development Plan Revised Final EIR, page 5.12-25 (August 2012).*

South Sycamore Canyon drainage and the nearby San Diego River. Therefore, the alternative would not cause changes or redirection of the floodway in a manner that would generate downstream flooding or cause the area's drainage system capacity to be exceeded. Impacts with respect to this criterion would not be adverse.

Mitigation Measures

Impacts relative to hydromodification would not be adverse. No mitigation measures are proposed.

**Scour**

*Criterion: An alternative would have a significant adverse effect if the alternative would alter the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology.*

**Impact Statement Sycamore HYDRO-5: The Sycamore Canyon Expansion Alternative would alter existing runoff patterns in the South Sycamore Canyon drainage. However, surface water runoff would be decreased. Therefore, the alternative would not cause an increase in flow or other conditions that would result in scouring or changes in channel geomorphology. Impacts with respect to scour would not be adverse.**

The Sycamore Canyon Expansion Alternative would block portions of the South Sycamore Canyon drainage. However, with the implementation of drainage control measures, runoff from off-site areas, roads, and other areas not associated with the landfill footprint, would be redirected to the South Sycamore Canyon drainage and to the culvert at SR 52. Because runoff from the site would be diverted to the detention/sedimentation basin, there would be a net decrease in actual surface runoff. As such, the alternative would not result in conditions that would cause an increase in flow or other conditions that would result in downstream scouring. Impacts with respect to this criterion would not be adverse.

Mitigation Measures

Impacts relative to scouring would not be adverse. No mitigation measures are proposed.

## 4.14.10 GLOBAL CLIMATE CHANGE EFFECTS ON SURFACE WATER

As discussed in Section 4.3, Air Quality and Greenhouse Gases, San Diego County adopted a Climate Action Plan (CAP) in June 2012. The CAP expresses the County's rising awareness and concern regarding potential climate change, and sets forth policies and programs aimed at reducing GHG emissions, which are seen as a primary factor contributing to climate change. The CAP represents the County's commitment to mitigating GHG emissions by examining the sources of emissions, GHG reduction strategies, and the costs and efficacy of these strategies. According to the CAP, benefits to taking action would be a reduction in potential disruptions to the climate system.[58] However, the CAP states that some impacts of climate change and other more serious consequences will occur despite climate mitigation because of the time it takes for the climate system to respond to GHG reductions. GHG concentrations already in the atmosphere anticipate a range of

[58] *San Diego County Board of Supervisors, San Diego County Climate Action Plan, page 76 (June 2012).*

climate change impacts in the near future.[59] Adaptation strategies have been developed to help reduce the effects of climate change. Strategies related to surface water include habitat restoration projects that restore native vegetation or preserve existing native vegetation. According to the CAP, these areas would better absorb floodwaters and slowly release runoff into watersheds and, as a result, increase the resiliency of adjacent areas in times of significant precipitation.[60]

As described in the CAP, global climate change has the potential to change the frequency and intensity of rainfall and, thus, affect surface water flows in affected areas. In this case, all of the alternative sites would be potentially affected due to the presence of drainages that carry ephemeral or year-round flow on these sites. If climate change resulted in more frequent and severe droughts, the potential loss of vegetation or absence of soil moisture would result in more flash flooding during any substantial rain storm. Depending on the extent of a vegetation die-off throughout a watershed, this scenario has the potential to also increase soil exposure to direct erosion and the loss of the stabilizing benefits of root systems that hold soils in place. Therefore, scouring and erosion during episodic flooding could be expected. Where such scouring or erosion would potentially reduce plant life, erosion effects could be respectively increased. Conversely, in the event that increased storm frequency supported greater plant life, runoff could be slowed and erosion reduced.

The Applicant's Proposed Alternative site is characterized by a permanent river basin (San Luis Rey River). Because of the capacity of the river basin, the area along the river is likely more adaptable to increased flooding. However canyons containing ephemeral streams, which occur within the Gregory Canyon, Aspen Road, Gopher Canyon Road, Merriam Mountain, East Otay Mesa, and Sycamore Canyon sites would potentially experience more frequent flash flooding than under existing conditions.

Design features associated with the Applicant's Proposed Alternative and other alternatives (Aspen Road, Gopher Canyon Road, Merriam Mountain, and East Otay Mesa) and existing San Diego County regulations represented in the San Diego County Drainage Design Manual require that flood control systems for these alternative sites must be designed for 24-hour, 100-year storms. It is expected that these systems would address most flooding and prevent surface water runoff from waste prisms from directly entering downstream water bodies, such as the San Luis Rey River. The City of San Diego Stormwater Control Standards, which would apply to the Sycamore Canyon Expansion Alternative site, would require a similar level of design in flood control systems for that site. If flash floods were to occur more frequently, maintenance procedures would need to be performed more frequently to ensure that desilting basins, infiltration areas, and other components of the flood control systems continue to maintain holding capacity for water runoff and debris.

An increase in storm frequency and magnitude may require revision of FEMA flood maps for all alternative sites. Also, because the County's definition of 10-, 50-, 100-, and 500-year storm events rely on the statistical recurrence of storms under existing conditions, the County's Drainage Design Manual and other regulatory programs may need to be revised to reflect statistical changes in the frequency and intensity of storms. Any changes in rainfall patterns also have the potential to require adjustments in design parameters related to drainage management in the San Diego County Hydromodification Plan and City of San Diego Stormwater Control Standards.

[59] *Ibid, page 60.*

[60] *Ibid, page 62.*

# 4.15 TRANSPORTATION

## INTRODUCTION

This section provides an overview of the existing transportation system and evaluates whether traffic generated by the alternatives would cause significant adverse impacts under three scenarios: one which reflects landfill traffic effects on existing traffic conditions, one which reflects the combined effect of landfill traffic and near-term cumulative development, and one which reflects landfill traffic effects on the anticipated future land use conditions, inclusive of planned development and roadway assumptions. Each of these scenarios address impacts at key intersections, along roadway segments, and along key freeway segments. The analysis for each of the alternatives is based on a separate Traffic Impact Analysis study prepared by Linscott, Law & Greenspan, Engineers. The 2012 Traffic Impact Analysis studies, for each of the alternatives other than the Sycamore Canyon Expansion Alternative are included in Appendix M of the EIS. The Traffic Impact Analysis for the Sycamore Canyon Expansion Alternative was prepared as Appendix E of the Revised Final Environmental Impact Report for the Sycamore Landfill Master Development Plan and is available for review at the USACE Carlsbad Office.

## 4.15.1 REGULATORY FRAMEWORK

### 4.15.1.1 Federal

Federal Highway Administration 23 CFR 450.320 requires that each transportation management area (TMA) address congestion management through a process involving an analysis of multimodal metropolitan wide strategies that are cooperatively developed to foster safety and integrated management of new and existing transportation facilities eligible for federal funding. SANDAG has been designated as the TMA for the San Diego region. The SANDAG 2050 Regional Transportation Plan meets the requirements of 23 CFR 450.320 by incorporating the following federal congestion management process: performance monitoring and measurement of the regional transportation system, multimodal alternatives and non-SOV analysis, land use impact analysis, the provision of congestion management tools, and integration with the regional transportation improvement program process.

### 4.15.1.2 State

State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP). The purpose of the CMP is to monitor the performance of the region's roadway transportation system, develop programs to address near- and long-term congestion, and better integrate transportation and land use planning.

### 4.15.1.3 Regional

#### Congestion Management Program

SANDAG, as the designated Congestion Management Agency for the San Diego region, is responsible for developing, adopting, and updating the CMP. The San Diego Regional Traffic Engineers' Council (SANTEC) serves as SANDAG's technical advisory committee on regional traffic engineering matters. SANTEC

addresses traffic and transportation engineering aspects of the planning, design, construction, operation, and maintenance of the region's roadway network including, but not limited to; pedestrian, bicycle, transit, and vehicular traffic. Membership consists of a traffic engineering representative from each of the region's Cities, the County of San Diego, and Caltrans. SANTEC has prepared the 2008 Congestion Management Program Update, which addresses guidelines to be used in congestion management studies.

### County of San Diego Transportation Impact Fee Program

The County of San Diego Transportation Impact Fee (TIF) Program was adopted by the Board of Supervisors on February 27, 2008 (Effective April 27, 2008). The purpose of the program is to make provision for assessing and collecting fees as a condition of approval of a subdivision map or prior to issuance of a development permit, including a building permit, to defray the actual or estimated costs of constructing planned transportation facilities necessary to accommodate increased traffic generated by future development. The fees are applied, as applicable, to projects that have significant adverse cumulative effects on the environment. Application of the fee includes, but is not limited to, development for residential, commercial and industrial land uses. Fees collected are used for the funding of transportation facilities, or portions thereof, that will provide increased road capacity necessitated by the cumulative impacts of future development. Development projects required to provide transportation improvements pay funds for improvements that have been identified by the County as "TIF facilities," or may be required to construct improvements to non-TIF facilities, as well as pay the TIF fee.

### TransNet Program

TransNet is a San Diego County program that provides a one-half cent sales tax to fund a variety of transportation projects throughout San Diego County. The program was first approved by voters in 1988, and then extended in 2004 for another 40 years. Administered by SANDAG, the program has contributed to expansion of the region's transportation system, reductions in traffic congestion, and supporting critical transportation programs. During the 60 year life of the program, more than $17 billion will be generated and distributed among highway, transit, and local road projects in approximately equal thirds.

## 4.15.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on transportation.

### 4.15.2.1 Criteria for Assessing Effects

In the absence of federal standards by which significant levels could be determined, criteria for assessing significant adverse effects rely on state and local thresholds for guidance. Evaluation criteria are established for intersection, roadway segment and freeway segment analyses, respectively.

### Intersections

An alternative would have a significant adverse effect on roadway intersections if the additional increment of traffic would:

- Cause an intersection operating at LOS D to operate at LOS E; or an intersection operating at LOS E to operate at LOS F.

Further, an alternative would have a significant adverse effect on roadway intersections if it would:

- Operate at LOS E or F, and exceed the allowable traffic impact identified in **Table 4.15-1**, *Allowable Increases on Congested Intersections*.

**Table 4.15-1**

**Allowable Increases on Congested Intersections**

| Level of service | Signalized | Unsignalized |
|---|---|---|
| LOS E | Delay of 2 seconds or less | 20 or less peak hour trips on a critical movement |
| LOS F | Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement | 5 or less peak hour trips on a critical movement |

*Source: Guidelines for Determining Significance, San Diego County, February 19, 2010.*

### Roadway Segments

An alternative would have a significant adverse effect on roadway segments if the additional daily increment of traffic would result in one or more of the following;

- The additional or redistributed ADT generated by the alternative on a Circulation Element Road or State Highway would cause the road/highway to operate at a LOS E or LOS F; or
- The additional or redistributed ADT generated by the alternative would cause a residential street to exceed its design capacity.

Further, an alternative would have a significant adverse effect on roadway segments if:

- The additional increment of daily traffic would have the effect on operations identified in **Table 4.15-2**, *Allowable Increases on Congested Road Segments*.

**Table 4.15-2**

**Allowable Increases on Congested Road Segments**

| Level of Service | Two-Lane Road | Four-Lane Road | Six-Lane Road |
|---|---|---|---|
| LOS E | 200 ADT | 400 ADT | 600 ADT |
| LOS F | 100 ADT | 200 ADT | 300 ADT |

*Source: Guidelines for Determining Significance, San Diego County, February 19, 2010.*

Also, for 2-lane highways, an alternative would have a significant adverse effect on roadway segments if:

- The additional increment would cause a speed decrease of over one (1.0) mile per hour (using Highway Capacity Software hourly analyses); or
- Or, the additional increment daily traffic would have the effect on operations (daily capacity analysis) identified in **Table 4.15-3**, *Allowable Increases on Congested Road Segments*.

**Table 4.15-3**

**Allowable Increases on Two-lane Highways**

**With Signalized Intersection Spacing Over One Mile**

| Level of Service | LOS Criteria | Significance Level |
|---|---|---|
| LOS E | > 16,200 ADT | >325 ADT |
| LOS F | > 22,900 ADT | >225 ADT |

**With Signalized Intersection Spacing Under One Mile**

| Level of Service | Signalized |
|---|---|
| LOS E | Delay of 2 seconds or less |
| LOS F | Delay of 1 second, or<br>5 peak hour trips or less on a critical movements |

*Source: Linscott Law and Greenspan, LLC, 2012*

## City of San Diego Threshold

An alternative would have a significant adverse effect on roadway segments if:

- The additional traffic impact along the roadway segment operating at LOS E would increase the V/C ratio by 0.02 or more, or cause a decrease in speed of 1 mph; or the additional traffic at a roadway segment operating at LOS F would increase the V/C ratio by 0.01, or cause a decrease in speed of 0.5 mph.

## Freeways

An alternative would have a significant adverse effect on a freeway segment if:

- The alternative's traffic would cause the freeway operations to drop one letter grade (i.e. from LOS D to LOS E, or LOS E to LOS F);
- The additional traffic impact along the roadway segment operating at LOS E or F would increase the V/C ratio by 0.01 or more, or cause a decrease in speed of 1 mph; or
- In the City of San Diego, the additional traffic impact at a freeway segment operating at LOS E would increase the V/C ratio by 0.01 or more, or cause a decrease in speed of 1 mph; or if operating at LOS F would increase the V/C by 0.005 or more, or cause a decrease in speed of 0.5 mph.

## 4.15.2.2 Methodology

The analysis of traffic impacts for the alternatives is based on Traffic Impact Analysis 2012 reports prepared by Linscott, Law & Greenspan. The analyses for alternatives other than the Sycamore Canyon Expansion Alternative are included in Appendix M of this EIS. The analysis for the Sycamore Canyon Expansion Alternative is taken from the Sycamore Landfill Master Development Plan Revised Final EIR, (August 2012) inclusive of its Appendix E, Traffic Impact Analysis. (The Revised Draft EIR, including appendices, is available for review at the USACE Carlsbad Office.) The traffic analyses for the alternatives include quantitative models for evaluating traffic impacts of each of the alternative sites. More detailed information regarding the methodologies briefly described here are described more fully within the referenced Traffic Impact Analysis reports.

### Comparative Analysis of Roadway Operations

Analyses that were performed to identify potential impacts on the roadway network address impacts on key intersections, key road segments, and key freeway segments. Each of the analyses is based on impacts to the level of service (LOS) of the analyzed facility.

LOS is the term used to denote the different operating conditions occurring on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS designations for intersections and road segments range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS A facilities are characterized as having free flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having force flow with many stoppages and low operating speeds. Freeways with LOS F operations are also given sub-classifications ranging from F(0) to F(3), F(3) being the lowest level of service. Typically, roadway facilities operating at LOS D or lower are considered to have an acceptable level of services. Roadway facilities operating at LOS E or F are typically considered to operate at unacceptable levels of service. LOS designation is determined differently for different types of roadway facilities given their unique operating characteristics.

The roadway facilities that were selected for analysis were those that would have projected increases in traffic volume that surpass minimum directional peak hour trip counts established by the County of San Diego/SANDAG and CMP requirements. The minimum trips counts triggering analyses included 25 directional peak hour trips for roads and intersections generally; and for CMP facilities, 50 or more peak hour trips in either direction for CMP arterials, and/or 150 or more peak hour trips in either direction for mainline freeway locations.

The evaluation for each of the roadway facilities analyzed consists of the following steps:

- Identify the baseline LOS conditions for the facilities analyzed;
- Determine the number of trips generated by the alternative, and distribute those trips to the roadway system;
- Evaluate the changes in traffic volumes that would occur with the added traffic (i.e. changes to LOS levels where they occur and/or the level of reduced roadway service within a given LOS range); and

- Compare the changes in roadway operations that would occur with the alternative to the allowable increments identified in the specified criteria for evaluating traffic impacts to determine whether effects on the transportation network would result in a significant adverse effect.

The calculation of trips that would be associated with landfill operations, and then the distribution of those trips to the roadway network, is based on the maximum number of trips that might occur on one day, which would include traffic from landfill operations as well as periodic construction. Since the traffic generation during initial construction would be less, the analysis focuses on the operations and periodic construction.

Further, the calculation of trips is based on a conversion of truck trips to passenger car equivalent trips (PCE). The use of PCE for measuring trips accounts for the fact that heavy vehicles have a greater traffic impact than passenger cars because they are larger than passenger cars, thus, occupying more roadway space; and their performance characteristics are generally inferior to passenger cars, leading to the formation of downstream gaps in the traffic stream (especially on upgrades), which cannot always be effectively filled by normal passing maneuvers. The calculation of PCE trips for the alternatives takes into account specific grades, the length of the grades, and the average upgrade speed (mph) along applicable roadway(s). Each of the analyses identifies the number of vehicles that would be required to accommodate the waste tonnage and related activities on a daily basis, multiplies the number of site visits by two to account for an incoming and an outgoing trip, and then converts the number of truck trips to an equivalent PCE number of trips. This produces for each alternative, the average daily trips (ADT) used for calculating traffic impacts at roadway facilities.

Traffic analyses for each of the alternatives were performed for three analysis scenarios and three types of roadway facilities. The scenarios and facilities analyzed are shown in Table 4.15-4, *Analysis Scenarios*, and discussed below.

## Scenarios

- **Existing Conditions Baseline**:[1] Existing Conditions Baseline analyses compare the effects of landfill traffic against a baseline that includes the roadway configurations and estimated travel conditions that were in place at the time of preparation of this EIS. Traffic volumes are based on new traffic counts performed during the period, as well as traffic volume information included in other recent reports that were reviewed, compared to CalTrans data where appropriate, and determined to be indicative of current conditions.
- **Near-Term Conditions**: Near-Term Conditions analyses include the existing roadways and traffic as described above, but also account for other near-term development and roadway improvements that are expected to occur in the vicinity of the alternative sites. The estimates for future development are based, depending on the particular alternative analysis, upon such factors as known related projects reflected in San Diego County records including the KIVA system, research located at nearby

[1] *The traffic analysis for the Sycamore Canyon Expansion Alternative is based on the Revised Final EIR for that Master Development Plan, which was prepared pursuant to City of San Diego guidelines. The City Traffic Report carries two analyses under the heading of "Near-Term Conditions." The first analysis is based on existing conditions and is equivalent to the sections of the San Diego County alternatives analyses and this EIS Chapter that are titled Existing Condition Baseline. Hence, for consistency the City analysis is included in this document under the Existing Conditions Baseline heading, even though the Revised Final EIR included the analysis under the Near-Term Conditions heading.*

**Table 4.15-4**

**Analysis Scenarios**

| Scenario | Analysis Performed |
|---|---|
| **Existing Conditions Baseline** | |
| Existing Conditions + Alternative Traffic | Intersection Analysis (A.M./P.M. Peak Hour)<br>Roadway Segment Analysis<br>Freeway Segment Analysis |
| **Near-Term Conditions** | |
| Existing Conditions + Cumulative Projects + Alternative Traffic | Intersection Analysis (A.M./P.M. Peak Hour)<br>Roadway Segment Analysis<br>Freeway Segment Analysis |
| **Buildout Conditions Baseline** | |
| Future Development and Roadway Buildout Conditions + Alternative Traffic | Intersection Analysis (A.M./P.M. Peak Hour) (Applicant's Proposed Alternative, and Sycamore Canyon Expansion Alternative only)<br>Roadway Segment Analysis<br>Freeway Segment Analysis (Applicant's Proposed Alternative, East Otay Mesa, and Sycamore Canyon Expansion Alternatives only) |

*Source: PCR Services Corporation, 2012*

jurisdictions, information in SANDAG transportation programs and/or the development included in a SANDAG Year 2030 Series 10 development model.

- **Buildout Conditions Baseline**: The Buildout Conditions Baseline evaluates impacts of the landfill alternatives against a baseline that includes the new development and roadway improvements anticipated in the County's General Plan Update (GPU) model; or in the case of the Sycamore Canyon Expansion Alternative, the SANDAG Series 2011 traffic model. These Models are longer-term forecasting tools that estimate future traffic volumes based on expected development and future improvements to the transportation network.

## Roadway Facilities Analyzed

- **Intersections:** Key intersections in the vicinity of the alternative sites that met the potential 25-trip analysis trigger were evaluated. The analyses are based on methodologies described in the *Highway Capacity Manual* (HCM), with the assistance of the *Synchro* (version 6.0 or version 7.0 depending on the alternative) computer software. Signalized intersections have been analyzed using procedures described in Chapter 16 of the HCM; and the analysis of unsignalized intersections is based on Chapter 17. For signalized intersections, the analysis is based on changes in the delay time (represented in seconds) that would occur at an intersection with the added increment of traffic. For unsignalized intersections, the analysis is based on the added number of trips that would be added to the intersection.

- **Roadway segments**: Roadway segments are the links between the intersections. The analysis of impacts to roadway segments addresses the total volume of traffic that occurs over the course of day and is based upon a comparison of ADT volumes to the *Roadway Classification, Level of Service, and ADT Tables* for roadways in the jurisdictions (San Diego County, City of San Diego, or City of Santee) in which the street segment is located within. These tables provide segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The number of additional daily trips is compared to ADT significance criteria that vary according to the LOS and number of road-lanes in the roadway segment.
- **Freeway Segments:** Freeway segments have been analyzed to identify impacts on the A.M. and P.M. peak hours based on Caltrans-recommended methodologies. The freeway segments LOS is based on an evaluation of Volume to Capacity (V/C).

### Other Analyses – Applicant's Proposed Alternative and Sycamore Canyon Expansion Alternative

Additional analyses were performed for the Applicant's Proposed Alternative and Sycamore Canyon Expansion Alternative, as discussed below. These analyses, inclusive of the methodologies and evaluation criteria employed, are discussed in the Traffic Impact Analysis reports for each of these alternatives. The additional analyses include the following.

### Applicant's Proposed Alternative

The additional analyses for the Applicant's Proposed Alternative address issues that are unique to the Gregory Canyon site and that were raised during the scoping of the EIS and during the EIR process. Two of these analyses were prepared to provide the public and/or transportation agencies with information, but were not used to identify significance of adverse effects. These analyses addressed merge conditions on freeway ramps at the I-15, and a second analysis of three intersections (over and above analyses included below) to identify Caltrans roadway classifications or operations levels. If such studies were to be performed for the alternative sites, their findings would likewise be informational, and would not lead to findings of significant adverse effects nor requirements for new mitigation measures beyond the significant adverse effects and mitigation measures already identified for the alternatives.

The remaining analysis that was prepared for only the Applicant's Proposed Alternative measured potential impacts to SR 76 on an hourly basis from 7:00 A.M. to 5:00 P.M., which are the hours of operation. This analysis was performed to address the unique set of roadway conditions along SR 76, including large scale cumulative projects adding considerable traffic to SR 76, atypical traffic patterns due to the location of the Pala Casino on SR 76, peak hour conditions on SR 76 that vary from typical roadways, and previous General Plan recommendations to improve the roadway west of the landfill access location to full four-lane service.

All of these analyses originally prepared for the EIR were updated in the Traffic Impact Analysis for this EIS. The SR 76 hourly traffic analysis completed for the EIR concluded that of the daily hours analyzed, there would be three hours (2:00 P.M. to 5:00 P.M.) when roadway segments from Pankey Road to the new site access road would operate at LOS E due to the 2-lane roadway configuration. Based on that analysis, the EIR included in its MMRP a mitigation measure that limits the number of landfill trips on SR 76, east of the I-15 to 72 trucks, 37 trucks and 37 trucks for the respective hours, until such time as the roadway is widened to 4-lanes. Implementation of the mitigation measure would avoid a significant adverse effect. It is included as a design feature for the Applicant's Proposed Alternative and is incorporated into the analyses below.

In addition, the Traffic Impact Analysis for the Applicant's Proposed Alternative also reports accident data for SR 76. Those data, included for informational purposes indicate that the rate of accidents along SR76 is consistent with accident rates associated with similar roadways. Driver violations and excessive speeds are the primary causes of collision on SR 76; trucks are not notable contributors to roadway accidents.

### Sycamore Canyon Expansion Alternative

The Revised Final EIR upon which the analysis of the Sycamore Canyon Expansion Alternative is based also includes a study of two intersections to identify Caltrans roadway classifications or operations levels. This analysis was, as was the case with the Applicant's Proposed Alternative, prepared to provide the public and/or transportation agencies with information, but was not used to identify significance of adverse effects.

## 4.15.3 APPLICANT'S PROPOSED ALTERNATIVE

## 4.15.3.1 Affected Environment

### Roadway Network

The Applicant's Proposed Alternative is located in the northern part of San Diego County on SR 76, with regional access at the I-15 ramps, approximately three miles east of the access to the Gregory Canyon site. The roadway network serving the site is shown on Figure 4.15-1, *Applicant's Proposed Alternative – Roadway Network and Facilities Analyzed,* and its components are described below.

Interstate 15 in the vicinity of the site is classified as a Freeway on the *San Diego County GPU, Mobility Element,* October 2010. Within the study area, I-15 is constructed as an eight lane divided freeway with a center divider. The travel lanes are generally 12 feet in width and the shoulder is generally 10 to 12 feet in width. The posted speed limit is 70 mph along I-15 in the vicinity of the site.

SR 76 from the Bonsall Community Planning Area (CPA) boundary to Couser Canyon Road is classified as a 4.1A Major Road with a raised median and from Couser Canyon Road to the Pala/Pauma Subregion boundary is classified as a 2.1D Community Collector on the *GPU Fallbrook Mobility Element,* October 2010. SR 76 from Oak Creek Road to Old Highway 395 is currently built as a three-lane roadway with a 12-foot two-way center turn lane (one lane of travel in the westbound direction and two eastbound) with shoulder widths ranging from eight to 10 feet. From Old Highway 395 to the I-15 Southbound Ramps, SR 76 is currently constructed as a four-lane roadway with a two-way center turn lane with the eastbound number one lane trapping onto the I-15 southbound on-ramp. A paved shoulder of approximately eight to 10 feet is provided along both sides of the roadway. Between the I-15 ramps, SR 76 is built as a two-lane roadway with extended left-turn lanes onto the I-15 ramps. SR 76 from the I-15 Northbound ramps to approximately 0.4 miles east of Pankey Road has recently been widened to a four-lane roadway with a 12-foot striped median. A shoulder of approximately eight to 10 feet is provided in each travel direction. Continuing east of Pankey Road, SR 76 reduces to three-lanes of travel (two westbound, one eastbound) for about 0.4 miles where it narrows to a two-lane undivided roadway continuing east toward the Pala/Pauma Subregion area. The two-lane portion of SR 76 provides minimal paved shoulders (two to three feet) in each travel direction. Additionally, several horizontal alignment signs from the Manual on Uniform Traffic Control Devices (MUTCD) (e.g. cautionary/reduce speed signs) are posted along SR 76.

Caltrans has identified a widening project on SR 76 known as the Caltrans SR 76 East Project (from approximately S. Mission Road to the I-15 Northbound Ramp). The Caltrans SR 76 East Project has identified TransNet as a funding source and the current estimate of completion is 2015.

Old Highway 395 from Pala Mesa Drive to SR 76 is classified as a 4.1B Major Road with intermittent turn lanes on the GPU Fallbrook Mobility Element, October 2010. From SR 76 to the Bonsall CPA boundary it is classified as a 2.1D Community Collector. Old Highway 395 is currently built within the project study area as a two-lane undivided roadway with a shoulder width ranging from two to eight feet. The posted speed limit on Old Highway 395 from Mission Road to SR 76 is 55 mph.

Pankey Road from Pala Mesa Road to SR 76 is classified as a 2.1A Community Collector with a raised median on the *GPU Fallbrook Mobility Element,* October 2010. North of SR 76, Pankey Road is paved as a two-lane undivided roadway for approximately 0.15 miles up to a terminus cul-de-sac. The applicant for the Campus Park West project proposes to construct Pankey Road as a 4-lane Boulevard Series Road from Pala Mesa Drive to its designated "Project Driveway #4" south of SR 76. The applicant for Campus Park West will be responsible for constructing this segment of Pankey Road before obtaining occupancy permits, should Campus Park West be constructed prior to Campus Park or Meadowood. From SR 76 south to Shearer Crossing (connects to Dulin Road), Pankey Road is constructed as a two-lane undivided roadway. No posted speed limits were observed.

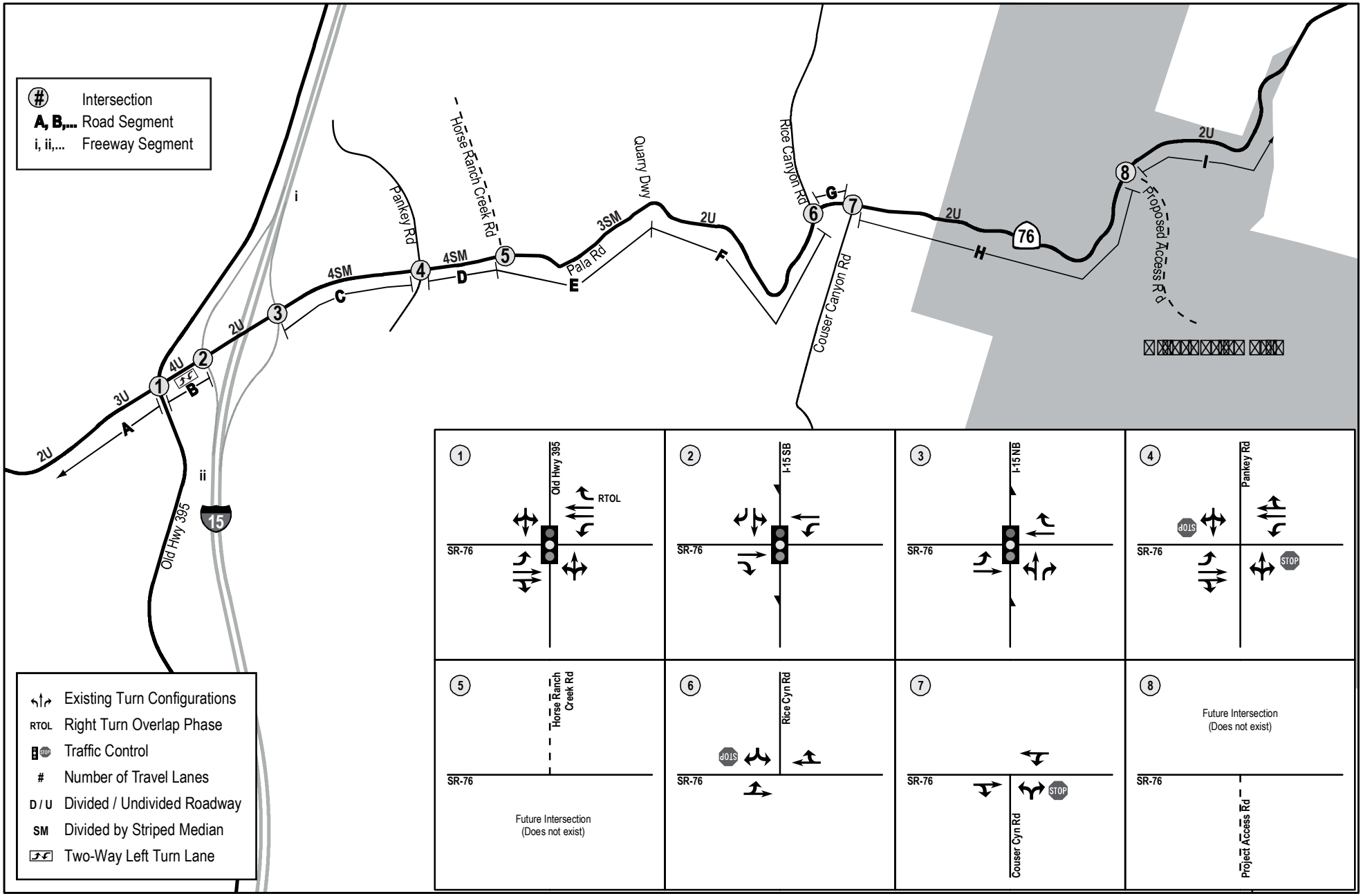
Rice Canyon Road from the Rainbow CPA boundary to SR 76 is classified as a 2.2F Light Collector with a reduced shoulder on the *GPU Fallbrook Mobility Element,* October 2010. Rice Canyon Road is currently built as a two-lane undivided roadway with limited shoulder provided. No posted speed limits were observed.

Couser Canyon Road from SR 76 to the Valley Center CPA boundary is classified as a 2.2F Light Collector with a reduced shoulder on the *GPU Fallbrook Mobility Element,* October 2010. Couser Canyon Road is currently built as a two-lane undivided roadway with limited shoulder provided. No posted speed limits were observed.

Horse Ranch Creek Road is a roadway that connects to the existing portion of Pankey Road that exists south of Stewart Canyon Road to SR 76 along a new alignment. The roadway has been under construction during preparation of this EIS. The Horse Ranch Creek Road replaces the existing Pankey Road that was previously classified as a Light Collector on the superseded September 2005 *San Diego County Circulation Element* map.

### Current Service Levels

Existing service levels have been assessed for each of the roadway facilities analyzed based on the LOS methodology indicating both the quantitative operations level and the qualitative LOS level associated with that level of operations. The existing service levels for each of the roadway facilities analyzed (as identified in Figure 4.15-1) is shown in Table 4.15-5 through Table 4.15-7 below. The facilities have been identified with a number (intersections), letter (roadway segments), or Roman numeral (freeway segments) to reflect their locations, as shown on the figure.

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**Applicant's Proposed Alternative - Roadway Network and Facilities Analyzed**

**Gregory Canyon**

Source: Linscott, Law & Greenspan, Engineers, 2012.

FIGURE

**4.15-1**

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**Table 4.15-5**

**Existing Intersection Operations**

| Intersection | Traffic Control | Critical Movement | Peak Hour | Existing Delay [a] | Existing LOS [b] |
|---|---|---|---|---|---|
| 1. SR 76 / Old Highway 395 | Signal | All | A.M. | 39.3 | D |
| | | | P.M. | 34.0 | C |
| 2. SR 76 / I-15 SB Ramps | Signal | All | A.M. | 21.7 | C |
| | | | P.M. | 25.4 | C |
| 3. SR 76 / I-15 NB Ramps | Signal | All | A.M. | 27.6 | C |
| | | | P.M. | 42.6 | D |
| 4. SR 76 / Pankey Rd | TWSC [c] | NBLR | A.M. | 12.1 | B |
| | | | P.M. | 14.4 | B |
| 5. SR 76 / Horse Ranch Creek Rd | *DNE* | — | A.M. | – | – |
| | | | P.M. | – | – |
| 6. Rd 76 / Rice Canyon Rd | TWSC | SBLR | A.M. | 10.5 | B |
| | | | P.M. | 12.2 | B |
| 7. SR 76 / Couser Canyon Rd | TWSC | NBLR | A.M. | 11.9 | B |
| | | | P.M. | 14.0 | B |
| 8. SR 76 / Landfill Access | *DNE* | — | A.M. | – | – |
| | | | P.M. | – | – |

***Notes:***
*DNE = Does not exist.*

[a] *Average delay expressed in seconds per vehicle.*
[b] *LOS = Level of Service.*
[c] *TWSC = Two-Way Stop Controlled Intersection. Minor street approach delay reported.*

*Source: Linscott Law and Greenspan, LLC, 2012*

In summary, the existing service levels are as follows:

- Intersections (peak hours): The seven existing intersections are all calculated to currently operate at LOS D or better during the A.M. and P.M. peak hours.
- Street Segment Operations: On a daily basis the nine roadway segments analyzed are calculated to currently operate at LOS D or better except for the following:
  - SR 76 West of Old Highway 395 – LOS E
- Freeway Operations: The northbound and southbound segments of I-15 north and south of SR 76 currently operate at LOS C or better during both the A.M. and P.M. peak hours.

## 4.15.3.2 Design Features from the Gregory Canyon EIR

The Applicant's Proposed Alternative would include the construction of an access road from SR 76, creating a new SR 76/Access Road signalized intersection. In addition, approximately 1,700 linear feet of SR 76 would be realigned to the south of the existing alignment to ensure a minimum sight distance of 1,000 feet in both directions and to facilitate truck movements. Also, the improvements would widen the roadway to 52 to 64

**Table 4.15-6**

**Existing Street Segment Operations – Daily Totals**

| Street Segments | General Plan Update Classification [a] | Functional Classification | Existing Capacity (LOS E) [b] | ADT [c] | LOS [d] |
|---|---|---|---|---|---|
| **SR 76 (Pala Road)** | | | | | |
| A. West of Old Highway 395 | 4.1A Major Road | 2-Ln Community Collector w/ Passing Lane | 22,900 [e] | **16,620** | **E** |
| B. Old Highway 395 to I-15 SB Ramps | 4.1A Major Road | 4-Ln Major Road | 37,000 | 20,670 | B |
| C. I-15 NB Ramps to Pankey Road | 4.1A Major Road | 4-Ln Major Road | 37,000 | 9,710 | A |
| D. Pankey Road to Horse Ranch Creek Road | 4.1A Major Road | 4-Ln Major Road | 37,000 | 8,540 | A |
| E. Horse Ranch Creek Road to Quarry Driveway | 4.1A Major Road | 2-Ln Community Collector with Passing Lane | 22,900 [e] | 8,540 | ≥ D |
| F. Quarry Driveway to Rice Canyon Road | 4.1A Major Road | 2-Ln Community Collector w/ No Median | 22,900 [e] | 8,520 | ≥ D |
| G. Rice Canyon Road to Couser Canyon Road | 4.1A Major Road | 2-Ln Community Collector w/ No Median | 22,900 [e] | 8,520 | ≥ D |
| H. Couser Canyon Road to Project Access | 2.1D Community Collector | 2-Ln Community Collector w/ No Median | 22,900 [e] | 8,520 | ≥ D |
| I. East of Project Access | 2.1D Community Collector | 2-Ln Community Collector w/ No Median | 22,900 [e] | 8,520 | ≥ D |

Notes:
Bold typeface indicates less than acceptable.

[a] *GPU Classifications based on GPU Fallbrook Mobility Element, October 2010.*
[b] *Capacities based on County of San Diego Roadway Classification Table.*
[c] *Average Daily Traffic Volumes.*
[d] *Level of Service.*
[e] *Per County of San Diego significance criteria, LOS E > 16,200 and LOS F > 22,900 for two-lane highways with signalized intersection spacing over one mile*

*Source: Linscott Law and Greenspan, LLC, 2012*

**Table 4.15-7**

**Existing Freeway Segment Operations**

| Freeway Segment | Dir. | # of Lanes | Hourly Capacity [a] | ADT Volume | A.M. | P.M. | A.M. | P.M. | | Peak Hour Volume A.M. | Peak Hour Volume P.M. | V/C [b] A.M. | V/C [b] P.M. | LOS [c] A.M. | LOS [c] P.M. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Interstate 15** | | | | | | | | | | | | | | | |
| i North of SR 76 | NB | 4M | 9,400 | 125,000 | | | | | | 1,687 | 6,575 | 0.179 | 0.699 | A | C |
| | SB | 4M | 9,400 | | | | | | | 6,301 | 2,937 | 0.670 | 0.312 | C | A |
| ii South of SR 76 | NB | 4M | 9,400 | 128,000 | | | | | | 1,490 | 6,432 | 0.159 | 0.684 | A | C |
| | SB | 4M | 9,400 | | | | | | | 6,052 | 2,822 | 0.644 | 0.300 | C | A |

[a] *Capacity calculated at 2350 vehicles per hour (vph) per lane (pcphpl) from Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002.*
[b] *V/C = ((ADT)(K)(D)/Truck Factor/Capacity)*
[c] *LOS = Level of Service*

*Source: Linscott Law and Greenspan, LLC, 2012*

feet to provide for an eastbound deceleration lane and a westbound left-turn lane. As an additional design feature, the Applicant is committed to offering Caltrans a contribution of up to $1,000,000 for improvements to SR 76 in the vicinity of the landfill. At the discretion of Caltrans other roadway improvements may be provided with this funding.

The following summarizes mitigation measures that would be required under CEQA by San Diego County with implementation of the Gregory Canyon Landfill project pursuant to a Mitigation Monitoring and Reporting Program (MMRP) adopted by the San Diego County DEH on May 13, 2011. As these measures would be required as part of the project, they are referred to and considered as design features in this EIS. The MMRP with the full text of the measures is included in Appendix A of this EIS.

- **DF 4.5-1. SR 76 Structural Analysis.** Requires a structural analysis of SR 76 from the Palomar Aggregates project site to the landfill entrance with construction of recommended pavement improvements consistent with Caltrans requirements.
- **DF 4.5-2. Trip Limit**. Requires maintenance of computerized daily records of total project traffic and when project traffic equals 2,085 PCE trips or 675 truck trips in any day, the landfill shall be shutdown for that day. Notification is provided to waste haulers when 95% of the limit is reached.
- **DF 4.5-3. Hourly Restrictions.** Provides hourly restrictions on the number of truck trips on SR 76 between 2:00 P.M. and 5:00 P.M. until SR 76 is widened to four lanes between I-15 and the landfill access road.[2]
- **DF 4.5-4. Payment of TIF fees.** Requires payment of the County's Transportation Impact Fee (TIF) to fund fair share of improvements to address cumulative impacts.
- **DF 4.5-5. Fee Contribution for Roadway Improvements.** Requires a fair share contribution for the addition of an eastbound left turn lane and westbound through lane on the I-15 overcrossing.
- **DF 4.5-6. ROW dedication.** Irrevocable offer of dedication for right-of-way within the project boundary for the widening of SR 76 to four lanes, consistent with the provisions of DF 4.5-4.

### 4.15.3.3 Environmental Consequences and Mitigation Measures

***Criteria:***

***Intersections***

*An alternative would have a significant adverse effect on roadway intersections if the additional increment of traffic would:*

- *Cause an intersection operating at LOS D to operate at LOS E; or an intersection operating at LOS E to operate at LOS F.*

*Further, an alternative would have a significant adverse effect on roadway intersections if it would:*

- *Operate at LOS E or F, and contribute the following traffic impact:*

[2] *As described further below, an alternative mitigation measure has been proposed that would provide equivalent mitigation to traffic impacts, consistent with new roadways designations in the County's General Plan Update.*

| *Level of service* | *Signalized* | *Unsignalized* |
|---|---|---|
| *LOS E* | *Delay of 2 seconds or less* | *20 or less peak hour trips on a critical movement* |
| *LOS F* | *Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement* | *5 or less peak hour trips on a critical movement* |

### *Roadway Segments –Total Daily Trips*

*An alternative would have a significant adverse effect on roadway segments if the additional daily increment of traffic would result in one or more of the following;*

- *The additional or redistributed ADT generated by the alternative on a Circulation Element Road or State Highway would cause the road/highway to operate at a LOS E or LOS F; OR*
- *The additional or redistributed ADT generated by the alternative would cause a residential street to exceed its design capacity.*

*Further, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment of daily traffic would include the following number of trips:*

| *Level of Service* | *Two-Lane Road* | *Four-Lane Road* | *Six-Lane Road* |
|---|---|---|---|
| *LOS E* | *200 ADT* | *400 ADT* | *600 ADT* |
| *LOS F* | *100 ADT* | *200 ADT* | *300 ADT* |

*Also, for 2-lane highways, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment would cause a speed decrease of over one (1.0) mile per hour when conducting a Highway Capacity Software hourly analysis; or*
- *The additional increment of daily traffic would have the following effects on operations:*

**With Signalized Intersection Spacing Over One Mile**

| Level of Service | LOS Criteria | Significance Level |
|---|---|---|
| LOS E | > 16,200 ADT | >325 ADT |
| LOS F | > 22,900 ADT | >225 ADT |

**With Signalized Intersection Spacing Under One Mile**

| Level of Service | Signalized |
|---|---|
| LOS E | Delay of 2 seconds or less |
| LOS F | Delay of 1 second, or<br>5 peak hour trips or less on a critical movements |

### *Freeways*

*An alternative would have a significant adverse effect on a freeway segment if:*

- *The alternative's traffic would cause the operations to drop one letter grade (i.e. from LOS D to LOS E or LOS E to LOS F).*

**Impact Statement Gregory TRAF-1: The Applicant's Proposed Alternative would add new traffic to the roadway network. The trips would have the greatest impacts along SR 76 between the landfill access road and the I-15 ramps. The trip distribution through traffic facilities analyzed, when measured against the Existing Conditions Baseline would have no significant adverse effects.**

The Applicant's Proposed Alternative would add traffic to the roadway network, inclusive of haul trucks that would carry waste to the landfill for disposal, worker vehicles operated by landfill employees, and service vehicles to support the landfill activities. The number of trips expected is tied to the design of the landfill and permit limitations on the tonnage that can be disposed. The solid waste facility permit would limit the operation to a maximum intake of one million tons of solid waste annually with fluctuations in the daily inflow rates of 3,200 tons per day (tpd) to 5,000 tpd, which is inclusive of traffic from landfill operations and periodic construction. Therefore, the traffic analysis has been prepared based on a maximum disposal day of 5,000 tons. The maximum number of trips and expected average daily number of trips are shown in Table 4.15-8, *Landfill Trip Generation*. As indicated, during a maximum disposal day, it is assumed that the site would be visited by 625 collection trucks, 48 delivery/recycled water/other trucks, 22 employee vehicles and 10 service/visitor vehicles; or a total of 705 vehicles. As further indicated, this is the equivalent of 2,083 PCE.

**Table 4.15-8**

**Landfill Trip Generation**

| | Number of Trips | | |
|---|---|---|---|
| **Activity Type** | **One-Way** | **Two-Way** | **With 1.5 PCE Factor** |
| **Maximum Waste (5,000 TPD)** | | | |
| Collection Trucks | 625 | 1,250 | 1,875 |
| Water/Delivery/Other [a] | 48 | 96 | 144 |
| Employee [b] | 22 | 44 | 44 |
| Service/Visitor [c] | 10 | 20 | 20 |
| **Total Daily PCE Trips** | | | **2,083** |
| **Average Waste (3,200 TPD)** | | | |
| Collection Trucks | 400 | 800 | 1,200 |
| Water/Delivery/Other [a] | 48 | 96 | 144 |
| Employee [b] | 22 | 44 | 44 |
| Service/Visitor [c] | 10 | 20 | 20 |
| **Total Daily PCE Trips** | | | **1,408** |

*PCE = passenger car equivalent per discussion in Methodology discussion above.*

[a] *Other trucks consist of periodic construction, including brine, and leachate removal, and recycled water.*

[b] *Number of employee vehicles = 22 per day x 2 trips/day = 44 trips.*

[c] *Number of Service/Visitor Vehicles = 10 per day x 2 trips/day = 20 trips*

*Source: Gregory Canyon, Limited, 2011.*

Trip distribution for the proposed landfill is generally oriented north and south along I-15. Population densities in relation to the proposed facility indicate that most of the waste would originate from areas south of SR 76 and west of I-15, with nominal amounts from the east on SR 76 or north on I-15. Figure 4.15-2, *Applicant's Proposed Alternative – Daily Traffic Volumes and Peak Hour Turning Movements*, shows the total number of trips along each of the roadway segments serving the site and the intersection turning volumes during the A.M. and P.M. peak hours.[3]

The traffic analysis evaluates the potential impacts of alternative-generated trips added to the existing traffic conditions. The analysis assumes the improvements to SR 76 along the site frontage and the proposed access road, including the signalized intersection would be implemented. The potential impacts for the various roadway facilities would be as follows:

#### Intersections

With the addition of landfill traffic, the eight intersections would continue to operate at LOS D or better. This level of service does not exceed the LOS E and LOS F evaluation criteria; and therefore, would not result in a significant adverse effect.

#### Roadway Segments

With the addition of new landfill traffic, the nine roadway segments analyzed are calculated to continue to operate at LOS D or better except for the following:

- SR 76 West of Old Highway 395 – LOS E

Since the alternative would add less than 225 trips to this two-lane highway LOS E segment, it would not result in a significant adverse effect.

#### Freeways

The northbound and southbound segments of I-15 north and south of SR 76 would continue to operate at an acceptable LOS C or better during both the A.M. and P.M. peak hours. Therefore, operations would not exceed the LOS E or LOS F criteria and would not result in a significant adverse effect.

### Other Information Regarding the Applicant's Proposed Alternative

As discussed in the Methodology Section above, the Traffic Analysis Study for the Applicant's Proposed Alternative included additional data for information purposes. The data pertain to issues that were raised during the scoping of the EIS and during the EIR process; and issues that are unique to SR 76 including large scale cumulative projects adding considerable traffic to SR 76, atypical traffic patterns due to the location of the Pala Casino on SR 76, peak hour conditions on SR 76 that vary from typical roadways, and previous

[3] *Nominal truck trips may utilize local roadways such as Rice Canyon Road and Couser Canyon Road; however these volumes are not considered in the analysis due to the low existing volumes and adequate levels of service on these local roadways and the fact that any project trips on these roadways would not occur on a day-to-day basis.*

General Plan recommendations to improve the roadway west of the landfill access location to full four-lane service. The additional information indicates the following:

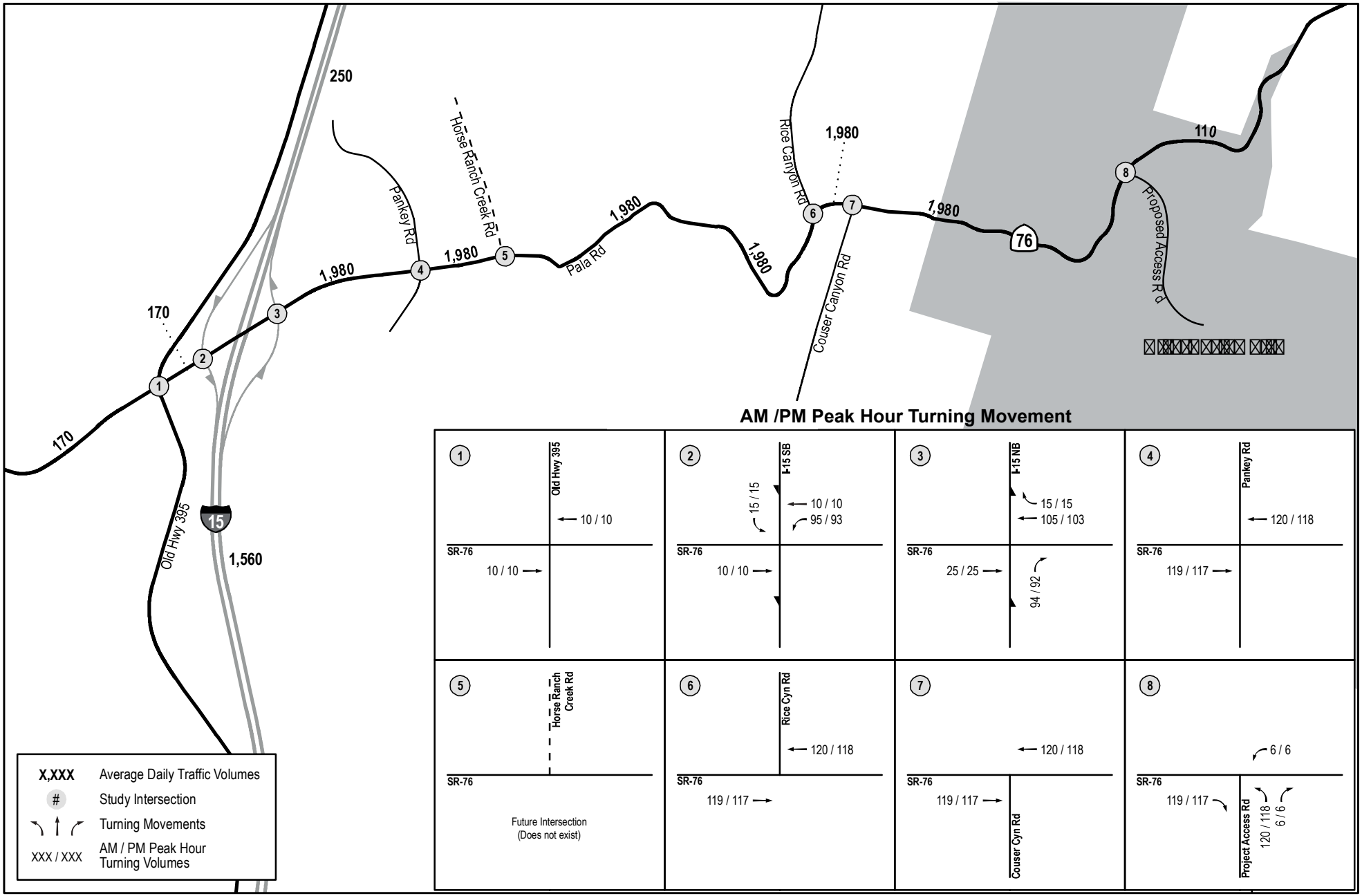
- Review of accident information along SR 76 indicates that the rate of accidents is similar to the rates associated with similar roadways. Driver violations and excessive speeds are the primary causes of collision on SR 76; trucks are not notable contributors to roadway accidents.
- An analysis of freeway merging impacts indicates that the northbound and southbound on/off ramps at the I-15/SR 76 interchange would continue to operate at LOS D or better with the addition of traffic generated by the Applicant's Proposed Alternative.
- In addition to the intersection analysis above, intersections were analyzed per the Caltrans ILV (Intersection Lane Vehicles) methodology. The analysis indicates that the traffic associated with the Applicant's Proposed Alternative, when added to the existing conditions, would not cause the intersections to operate over capacity in the A.M. or P.M. peak hours.
- An additional peak hour roadway segment analysis for SR 76 between Old Highway 395 and I-15 would operate at LOS D or better during the A.M. and P.M. peak hours.
- An hourly analysis during landfill operations, on the two multilane roadway segments indicates that the two segments would operate at LOS A during each of the eleven hours analyzed.
- An hourly analysis for the six 2-lane road segments along SR 76 indicated that with the additional landfill traffic, these segments would operate at acceptable levels, and would not result in a significant adverse effect.

Mitigation Measures

The Applicant's Proposed Alternative, when added to the Existing Conditions Baseline, would not result in a significant adverse effect.. No mitigation measures are proposed.

**Impact Statement Gregory TRAF-2: The Applicant's Proposed Alternative would add new traffic to the roadway network. The trips would have the greatest impacts along SR 76 between the landfill access road and the I-15 ramps. Under the Near Term Conditions scenario, the trip distribution through the traffic facilities analyzed would result in new cumulative traffic contributions that would operate at service levels below the evaluation criteria with implementation of the alternative's design features. However, proposed design features include payment of TIF fees whose payment would not necessarily result in construction of proposed roadway improvements to address the alternative's significant adverse cumulative effects, or result in their implementation prior to the significant adverse effect occurring. Therefore, it is conservatively concluded that the alternative could result in exceedance of the evaluation criteria at six intersections and six roadway segments.**

The Near-Term Conditions scenario evaluates cumulative impacts that would occur due to landfill traffic in combination with traffic that would occur due to new development in the vicinity of the site, as well as new roadway improvements that would help to improve traffic operations, as compared to the roadway capacity under the Existing Conditions Baseline. In addition, this analysis takes into account design features that would improve the landfill access with a signalized intersection and the payment of fair-share fees to San Diego County's TIF program.




**Applicant's Proposed Alternative - Daily Traffic Volumes and Peak Hour Turning Movements**

**Gregory Canyon**

Source: Linscott, Law & Greenspan, Engineers, 2012.

FIGURE

**4.15-2**

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The traffic analysis for the Applicant's Proposed Alternative identified a series of physical roadway improvements that would that could be implemented through the TIF program to reduce traffic impacts. These improvements are listed in Table 4.15-9, *Proposed Roadway Improvements*.

If these physical improvements were implemented through the payment of TIF fees, LOS levels on all of the intersections, roadway segments and freeway segments would have LOS D or better operating conditions, except for the following location:

- SR 76 between Old Highway 395 and I-15 Southbound Ramps – LOS E (A.M./P.M. peak hours)

While LOS E is normally considered less than acceptable, the General Plan Update Fallbrook Mobility Element considers LOS E to be an acceptable LOS for this roadway segment; and indicates that's LOS E operations are preferable to further physical improvement at this location, rendering further mitigation infeasible. Notwithstanding, the additional traffic would result in delay times that exceed the evaluation criteria above, and would therefore result in a significant adverse effect..

As noted, other intersections and road segments analyzed would operate at acceptable LOS D levels, or better, and would not result in a significant adverse effect. However, even with the payment of the TIF fees, it cannot be guaranteed that the roadway improvements proposed to address specific impacts of the Applicant's Proposed Alternative would be implemented; or if implemented would be done so in a timely fashion. Therefore, the Applicant's Proposed Alternative would contribute to a significant adverse effect under the Near-Term Conditions scenario.

The locations that could result in significant adverse effects and their operating levels if one or more of the proposed physical roadway improvements proposed in the Traffic Impact Analysis were not implemented are as follows:

<u>Intersections</u>

- SR 76 / Old Highway 395 – LOS F (A.M./P.M. peak hours)
- SR 76 / I-15 Southbound Ramps – LOS F (A.M./P.M. peak hours)
- SR 76 / I-15 Northbound Ramps – LOS F (A.M./P.M. peak hours)
- SR 76 / Rice Canyon Road – LOS F (A.M./P.M. peak hours)
- SR 76 / Couser Canyon Road – LOS F (A.M./P.M. peak hours)
- SR 76 / Site Access – LOS E (P.M. peak hour)

<u>Roadway Segments</u>

- SR 76 West of Old Highway 395 – LOS F
- SR 76 between Old Highway 395 and the I-15 Southbound Ramps – LOS E
- SR 76 east of the Quarry Driveway to Rice Canyon Road – LOS F

**Table 4.15-9**

**Proposed Roadway Improvements**

| Location (As identified on Figure 4.15-1) | Impact Type | Proposed Physical Improvements |
|---|---|---|
| **Intersections** | | |
| 8. SR 76 / Landfill Access Road | Direct, Near-Term & Buildout Cumulative | Install a traffic signal and provide an eastbound deceleration lane and westbound dedicated left-turn lane with a shared northbound left-right-turn lane. |
| 1. SR 76 / Old Highway 395 | Near-Term Cumulative | Implementation of the TransNet SR 76 Widening Project to provide additional lanes at this intersection |
| 2. SR 76 / I-15 Southbound Ramps | Near-Term Cumulative | A new interchange design currently under study by Caltrans |
| 3. SR 76 / I-15 Northbound Ramps | Near-Term Cumulative | A new interchange design currently under study by Caltrans |
| 4. SR 76 / Rice Canyon Road | Near-Term Cumulative | Install a traffic signal |
| 5. SR 76 / Couser Canyon Road | Near-Term Cumulative | Install a traffic signal |
| **Segments** | | |
| A. SR 76 west of Old Highway 395 | Near-Term Cumulative | Implementation of the TransNet SR 76 Widening Project is proposed to widen SR 76 to four lanes along this section of the roadway |
| B. SR 76 between Old Highway 395 and the I-15 Southbound Ramps | Near-Term Cumulative | Implementation of the TransNet SR 76 Widening Project is proposed to widen SR 76 to four lanes along this section of the roadway. |
| F. SR 76 east of the Quarry Driveway to Rice Canyon Road | Near-Term Cumulative | Widen SR 76 to 4.1A Major Road standards |
| G. SR 76 between Rice Canyon Road and Couser Canyon Road | Near-Term Cumulative | Widen SR 76 to 4.1A Major Road standards |
| H. SR 76 between Couser Canyon Road and the Landfill Access | Near-Term & Buildout Cumulative | Install a traffic signal at the Couser Canyon intersection |
| I. SR 76 east of the Landfill Access | Near-Term & Buildout Cumulative | Install a traffic signal at the Couser Canyon intersection (Traffic signals to west of landfill access location effect operations to its east.) |

*Source: Linscott Law and Greenspan, LLC, 2012*

- SR 76 between Rice Canyon Road and Couser Canyon Road – LOS F
- SR 76 between Couser Canyon Road and the Project Access – LOS F
- SR 76 east of the Project Access – LOS E

### Other Information Regarding the Applicant's Proposed Alternative

As noted above, the Traffic Analysis Study for the Applicant's Proposed Alternative included additional data for information purposes to address issues raised by the public during the scoping process, and the preparation of the EIR; and to address unique operating conditions along SR 76. The additional information indicates the following regarding Near-Term Conditions:

- Review of accident information along SR 76 indicates that the rate of accidents is similar to the rates associated with similar roadways. Driver violations and excessive speeds are the primary causes of collision on SR 76; trucks are not notable contributors to roadway accidents.
- An analysis of freeway merging impacts indicates that the northbound and southbound on/off ramps at the I-15/SR 76 interchange would continue to operate at LOS D or better with the addition of traffic generated by the Applicant's Proposed Alternative, except for I-15 Northbound Off-ramp diverge movement, which would operate at LOS E in the P.M. Peak hour.
- In addition to the intersection analysis above, intersections were analyzed per the Caltrans ILV (Intersection Lane Vehicles) methodology. The analysis indicates that the cumulative traffic associated with the Applicant's Proposed Alternative and other anticipated development, when added to the existing conditions, would cause the following intersections to operate over capacity in the A.M. and P.M. peak hours: The intersections of SR 76 with Old Highway 395, I-15 Southbound ramps and I-15 Northbound ramps.

  An additional peak hour roadway segment analysis indicated that the following SR 76 street segments would operate at LOS E and/or F during the A.M. and P.M. peak hours: Between Old Highway 395 and I-15, and between I-15 Ramps to Pankey Road.

- An hourly analysis during landfill operations, on the two multilane roadway segments indicates that the two segments, inclusive of landfill trips and cumulative project trips, would operate at LOS A during each of the eleven hours analyzed.
- An hourly analysis for the six 2-lane road segments along SR 76 indicated that, with the additional landfill traffic and cumulative project trips, an unacceptable service level could occur without implementation of the design features, but that the design features would result in operations at acceptable levels, with no significant adverse effects.

#### Mitigation Measures

As described above, the Applicant's Proposed Alternative includes design features, including the payment of TIF fees that would, if implemented, result in no significant adverse direct and cumulative effects under the Near-Term Conditions scenario. Since the implementation of those measures is beyond the control of the Applicant, significant adverse effects could result if the roadway improvements were not implemented or not implemented in a timely fashion. As there is no means of ensuring implementation of the roadway

improvements via feasible mitigation measures, and since implementation of the recommended roadway improvements would avoid significant adverse effects, no further mitigation measures are proposed.

**Impact Statement Gregory TRAF-3: The Applicant's Proposed Alternative would add new traffic to the roadway network. The trips would have the greatest impacts along SR 76 between the landfill access road and the I-15 ramps. The trip distribution through traffic facilities analyzed, when measured against the Buildout Conditions Baseline would operate at levels below the evaluation criteria with implementation of the design features. However, although TIF fees would be paid to support construction of proposed roadway improvements to address the alternative's significant adverse cumulative effects, construction of the roadway improvements is uncertain. Therefore, it is concluded that the alternative could result in a significant adverse effect at one intersection and one roadway segment.**

The analysis of impacts under the Buildout Conditions scenario identifies the impacts of the landfill traffic associated with the Applicant's Proposed Alternative against baseline conditions that include the future development and roadway improvements anticipated in the County's General Plan Update. The traffic analysis indicates that with implementation of the roadway improvements anticipated in the General Plan and with implementation of the Applicant's Proposed Alternative's design features, including the payment of TIF fees, the resulting LOS levels on all intersections, roadway segments and freeway segments would result in LOS D or better operating conditions. Therefore, there would be no significant adverse effects.

Proposed physical improvements that could be implemented with the payment of the TIF fees are listed in Table 4.15-9, above regarding the impacts associated with the Near-Term Conditions scenario. However, even with the payment of TIF fees, it cannot be guaranteed that the roadway improvements proposed to address specific significant adverse effects of the Applicant's Proposed Alternative would be implemented, or would be implemented in a timely manner. Therefore, the Applicant's Proposed Alternative under the Buildout Conditions Baseline scenario could result in significant adverse effects.

The locations that could result in a significant adverse effect and their operating levels if the applicable roadway improvements were not implemented are as follows:

<u>Intersection</u>

- SR 76 / Access Road – LOS E (P.M. peak hour)

<u>Roadway Segment</u>

- SR 76 between Couser Canyon Road and the Landfill Access – LOS F

### Other Information Regarding the Applicant's Proposed Alternative

As noted above, the Traffic Analysis Study for the Applicant's Proposed Alternative included additional data for information purposes to address issues raised by the public during the scoping process, and the preparation of the EIR; and to address unique operating conditions along SR 76. The additional information indicates the following regarding the Buildout Conditions Baseline scenario.

- An analysis of freeway merging impacts indicates that the northbound and southbound on/off ramps at the I-15/SR 76 interchange would continue to operate at LOS C or better with the addition of traffic generated by the Applicant's Proposed Alternative, except for the I-15 Northbound Off-ramp diverge movement, which would operate at LOS F in the P.M. Peak hour; and the I-15 Southbound Off-Ramp diverge movement in the A.M. Peak hour.
- In addition to the intersection analysis above, intersections were analyzed per the Caltrans ILV (Intersection Lane Vehicles) methodology. The analysis indicates that the addition of landfill traffic to the Buildout Conditions Baseline, would result in all of the intersections analyzed operating at near capacity or under capacity conditions.

Mitigation Measures

As described above, the Applicant's Proposed Alternative includes design features that would, if implemented, reduce direct and cumulative significant adverse effects under the Buildout Conditions Baseline scenario to levels that are below the evaluation criteria. Since the implementation of those measures is beyond the control of the Applicant, it has been concluded that significant adverse direct and cumulative effects could occur, if the proposed roadway improvements were not implemented. As there is no means of ensuring implementation of the roadway improvements via feasible mitigation measures, and since implementation of the proposed roadway improvements would avoid significant adverse effects, no further mitigation measures are proposed.

## 4.15.4 NO FEDERAL ACTION ALTERNATIVE

### 4.15.4.1 Affected Environment

The No Federal Action Alternative would provide a conservation bank at the Gregory Canyon site. Solid waste disposal would continue to occur generally as it does under existing conditions. As such, the affected environment would be the same as that described for the Applicant's Proposed Alternative in subsection 4.15.3.1 Affected Environment, above.

### 4.15.4.2 Design Features

Site access would continue to be at existing driveways off of SR 76 that served the previous uses. No driveway or roadway improvements would be implemented as design features for the No Federal Action Alternative.

### 4.15.4.3 Environmental Consequences and Mitigation Measures

***Criteria:***

***Intersections***

*An alternative would have a significant adverse effect on roadway intersections if the additional increment of traffic would:*

- *Cause an intersection operating at LOS D to operate at LOS E; or an intersection operating at LOS E to operate at LOS F.*

*Further, an alternative would have a significant adverse effect on roadway intersections if it would:*

- *Operate at LOS E or F, and contribute the following traffic impact:*

| *Level of service* | *Signalized* | *Unsignalized* |
|---|---|---|
| *LOS E* | *Delay of 2 seconds or less* | *20 or less peak hour trips on a critical movement* |
| *LOS F* | *Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement* | *5 or less peak hour trips on a critical movement* |

### *Roadway Segments –Total Daily Trips*

*An alternative would have a significant adverse effect on roadway segments if the additional daily increment of traffic would result in one or more of the following;*

- *The additional or redistributed ADT generated by the alternative on a Circulation Element Road or State Highway would cause the road/highway to operate at a LOS E or LOS F; OR*
- *The additional or redistributed ADT generated by the alternative would cause a residential street to exceed its design capacity.*

*Further, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment of daily traffic would include the following number of trips:*

| *Level of Service* | *Two-Lane Road* | *Four-Lane Road* | *Six-Lane Road* |
|---|---|---|---|
| *LOS E* | *200 ADT* | *400 ADT* | *600 ADT* |
| *LOS F* | *100 ADT* | *200 ADT* | *300 ADT* |

*Also, for 2-lane highways, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment would cause a speed decrease of over one (1.0) mile per hour; or*
- *The additional increment of daily traffic would have the following effects on operations:*

**With Signalized Intersection Spacing Over One Mile**

| Level of Service | LOS Criteria | Significance Level |
|---|---|---|
| LOS E | > 16,200 ADT | >325 ADT |
| LOS F | > 22,900 ADT | >225 ADT |

**With Signalized Intersection Spacing Under One Mile**

| Level of Service | Signalized |
|---|---|
| LOS E | Delay of 2 seconds or less |
| LOS F | Delay of 1 second, or<br>5 peak hour trips or less on a critical movements |

### *Freeways*

*An alternative would have a significant adverse effect on a freeway segment if:*

- *The alternative's traffic would cause the operations to drop one letter grade (i.e. from LOS D to LOS E or LOS E to LOS F).*

**Impact Statement No Federal Action TRAF-1: The No Federal Action Alternative would not require daily site visits nor add trips to the roadway network on a regular basis. The No Federal Action Alternative would generate a few trips for site maintenance, on an intermittent basis, occurring at varied times. The addition of these trips to the Existing Baseline Conditions would result in no adverse effects.**

The No Federal Action Alternative would not require daily site visits. Rather, the No Federal Action Alternative would generate a few trips for site maintenance, on an intermittent basis, occurring at varied times.

The existing service levels along SR 76 are as follows:

- Intersections (peak hours): The seven existing intersections are all calculated to currently operate at LOS D or better during the A.M. and P.M. peak hours.
- Street Segment Operations: The nine roadway segments analyzed are calculated to operate at LOS D or better except for the following:
    - SR 76 West of Old Highway 395 – LOS E
- Freeway Operations: The northbound and southbound segments of I-15 north and south of SR 76 currently operate at LOS C or better during both the A.M. and P.M. peak hours.

The few intermittent, occasional trips associated with the No Federal Action Alternative would not be expected to alter the existing baseline conditions. Also, the one roadway segment operating at LOS E, is located west of Old Highway 395, and would likely receive no trips with implementation of the No Federal Action Alternative. Therefore, direct impacts of the No Federal Action Alternative would result in no adverse effects.

#### Mitigation Measures

Traffic from the No Federal Action Alternative would not result in adverse effects when measured against the Existing Conditions Baseline scenario. Therefore, no mitigation measures are proposed.

**Impact Statement No Federal Action TRAF-2: The No Federal Action Alternative would not require daily site visits; nor add trips to the roadway network on a regular basis. The No Federal Action Alternative would generate a few trips for site maintenance, on an intermittent basis, occurring at varied times. A number of cumulative projects would contribute to reductions in LOS service level along SR 76. However, the addition of a few occasional trips associated with the No Federal Action Alternative would not add a cumulatively considerable contribution, under the Near-Term Conditions scenario.**

The No Federal Action Alternative would not require daily site visits; nor add trips to the roadway network on a regular basis. The No Federal Action Alternative would generate a few trips for site maintenance, on an intermittent basis, occurring at varied times. However, the cumulative projects would add a considerable number of trips to SR 76, degrading the service levels from their existing conditions.

Operating conditions with the additional traffic from the cumulative development would be as follows:

- Intersections (peak hours): The seven existing intersections are calculated to operate at LOS D or better during the A.M. and P.M. peak hours, except for the following:
  - SR 76 / Old Highway 395 – LOS F (A.M./P.M. peak hours)
  - SR 76 / I-15 Southbound Ramps – LOS F (A.M./P.M. peak hours)
  - SR 76 / I-15 Northbound Ramps – LOS F (A.M./P.M. peak hours)
  - SR 76 / Rice Canyon Road – LOS F (A.M./P.M. peak hours)
  - SR 76 / Couser Canyon Road – LOS F (A.M./P.M. peak hours)
- Street Segment Operations: The nine roadway segments analyzed are calculated to operate at LOS D or better except for the following:
  - SR 76 west of Old Highway 395 – LOS F
  - SR 76 between Old Highway 395 and the I-15 Southbound Ramps – LOS E
  - SR 76 east of the Quarry Driveway to Rice Canyon Road – LOS F
  - SR 76 between Rice Canyon Road and Couser Canyon Road – LOS F
  - SR 76 between Couser Canyon Road and the Project Access – LOS F
  - SR 76 east of the Project Access – LOS E
- Freeway Operations: The northbound and southbound segments of I-15 north and south of SR 76 are calculated to operate at LOS D or better during both the A.M. and P.M. peak hours.

While operating conditions from cumulative projects would cause less than acceptable service levels at numerous intersections and road segments, the few intermittent, occasional trips associated with the No Federal Action Alternative would not be notable, nor alter the existing baseline conditions, nor result in significant adverse effects at any of the locations. Therefore, these few trips would not add a cumulatively considerable contribution to the operating conditions.

Mitigation Measures

Traffic from the No Federal Action Alternative would not result in significant adverse effects when measured against the Near-Term Conditions scenario. Therefore, no mitigation measures are proposed.

**Impact Statement No Federal Action TRAF-3: The No Federal Action Alternative would not require daily site visits; nor add trips to the roadway network on a regular basis. The No Federal Action Alternative would generate a few trips for site maintenance, on an intermittent basis, occurring at varied times. Future operating conditions with development anticipated in the Buildout Conditions**

**Baseline scenario would cause two roadway segments to operate at unacceptable LOS levels. However, the No Federal Action Alternative would not add to significant adverse operating conditions.**

The No Federal Action Alternative would not require daily site visits; nor add trips to the roadway network on a regular basis. The No Federal Action Alternative would generate a few trips for site maintenance, on an intermittent basis, occurring at varied times. However, the GPU anticipates future development that would increase travel along SR 76 without providing commensurate road improvements at all locations. Therefore, travel conditions would degrade from their current levels.

Operating conditions with the additional traffic from the development would be as follows:

- Street Segment Operations: The nine roadway segments analyzed are calculated to operate at LOS D or better except for the following:
  - SR 76 west of Old Highway 395 – LOS F
  - SR 76 between Old Highway 395 and the I-15 Southbound Ramps – LOS F
  - SR 76 between Couser Canyon Road and the Project Access – LOS E
  - SR 76 east of the Project Access – LOS F.

While operating conditions associated with development anticipated in the GPU would be less than acceptable on some road segments, the few intermittent, occasional trips associated with the No Federal Action Alternative would not alter the existing baseline conditions, nor result in significant adverse effects.

Mitigation Measures

Traffic from the No Federal Action Alternative would not result in significant adverse effects when measured against the Buildout Conditions scenario. No mitigation measures are proposed.

## 4.15.5 ASPEN ROAD ALTERNATIVE

### 4.15.5.1 Affected Environment

#### Roadway Network

The Aspen Road Alternative site is located in the northernmost part of San Diego County with regional access from the I-15 Freeway, via Rainbow Glen Road and Old Highway 395 that parallels the I-15. The nearest freeway interchange that provides access to Old Highway 395 is located at Mission Road, approximately 1.75 miles south of the proposed new access road that would serve as the entrance to the Aspen Road Alternative site. The new roadway would extend approximately 2.25 miles from Rainbow Glen Road at the intersection of Oak Crest Road, southeast of the landfill site. The roadway network serving the site is shown on Figure 4.15-3, *Aspen Road Alternative – Roadway Network and Facilities Analyzed.* As indicated, the analyzed road network facilities that would serve the site include five intersections, four roadway segments and two freeway segments.

The following is a description of the key roadways that would serve the alternative site:

Interstate 15 is classified as a Freeway on the *San Diego County General Plan Update (GPU), Mobility Element,* October 2010. Within the study area, I-15 is constructed as an eight lane divided freeway with a center divider. The posted speed limit is 70 mph along I-15 in the vicinity of the alternative site.

Mission Road from Brandon Road to the I-15 Ramps is classified as a 4.2B Boulevard with intermittent turn lanes on the *GPU Mobility Element,* October 2010. It is currently built within the study area as a two-lane undivided roadway. The posted speed limit on Mission Road is 45 mph within the vicinity of the alternative site. According to the *GPU* Table M-4, the addition of travel lanes exceeding the Mobility Element classification of 4.2B Boulevard is not justified on Mission Road from Live Oak Park Road to the I-15 Northbound Ramps. Level of Service E operations are accepted along this segment, pursuant to Goal M-2, Policy M-2.1 of the GPU. Per that policy, the adverse impacts of adding travel lanes do not justify the resulting benefit that would occur with increased capacity.

Old Highway 395 from the I-15 Ramps to the Rainbow Community Planning Area (CPA) is classified as a 2.1D Community Collector with unspecified improvement options on the *GPU Mobility Element,* October 2010. From the Rainbow CPA to Rainbow Valley Boulevard (West)/Rainbow Glen Road it continues to be classified as a 2.1D Community Collector with unspecified improvement options. It is currently built within the study area as a two-lane undivided roadway and per the County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements – Transportation and Traffic*, August 24, 2011, it operates as a two-lane highway with passing opportunities for 40% or more along the length of the roadway and/or have few/limited access points and intersections along the length of the roadway. The posted speed limit on Old Highway 395 is 55 mph within the vicinity of the alternative site.

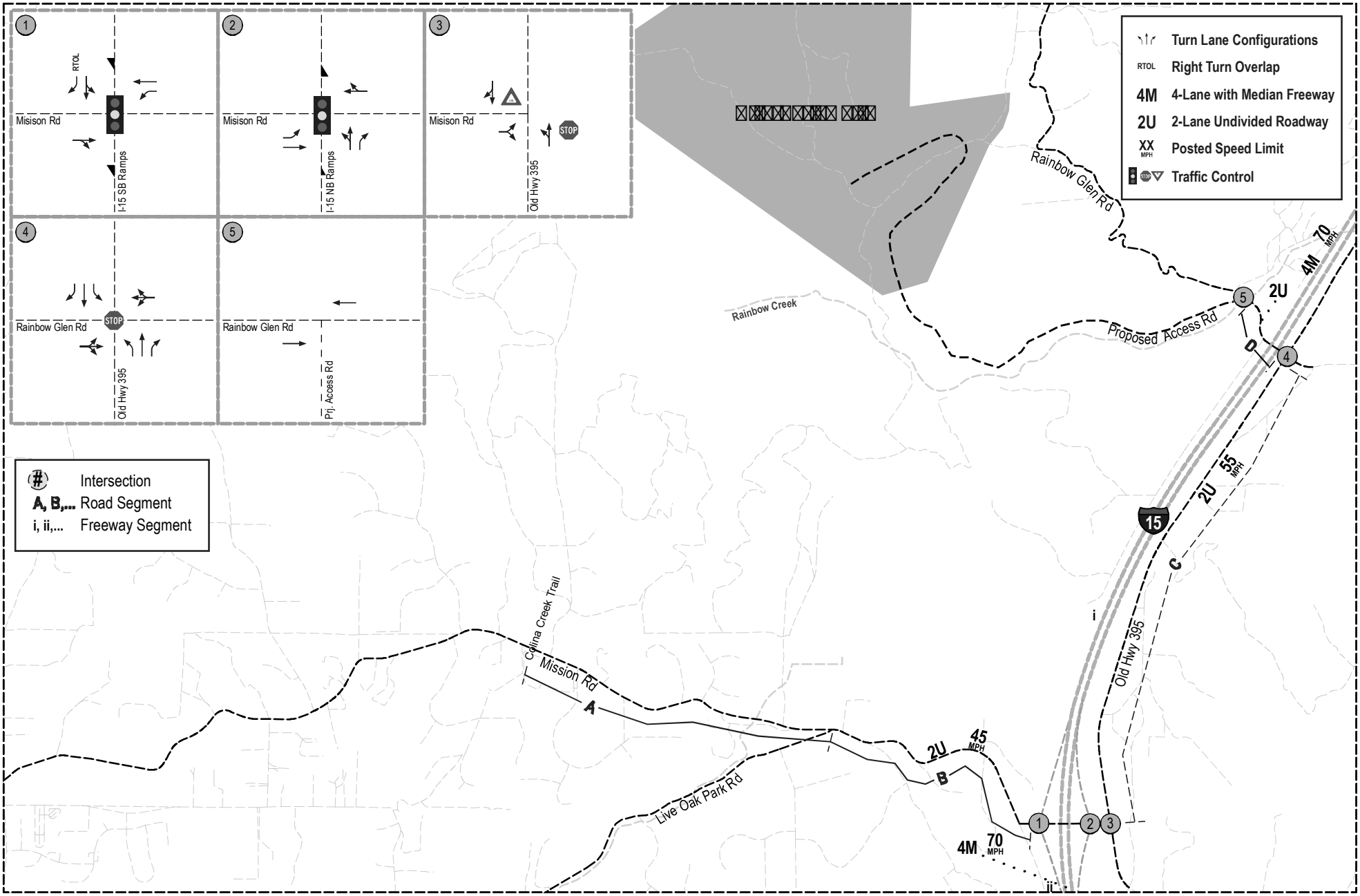
Rainbow Glen Road from Old Highway 395 to the new Landfill Access Road is an unclassified roadway on the *GPU Mobility Element,* October 2010. It is currently built within the study area as a two-lane undivided roadway. There is no posted speed limit on Rainbow Glen Road within the vicinity of the alternative site.

### Current Service Levels

Existing service levels have been assessed for each of the roadway facilities analyzed based on the LOS methodology indicating both the quantitative operations level and the qualitative LOS level associated with that level of operations. The existing service levels for each of the roadway facilities analyzed (as identified in Figure 4.15-3, is shown in Table 4.15-10, *Existing Intersection Operations,* through Table 4.15-12, *Existing Freeway Segment Operations*. The facilities have been identified with a number (intersections), letter (roadway segments), or roman numeral (freeway segments) to reflect the their locations, as shown on the figure.

In summary, the existing service levels are as follows:

- Intersections (peak hours): The four existing intersections evaluated (the fifth located at Rainbow Glen Road/site access road does not currently exist) are calculated to currently operate at LOS D or better except for the following:
    - Mission Road / I-15 Southbound Ramps – LOS E (P.M. peak hour)
    - Old Highway 395 / Mission Road – LOS F (P.M. peak hour)

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**Aspen Road Alternative - Roadway Network and Facilities Analyzed**

**Gregory Canyon**

Source: Linscott, Law & Greenspan, Engineers, 2012.

FIGURE

**4.15-3**

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**Table 4.15-10**

**Existing Intersection Operations**

| Intersection | Traffic Control | Critical Movement | Peak Hour | Existing Delay [a] | Existing LOS [b] |
|---|---|---|---|---|---|
| 1. Mission Rd / I-15 SB Ramps | Signal | — | A.M. | 38.1 | D |
| | | | P.M. | **65.2** | **E** |
| 2. Mission Rd / I-15 NB Ramps | Signal | — | A.M. | 13.1 | B |
| | | | P.M. | 24.3 | C |
| 3. Old Highway 395 / Mission Road | TWSC [c] | NBL | A.M. | 13.2 | B |
| | | | P.M. | **80.2** | **F** |
| 4. Old Highway 395 / Rainbow Glen Rd | TWSC | WBL | A.M. | 10.2 | B |
| | | | P.M. | 14.3 | B |
| 5. Rainbow Glen Rd / Site Access | *DNE* | — | A.M. | — | — |
| | | | P.M. | — | — |

***Bold*** *typeface indicates less than acceptable.*
*DNE = Does not exist*

[a] *Average delay expressed in seconds per vehicle.*
[b] *LOS = Level of Service.*
[c] *TWSC = Two-Way Stop Controlled Intersection. Critical movement minor street approach delay reported.*

*Source: Linscott Law and Greenspan, LLC, 2012*

- Street Segment Operations – Daily: On a daily basis the four roadway segments analyzed are calculated to operate at LOS D or better except for the following:
  - Mission Road between Colina Creek Trail to Live Oak Park Road – LOS F
  - Mission Road between Live Oak Park Road to Old Highway 395 – LOS F
- Freeway Operations: The northbound and southbound segments of I-15 north and south of Mission Road currently operate at an acceptable LOS D or better during both the A.M. and P.M. peak hours.

## 4.15.5.2 Design Features

The Aspen Road Alternative would include the construction of a new site access road from Rainbow Glen Road at Oak Crest Road. The new 2.25 mile access road would be constructed, in part adjacent to and traversing Rainbow Creek. The access road would be sized and configured to meet County roadway standards.

The Aspen Road Alternative would have similar operating characteristics to the Applicant's Proposed Alternative. For analysis purposes the daily and annual intake of solid waste is assumed to be the same as the Applicant's Proposed Alternative, with a maximum disposal day of 5,000 tpd to provide for a "worst-case" impact analysis. The associated traffic volume associated with the maximum disposal would limit the maximum number of number of daily site visits to 705 vehicles.

**Table 4.15-11**

**Existing Road Segment Operations**

| Street Segments | General Plan Update Classification [a] | Functional Classification | Existing Capacity (LOS E) [b] | ADT [c] | LOS [d] |
|---|---|---|---|---|---|
| **Mission Road** | | | | | |
| A. Colina Creek Trail to Live Oak Park Rd | 4.2B Boulevard w/ Intermittent Turn Lanes | 2-Ln Rural Collector | 16,200 | 19,490 | F |
| B. Live Oak Park Rd to Old Highway 395 | 4.2B Boulevard w/ Intermittent Turn Lanes | 2-Ln Rural Collector | 16,200 | 21,960 | F |
| **Old Highway 395** | | | | | |
| C. Mission Road to Rainbow Glen Road | 2.1D Community Collector w/ Unspecified Improvements | 2-Ln Rural Collector | 22,900 [e] | 5,090 | ≥ D |
| **Rainbow Glen Road** | | | | | |
| D. Old Highway 395 to the Site Access | Non-Mobility Element Roadway | 2-Ln Rural Residential Collector | 4,500 [f] | 960 | ≥ C |

***Bold** typeface indicates less than acceptable.*

[a] *GPU Classifications based on GPU Mobility Element, October 2010.*

[b] *Capacities based on County of San Diego Roadway Classification Table.*

[c] *ADT = Average Daily Traffic Volumes.*

[d] *LOS = Level of Service.*

[e] *Per County of San Diego significance criteria, LOS E > 16,200 and LOS F > 22,900 for two-lane highways with signalized intersection spacing over one mile. See Table 5–3 of this report. "≥ D" = Better than or equal to LOS D.*

[f] *Rural Residential Collector capacity of LOS C threshold of up to 4,500 ADT. "≥ C" = Better than or equal to LOS C.*

*Source: Linscott Law and Greenspan, LLC, 2012*

**Table 4.15-12**

**Existing Freeway Segment Operations**

| Interstate 15 Segment | Dir. | # of Lanes | Hourly Capacity [a] | Volume [b] | Peak Hour Volume [b] | | V/C [c] | | LOS [d] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A.M. | P.M. | A.M. | P.M. | A.M. | P.M. |
| i. North of Mission Road | NB | 4M | 9,400 | 134,000 | 2,571 | 6,647 | 0.274 | 0.707 | A | C |
| | SB | 4M | 9,400 | | 7,277 | 3,571 | 0.774 | 0.380 | C | A |
| ii. South of Mission Road | NB | 4M | 9,400 | 116,000 | 2,432 | 6,152 | 0.259 | 0.654 | A | C |
| | SB | 4M | 9,400 | | 7,616 | 3,713 | 0.810 | 0.395 | D | A |

[a] *Capacity calculated at 2350 vehicles per hour (vph) per lane (pcphpl) from Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002.*

[b] *ADT and Peak Hour Volumes taken from most recent 2010 Caltrans "5-Day Based Average Hourly Traffic" data.*

[c] *V/C = (Peak Hour Volume/Hourly Capacity)*

[d] *LOS = Level of Service*

| LOS | V/C |
|---|---|
| A | <0.41 |
| B | 0.62 |
| C | 0.8 |
| D | 0.92 |
| E | 1 |
| F(0) | 1.25 |
| F(1) | 1.35 |
| F(2) | 1.45 |
| F(3) | >1.46 |

*Source: Linscott Law and Greenspan, LLC, 2012*

## 4.15.5.3 Environmental Consequences and Mitigation Measures

***Criteria:***

***Intersections***

*An alternative would have a significant adverse effect on roadway intersections if the additional increment of traffic would:*

- *Cause an intersection operating at LOS D to operate at LOS E; or an intersection operating at LOS E to operate at LOS F.*

*Further, an alternative would have a significant adverse effect on roadway intersections if it would:*

- *Operate at LOS E or F, and contribute the following traffic impact:*

| ***Level of service*** | ***Signalized*** | ***Unsignalized*** |
|---|---|---|
| *LOS E* | *Delay of 2 seconds or less* | *20 or less peak hour trips on a critical movement* |
| *LOS F* | *Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement* | *5 or less peak hour trips on a critical movement* |

***Roadway Segments –Total Daily Trips***

*An alternative would have a significant adverse effect on roadway segments if the additional daily increment of traffic would result in one or more of the following;*

- *The additional or redistributed ADT generated by the alternative on a Circulation Element Road or State Highway would cause the road/highway to operate at a LOS E or LOS F; OR*
- *The additional or redistributed ADT generated by the alternative would cause a residential street to exceed its design capacity.*

*Further, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment of daily traffic would include the following number of trips:*

| ***Level of Service*** | ***Two-Lane Road*** | ***Four-Lane Road*** | ***Six-Lane Road*** |
|---|---|---|---|
| *LOS E* | *200 ADT* | *400 ADT* | *600 ADT* |
| *LOS F* | *100 ADT* | *200 ADT* | *300 ADT* |

*Also, for 2-lane highways, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment of daily traffic would have the following effects on operations:*

**With Signalized Intersection Spacing Over One Mile**

| Level of Service | LOS Criteria | Significance Level |
|---|---|---|
| LOS E | > 16,200 ADT | >325 ADT |
| LOS F | > 22,900 ADT | >225 ADT |

**With Signalized Intersection Spacing Under One Mile**

| Level of Service | Signalized |
|---|---|
| LOS E | Delay of 2 seconds or less |
| LOS F | Delay of 1 second, or<br>5 peak hour trips or less on a critical movements |

### *Freeways*

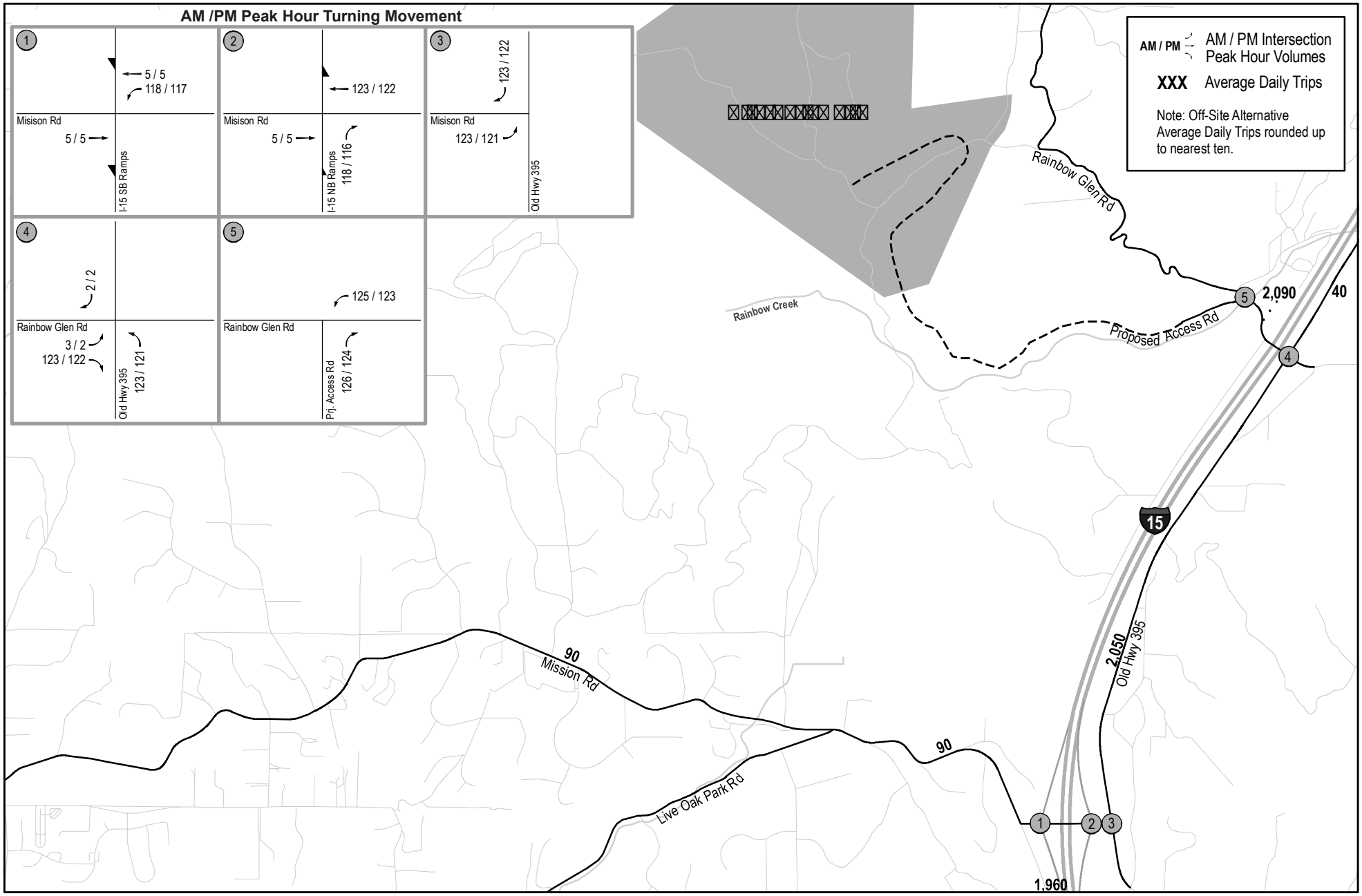
*An alternative would have a significant adverse effect on a freeway segment if:*

- *The alternative's traffic would cause the operations to drop one letter grade (i.e. from LOS D to LOS E or LOS E to LOS F).*

**Impact Statement Aspen Road TRAF-1: The Aspen Road Alternative would add new traffic to the roadway network. The trips would have the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Rainbow Glen Road and Old Highway 395. The trip distribution through traffic facilities analyzed, when measured against the Existing Baseline Conditions would have a significant adverse effect at one intersection location and along no roadway segments. With the implementation of the proposed mitigation, no significant adverse effects would occur.**

The Aspen Road Alternative would add traffic to the roadway network, inclusive of haul trucks that would carry waste to the landfill for disposal, worker vehicles operated by landfill employees, and service vehicles to support the landfill operations. The number of trips expected would be tied to the design of the landfill and permit limitations on the amount tonnage that can be disposed. As was the case with the Applicant's Proposed Alternative, the solid waste permit would limit the project to a total of 1 million tons of solid waste per year which averages to 3,200 TPD. However, traffic analyses calculations have been prepared for a potential maximum disposal day of 5,000 TPD, which is inclusive of traffic from landfill operations and periodic construction, to provide for a "worst-case" impact analysis. The trip generation for the alternative is reflected in Table 4.15-8 above. As indicated, on a maximum load day, it is assumed that 705 vehicles would visit the site generating 2,083 PCE two-way trips.

Trip distribution for the alternative is generally oriented north and south along Old Highway 395 and I-15. Trips were distributed to the roadway network on the basis of the population distribution from where waste pickup would occur. Population densities in relation to this alternative facility indicate that most of the waste originates from areas south of the site and west of I-15. The total number of trips along each of the roadway segments serving the Aspen Road Alternative site, and the intersection turning volumes during the A.M. and P.M. peak hours is shown on Figure 4.15-4, *Aspen Road Alternative – Daily Traffic Volumes and Peak Hour Turning Movements*.

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## Aspen Road Alternative - Daily Traffic Volume and Peak Hour Turning Movements

**Gregory Canyon**

Source: Linscott, Law & Greenspan, Engineers, 2012.

FIGURE

**4.15-4**

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The traffic study analyzes the potential impacts of adding the additional traffic from the alternative as reflected in Figure 4.15-4 to the Existing Conditions Baseline presented in Table 4.15-10 through Table 4.15-12, *Existing Freeway Segment Operations*. The analysis indicated that the resulting impacts for the various roadway facilities would be as follows:

### Intersections

Under the Existing Conditions Baseline scenario, the five intersections evaluated are calculated to continue operating at LOS D or better except for the following:

- Mission Road / I-15 Southbound Ramp – LOS F (A.M./P.M. peak hours)
- Old Highway 395 / Mission Road – LOS F (P.M. peak hour)
- The Intersection of Mission Road/I-15 Southbound Ramp would be considered a significant adverse effect as the operations would degrade from LOS E to F. The intersection of Old Highway 395/Mission Road, while operating at LOS F, would receive no landfill trips to the critical northbound left-turn lane movement, and therefore impacts at this intersection would not result in a significant adverse effect.

### Roadway Segments – Daily Traffic Volumes

With the addition of new landfill traffic, the five roadway segments analyzed are calculated to continue to operate at LOS D or better except for the following.

- Mission Road between Colina Creek Trail to Live Oak Park Road – LOS F
- Mission Road between Live Oak Park Road to Old Highway 395 – LOS F

The Aspen Road Alternative would add 90 trips to those roadways segments, which is less than the 100 trip evaluation criterion for 2-lane, roadway segments operating at LOS F. Therefore, the additional increment of traffic would not result in a significant adverse effect.

### Freeways

The analysis of impacts on freeways segments indicated that both the northbound and southbound segments of I-15 north and south of Mission Road are calculated to continue to operate at an acceptable LOS D or better during both the A.M. and P.M. peak hours. Therefore, the additional landfill traffic would not result in a significant adverse effect.

Mitigation Measures

The Aspen Road Alternative would result in a direct significant adverse effect at the intersection of Mission Road/I-15 SB Ramps. Therefore, physical improvements would be required and the following mitigation measure is proposed:[4]

**MM Aspen TRAF-1:** Mission Road/I-15 Southbound Ramps – The provision of a dedicated right turn lane from Mission Road onto southbound I-15.

**Impact Statement Aspen Road TRAF-2: The Aspen Road Alternative would add new traffic to the roadway network. The trips would have the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Rainbow Glen Road and Old Highway 395. The trip distribution through traffic facilities analyzed under the Near-Term Conditions scenario would result in new cumulative traffic contributions that could result in a direct significant adverse effect at one intersection and cumulative significant adverse effects at two intersections and two roadway segments. Mitigation measures could reduce significant adverse effects to less than levels that are below the evaluation criteria; however, such measures would need to be implemented via the TIF program at the discretion of the County. Since, their implementation is not certain, and they may not be implemented prior to the significant adverse effect occurring, it is concluded that significant adverse cumulative effects could remain.**

The Near-Term Conditions scenario evaluates cumulative impacts that would occur due to landfill traffic in combination with added traffic that would occur due to new development in the vicinity of the site, as well as new roadway improvements that would help to improve traffic operations, as compared to the roadway capacity under the Existing Conditions Baseline. The analysis of the roadway facilities for Near-Term Conditions scenario indicates that the resulting impacts would be as follows:

### Intersections

With the addition of the traffic generated by the Aspen Road Alternative, as well as cumulative project traffic and roadway improvements, the five intersections analyzed would continue operating at LOS D or better, except for:

- Mission Road / I-15 Southbound Ramps – LOS F (A.M./P.M. peak hours)
- Mission Road / I-15 Northbound Ramps – LOS F (P.M. peak hour)
- Old Highway 395 / Mission Road – LOS E/F (A.M./P.M. peak hour)

The impacts at the Mission Road / I-15 Northbound and Southbound intersections would degrade the operations to LOS F, and would also add more than 2 seconds of delay time, thus exceeding the evaluation criterion. Therefore, the alternative would result in significant adverse cumulative effects at these intersections. The intersection of Old Highway 395/Mission Road, while operating at LOS F, would add no

[4] *Numbers of Mitigation Measures reflect the numbering system established for this EIS; and vary from the numbering shown in the Traffic Impact Analysis from which the measures have been taken.*

landfill trips to the critical northbound left-turn lane movement, and therefore significant adverse cumulative effects at this intersection would not occur.

### Roadway Segments – Daily Traffic Volumes

With the addition of new landfill traffic and traffic from cumulative projects, the following roadway segments analyzed would operate LOS E or worse:

- Mission Road between Colina Creek Trail and Live Oak Park Road – LOS F
- Mission Road between Live Oak Park Road and Old Highway 395 – LOS F

The added increments of traffic, 13,730 trips and 15,450, respectively, are greater than the evaluation criterion of 100 trips at LOS F intersections. Therefore, significant adverse cumulative effects would occur along both of these roadway segments.

### Freeways

The analysis indicated that the northbound and southbound segments of I-15 north and south of Mission Road would operate at an acceptable LOS D or better during both the A.M. and P.M. peak hours; and therefore no significant adverse effects would occur.

## Mitigation Measures

As indicated in the analysis of impacts under the Existing Conditions Baseline above, the Aspen Road Alternative would have one direct significant adverse effect at the intersection of Mission Road and the I-15 Southbound Ramps. A mitigation measure for the significant adverse effect at that location is also noted above. In addition, the Aspen Road Alternative would contribute to significant adverse cumulative effects at two (2) intersections and two (2) roadway segments under the Near-Term Conditions scenario. The cumulative intersection and segment impact locations could operate at acceptable levels of service with improvements that could be implemented as part of the County of San Diego Traffic Impact Fee (TIF) Program. The significant adverse effects would be addressed through fair-share contributions to the TIF programs, with payment required at issuance of building permits, in combination with payment from other projects, per the following:

**MM Aspen TRAF-2:** At the commencement of operation, the applicant shall pay the County's Transportation Impact Fee to fund its fair share of improvements to address cumulative impacts.

The Traffic Impact Analysis included studies to identify roadways improvements that would reduce significant adverse effects levels that are below the evaluation criteria, with the payment of TIF fees and the application of such fees to the construction of physical improvements at the locations identified as having significant adverse effects. The physical improvements identified in the study are shown in Table 4.15-13, *Summary of Significant Adverse Effects and Proposed Physical Improvements*. Although the payment of TIF fees is considered mitigation, since the implementation of the physical improvements is not certain, in terms

**Table 4.15-13**

**Summary of Significant Adverse Effects and Proposed Physical Improvements**

| Location (As Identified in Figure 4.15-3) | Impact Type | Proposed Physical Improvements |
|---|---|---|
| | **Intersections** | |
| 1. Mission Road / I-15 Southbound Ramps | Near-Term Cumulative | Widen Mission Road to 4.1A Major Road standards to provide additional lanes at this intersection |
| 2. Mission Road / I-15 Northbound Ramps | Near-Term Cumulative | Widen Mission Road to 4.1A Major Road standards to provide additional lanes at this intersection |
| | **Roadway Segments** | |
| A. Mission Road betw. Colina Creek Trail and Live Oak Park Road | Near-Term Cumulative | Widen Mission Road to 4.1B Boulevard standards along this portion of the roadway |
| B. Mission Road betw. Live Oak Park Road and Old Highway 395 | Near-Term Cumulative | Widen Mission Road to 4.1B Boulevard standards along this portion of the roadway |

*Source: Linscott Law and Greenspan, LLC, 2012*

of the actual improvement and the timing, it is concluded that significant adverse cumulative effects could remain.

**Impact Statement Aspen Road TRAF-3: The Aspen Road Alternative would add traffic to the roadway network. The trips would have the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Rainbow Glen Road and Old Highway 395. The trip distribution through traffic roadway segments analyzed, when measured against the Buildout Conditions Baseline would have no significant adverse effects.**

The analysis of impacts under the Buildout Conditions Baseline scenario identifies the impacts of the traffic associated with the Aspen Road Alternative against baseline conditions that include the future development and roadway improvements anticipated in the County's General Plan Update. The analysis of the roadway segments analyzed for the Buildout Conditions Baseline scenario indicated that the impacts would be as follows:

### Roadway Segments – Daily Traffic Volumes

With the addition of traffic generated by the Aspen Road Alternative, the four roadway segments analyzed would operate at LOS D or better except for the following:

- Mission Road between Colina Creek Trail and Live Oak Park Road – LOS F
- Mission Road between Live Oak Park Road and Old Highway 395 – LOS F

The traffic generated by the Aspen Road Alternative would add 90 trips to these segments, which is less than the 100 trips evaluation criterion for these 2-lane to these LOS F segments. Therefore, no significant adverse effects would occur.

Mitigation Measures

As indicated above, the Aspen Road Alternative would include mitigation measures to address direct and cumulative significant adverse effects associated with the analyses of the Existing Conditions Baseline and Near-Term Conditions scenario. No further significant adverse effects were identified for the Buildout Conditions Baseline scenario. No further mitigation measures are proposed.

## 4.15.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.15.6.1 Affected Environment

#### Roadway Network

The Gopher Canyon Road Alternative is located immediately approximately 2.75 miles west of I-15, just south of Gopher Canyon Road and east of East Vista Way. The site is accessed via Gopher Canyon Road, via on ramps and off ramps at the intersection of I-15 and Gopher Canyon Road on the east; or from East Vista Way from the west. A new access roadway to the site would be extended southward from Gopher Canyon Road, along the west side of the Vista Valley Country Club golf course. The roadway network serving the site is shown on Figure 4.15-5, *Gopher Canyon Road Alternative – Roadway Network and Facilities Analyzed.* As indicated, the analyzed road network facilities that would serve the site include seven intersections, four roadway segments and two freeway segments.

The following is a description of the key roadways that serve the alternative site:

Interstate 15 in the vicinity of the project is classified as a Freeway on the County of San Diego General Plan Update (GPU), Mobility Element, October 2010. Within the study area, I-15 is constructed as an eight lane divided freeway with a center divider. The posted speed limit is 70 mph along I-15 in the vicinity of the off-site alternative.

Gopher Canyon Road from East Vista Way to the I-15 Ramps is classified as a 4.1B Major Road with intermittent turn lanes on the GPU Mobility Element, October 2010. It is currently built as a two-lane undivided roadway from East Vista Way to Old Highway 395 except where additional auxiliary lanes are provided to serve the I-15 interchange. The posted speed limit on Gopher Canyon Road ranges from 45 to 55 mph within the vicinity of the off-site alternative.

East Vista Way from SR-76 (Mission Avenue) to the City of Vista jurisdictional boundary is classified as a 4.1B Major Road with intermittent turn lanes on the GPU Mobility Element, October 2010. . It is currently built as a two-lane roadway with a two-way intermittent turn lane for its entire length through the County. The posted speed limit on East Vista Way is 50 mph within the vicinity of the off-site alternative.

It should be noted that SR-76 is currently undergoing construction to widen the roadway from two to four lanes as part of the SR-76 Corridor Project, funded through TransNet. The SR-76 East Segment was completed in 1999 and the SR-76 Middle Segment between Melrose Drive to Mission Road began construction in January 2010 with an estimated completion date of September 2012. The East Segment is

proposed to complete the link between I-5 and I-15 by extending the widening and realignment improvements from South Mission Road to I-15. Planned completion of this project is anticipated in 2015.

#### 4.15.6.1.2 Current Service Levels

Existing service levels have been assessed for each of the roadway facilities analyzed based on the LOS methodology indicating both the quantitative operations level and the qualitative LOS level associated with that level of operations. The existing service levels for each of the roadway facilities analyzed (as identified in Figure 4.15-5) is shown in Table 4.15-14, *Existing Intersection Operations,* through Table 4.15-16, *Existing Freeway Segment Operations*. The facilities have been identified with a number (intersections), letter (roadway segments), or roman numeral (freeway segments) to reflect the their locations, as shown on the figure.

**Table 4.15-14**

**Existing Intersection Operations**

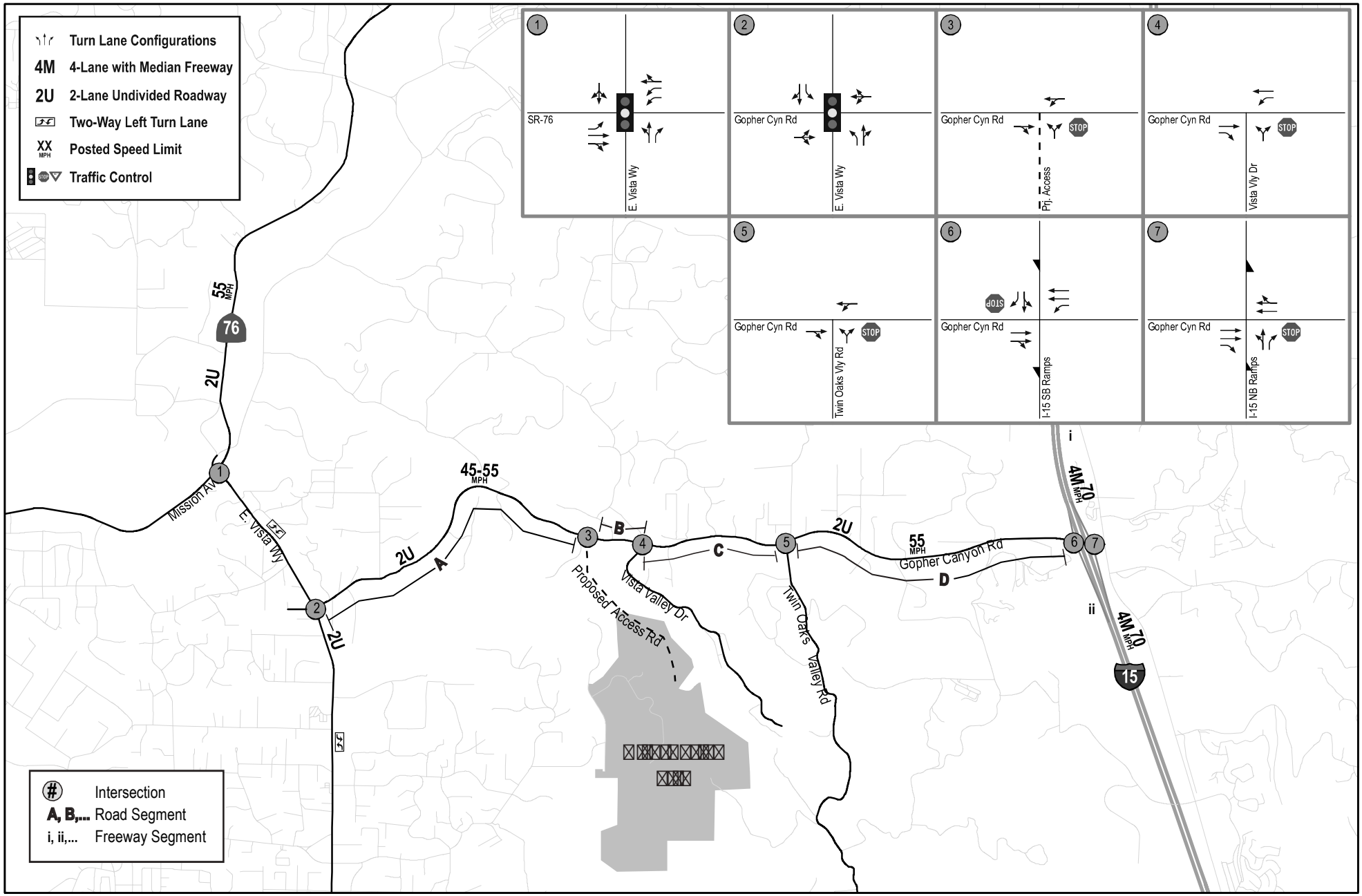
| Intersection | Traffic Control | Critical Movement | Peak Hour | Existing Delay [a] | Existing LOS [b] |
|---|---|---|---|---|---|
| 1. E. Vista Way / SR-76 (Mission Ave) | Signal | — | A.M. | 43.0 | D |
| | | | P.M. | 42.6 | D |
| 2. E. Vista Way / Gopher Canyon Rd | Signal | — | A.M. | **158.3** | **F** |
| | | | P.M. | **263.2** | **F** |
| 3. Gopher Canyon Rd / Project Access | DNE | — | A.M. | — | — |
| | | | P.M. | — | — |
| 4. Gopher Canyon Rd / Vista Valley Rd | TWSC [c] | NBL | A.M. | 15.4 | C |
| | | | P.M. | 21.2 | C |
| 5. Gopher Canyon Rd / Twin Oaks Valley Rd | TWSC [c] | NBL | A.M. | 31.7 | D |
| | | | P.M. | **35.5** | **E** |
| 6. Gopher Canyon Rd / I-15 SB Ramps | TWSC [c] | SBL | A.M. | **290.7** | **F** |
| | | | P.M. | **370.6** | **F** |
| 7. Gopher Canyon Rd / I-15 NB Ramps | TWSC [c] | NBL | A.M. | **49.7** | **E** |
| | | | P.M. | **Err** | **F** |

[a] *Average delay expressed in seconds per vehicle.*
[b] *LOS = Level of Service.*
*DNE = Does not exist.*
*Err = Delay exceeds maximum HCM software calculable delay.*
***Bold** typeface indicates less than acceptable*

*Source: Linscott Law and Greenspan, LLC, 2012*

In summary, the existing service levels are as follows:

- Intersections (peak hours): The six existing intersections are all currently operating at LOS D or better, except for the following:
  - E. Vista Way / Gopher Canyon Road – LOS F (A.M./P.M. peak hours)
  - Gopher Canyon Road / Twin Oaks Valley Road – LOS E (P.M. peak hour)




N

0 0.5 Miles

## Gopher Canyon Road Alternative - Roadway Network and Facilities Analyzed

**Gregory Canyon**

Source: Linscott, Law & Greenspan, Engineers, 2012.

FIGURE

**4.15-5**

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**Table 4.15-15**

**Existing Street Segment Capacity Analysis**

| Street Segments | General Plan Update Classification [a] | Functional Classification | Existing Capacity (LOS E) [b] | ADT [c] | LOS [d] |
|---|---|---|---|---|---|
| **Gopher Canyon Road** | | | | | |
| A. E. Vista Way to the Site Access | 4.1B Major Road w/ Intermittent Turn Lanes | 2-Ln Rural Collector | 16,200 | **14,440** | **E** |
| B. Site Access to Vista Valley Drive | 4.1B Major Road w/ Intermittent Turn Lanes | 2-Ln Rural Collector | 16,200 | **14,400** | **E** |
| C. Vista Valley Drive to Twin Oaks Valley Road | 4.1B Major Road w/ Intermittent Turn Lanes | 2-Ln Rural Collector | 16,200 | **15,900** | **E** |
| D. Twin Oaks Valley Road to the I-15 Southbound Ramps | 4.1B Major Road w/ Intermittent Turn Lanes | 2-Ln Rural Collector | 16,200 | **14,030** | **E** |

*Notes:*
*Bold typeface indicates less than acceptable.*

[a] *GPU Classifications based on GPU Mobility Element, October 2010.*
[b] *Capacities based on County of San Diego Roadway Classification Table.*
[c] *ADT = Average Daily Traffic Volumes.*
[d] *LOS = Level of Service.*

*Source: Linscott Law and Greenspan LLC, 2012*

- Gopher Canyon Road / I-15 Southbound Ramps – LOS F (A.M./P.M. peak hours)
- Gopher Canyon Road / I-15 Northbound Ramps – LOS E/F (A.M./P.M. peak hours

- Street Segment Operations – Daily: On a daily basis the four roadway segments analyzed are operating at LOS E.

- Freeway Operations: The northbound and southbound segments of I-15 north and south of Gopher Canyon Road currently operate at an acceptable LOS C or better during both the A.M. and P.M. peak hours.

## 4.15.6.2 Design Features

The Gopher Canyon Road Alternative would include the construction of a new site access extending south from Gopher Canyon Road. The access road would be sized and configured to meet County roadway standards.

The Gopher Canyon Road Alternative would have similar operating characteristics to the Applicant's Proposed Alternative. For analysis purposes the daily and annual intake of solid waste is assumed to be the same as the Applicant's Proposed Alternative, with a maximum disposal day of 5,000 tpd to provide for a "worst-case" impact analysis. It is assumed that the associated traffic volume associated with the maximum disposal would limit the maximum number of number of site visits to 705 vehicles.

**Table 4.15-16**

**Existing Freeway Segment Operations**

| Interstate 15 Segment | Dir. | # of Lanes | Hourly Capacity [a] | Volume [b] | Peak Hour Volume [b] | | V/C [c] | | LOS [d] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A.M. | P.M. | A.M. | P.M. | A.M. | P.M. |
| i. North of Gopher Canyon Road | NB | 4M | 9,400 | 112,000 | 2,210 | 6,201 | 0.235 | 0.660 | A | C |
| | SB | 4M | 9,400 | | 6,227 | 3,642 | 0.662 | 0.033 | C | A |
| ii. South of Gopher Canyon Road | NB | 4M | 9,400 | 120,000 | 2,296 | 6,111 | 0.244 | 0.051 | A | A |
| | SB | 4M | 9,400 | | 6,179 | 3,382 | 0.657 | 0.028 | C | A |

[a] *Capacity calculated at 2350 vehicles per hour (vph) per lane (pcphpl) from Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002.*
[b] *ADT and Peak Hour Volumes taken from most recent 2010 Caltrans "5-Day Based Average Hourly Traffic" data.*
[c] *V/C = (Peak Hour Volume/Hourly Capacity)*
[d] *LOS = Level of Service*

| LOS | V/C |
|---|---|
| A | <0.41 |
| B | 0.62 |
| C | 0.8 |
| D | 0.92 |
| E | 1 |
| F(0) | 1.25 |
| F(1) | 1.35 |
| F(2) | 1.45 |
| F(3) | >1.46 |

*Source: Linscott Law and Greenspan, LLC, 2012*

## 4.15.6.3 Environmental Consequences and Mitigation Measures

### *Criteria:*

#### *Intersections*

*An alternative would have a significant adverse effect on roadway intersections if the additional increment of traffic would:*

- *Cause an intersection operating at LOS D to operate at LOS E; or an intersection operating at LOS E to operate at LOS F.*

*Further, an alternative would have a significant adverse effect on roadway intersections if it would:*

- *Operate at LOS E or F, and contribute the following traffic impact:*

| *Level of service* | *Signalized* | *Unsignalized* |
|---|---|---|
| *LOS E* | *Delay of 2 seconds or less* | *20 or less peak hour trips on a critical movement* |
| *LOS F* | *Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement* | *5 or less peak hour trips on a critical movement* |

#### *Roadway Segments –Total Daily Trips*

*An alternative would have a significant adverse effect on roadway segments if the additional daily increment of traffic would result in one or more of the following:*

- *The additional or redistributed ADT generated by the alternative on a Circulation Element Road or State Highway would cause the road/highway to operate at a LOS E or LOS F.*
- *The additional or redistributed ADT generated by the alternative would cause a residential street to exceed its design capacity.*

*Further, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment of daily traffic would include the following number of trips:*

| *Level of Service* | *Two-Lane Road* | *Four-Lane Road* | *Six-Lane Road* |
|---|---|---|---|
| *LOS E* | *200 ADT* | *400 ADT* | *600 ADT* |
| *LOS F* | *100 ADT* | *200 ADT* | *300 ADT* |

*Also, for 2-lane highways, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment of daily traffic would have the following effects on operations:*

**With Signalized Intersection Spacing Over One Mile**

| Level of Service | LOS Criteria | Significance Level |
|---|---|---|
| LOS E | > 16,200 ADT | >325 ADT |
| LOS F | > 22,900 ADT | >225 ADT |

**With Signalized Intersection Spacing Under One Mile**

| Level of Service | Signalized |
|---|---|
| LOS E | Delay of 2 seconds or less |
| LOS F | Delay of 1 second, or<br>5 peak hour trips or less on a critical movements |

### *Freeways*

*An alternative would have a significant adverse effect on a freeway segment if:*

- *The alternative's traffic would cause the operations to drop one letter grade (i.e. from LOS D to LOS E or LOS E to LOS F).*

**Impact Statement Gopher TRAF-1: The Gopher Canyon Road Alternative would add new traffic to the roadway network. The trips would have the greatest impacts along Gopher Canyon Road, linking to I-15, and to a lesser extent, East Vista Way. The trip distribution through the traffic facilities analyzed, when measured against the Existing Baseline Conditions would have a direct significant adverse effect at five intersection locations and along all four roadway segments analyzed. Mitigation measures are proposed to reduce significant adverse effects.**

The Gopher Canyon Road Alternative would add traffic to the roadway network, inclusive of haul trucks that would carry waste to the landfill for disposal, worker vehicles operated by landfill employees, and service vehicles to support the landfill operations. The number of trips expected would be tied to the design of the landfill and permit limitations on the amount tonnage that can be disposed. As was the case with the Applicant's Proposed Alternative, the solid waste permit would limit the project to a total of 1 million tons of solid waste per year which averages to 3,200 TPD. However, traffic analyses calculations have been prepared for a potential maximum disposal day of 5,000 TPD, which is inclusive of traffic from landfill

operations and periodic construction, to provide for a maximum impact analysis. The trip generation for the alternative is reflected in Table 4.15-17, *Gopher Canyon Road Alternative Trip Generation.*

**Table 4.15-17**

**Gopher Canyon Road Alternative Trip Generation**

| Activity Type | Number of Trips | | |
|---|---|---|---|
| | One-Way | Two-Way | With 3.0 PCE Factor |
| **Maximum Waste (5,000 TPD)** | | | |
| Collection Trucks | 625 | 1,250 | 3,750 |
| Water/Delivery/Other [a] | 48 | 96 | 288 |
| Total Truck Trips | *673* | *1,346* | *4,038* |
| Employee [b] | 22 | 44 | 44 |
| Service/Visitor [c] | 10 | 20 | 20 |
| **Total Daily PCE Trips** | | | **4,102** |
| **Average Waste (3,200 TPD)** | | | |
| Collection Trucks | 400 | 800 | 2,400 |
| Water/Delivery/Other [a] | 48 | 96 | 288 |
| Total Truck Trips | *448* | *896* | *2,688* |
| Employee [b] | 22 | 44 | 44 |
| Service/Visitor [c] | 10 | 20 | 20 |
| **Total Daily PCE Trips** | | | **2,752** |

[a] *Other trucks consist of periodic construction, including rock transport off-site, brine, and leachate removal.*
[b] *Number of employee vehicles = 22 per day x 2 trips/day = 44 trips.*
[c] *Number of Service/Visitor Vehicles = 10 per day x 2 trips/day = 20 trips*

***Source:*** *Linscott Law and Greenspan, LLC, 2012.*

As indicated, the Gopher Canyon Road Alternative would be expected to have 480 vehicle visits on a typical day, but would have a maximum limit of 705 vehicle visits. The 705 vehicles visiting the site would be equivalent to a total of 4,102 PCE, two-way trips, the number of trips evaluated in the traffic study. This contrasts with the 2,083 PCE, two-way trips associated with the 705 vehicle visits associated with the Applicant's Proposed Alternative. The higher PCE estimate is due to the higher PCE conversion rate associated with the steeper grades in the vicinity of the Gopher Canyon Road Alternative site. Trip distribution for the alternative splits into east and west movements with all landfill trips using Gopher Canyon Road. The larger percentage of trips would connect to I-15 for north-south movement and a lesser number would connect to East Vista Way for connections to the west north and south. Trips were distributed to the roadway network on the basis of the population distribution from where waste pickup would occur. Population densities in relation to this proposed facility indicate that most of the waste originates from areas south and west of the site. The total number of trips along each of the roadway segments serving the Gopher Canyon Road site, and the intersection turning volumes during the A.M. and P.M.

peak hours is shown on Figure 4.15-6, *Gopher Canyon Road –Daily Traffic Volumes and Peak Hour Turning Movements*.

The traffic study analyzes the potential impacts of adding the traffic from the landfill as reflected in Figure 4.15-6 to the Existing Conditions Baseline presented in Table 4.15-14 through Table 4.15-16. The analysis indicated that the resulting impacts for the various roadway facilities would be as follows:

### Intersections

Under the Existing Conditions Baseline scenario, with the addition of landfill traffic, the seven intersections evaluated are calculated to continue operating at LOS D or better except for the following:

- E. Vista Way / Gopher Canyon Road – LOS F (A.M./P.M. peak hours)
- Gopher Canyon Road / Project Access – LOS F (A.M./P.M. peak hour)
- Gopher Canyon Road / Twin Oaks Valley Road – LOS F (A.M./P.M. peak hour)
- Gopher Canyon Road / I-15 Southbound Ramps – LOS F (A.M./P.M. peak hours)
- Gopher Canyon Road / I-15 Northbound Ramps – LOS F (A.M./P.M. peak hours)

The first of these intersections, E. Vista Way/Gopher Canyon Road, is a signalized intersection. The added delay at this location would be more than 1 second, the significance level for an LOS F intersection. Therefore a direct significant adverse effect at this location would occur.

Two of the intersections, Gopher Canyon Road/Site Access and Gopher Canyon Road/I-15 NB Ramps are unsignalized intersections that would add more than five (5) trips to the critical movement, the significance level. Therefore, direct significant adverse effects would occur at those locations. The remaining two unsignalized intersections, Gopher Canyon Road/Twin Oaks Valley Road and Gopher Canyon Road/I-15 Southbound Ramps, would not add five (5) or more trips to the critical movements, the standard significance level. However, the added traffic would add considerable delay at these intersections, and therefore result in direct significant adverseeffects.

### Roadway Segments – Daily Traffic Volumes

With the addition of new landfill traffic, the four roadway segments analyzed are calculated to continue to operate at LOS E or F:

- E. Vista Way to Site Access – LOS E
- Site Access to Vista Valley Drive – LOS F
- Vista Valley Drive to Twin Oaks Valley Road – LOS F
- Twin Oaks Valley Road to I-15 Southbound Ramps – LOS F
- The additional traffic from the Gopher Canyon Road Alternative would add more than 200 trips to the four roadway segments and would cause three of the segments to degrade from LOS E to LOS F,

thereby exceeding the significance levels. Therefore, direct significant adverse effects would occur at all of these roadway segments.

### Freeways

The analysis indicated that both the northbound and southbound segments of I-15 north and south of Gopher Canyon Road would operate at an acceptable LOS C or better during both the A.M. and P.M. peak hours. Therefore, no significant adverse effects would occur.

## Mitigation Measures

The Gopher Canyon Road Alternative would result in a direct significant adverse effect at five intersections and four roadway segments. Therefore, physical improvements would be required and the following mitigation measures are proposed:

### Intersections

**MM Gopher TRAF-1:** E. Vista Way/Gopher Canyon Road – Option 1: Widen Gopher Canyon Road to provide an exclusive westbound left-turn lane; Option 2: Widen the westbound and northbound approaches to provide dedicated right-turn lanes and provide a right-turn overlap phase.

**MM Gopher TRAF-2:** Gopher Canyon Road/Site Access – Install a traffic signal and widen Gopher Canyon Road to provide a dedicated eastbound right-turn lane and exclusive westbound left-turn lane.

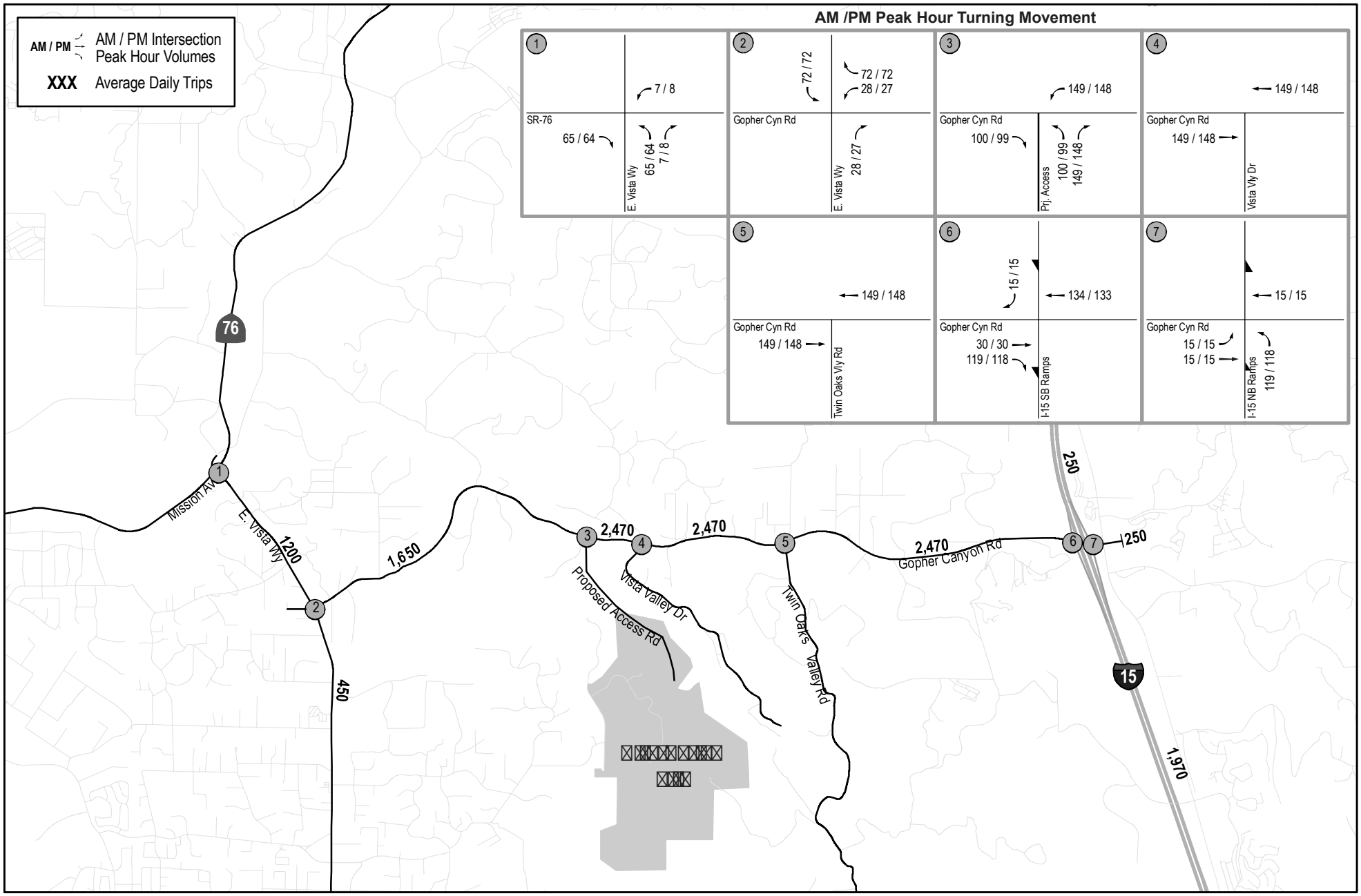
**MM Gopher TRAF-3:** Gopher Canyon Road/Twin Oaks Valley Road – Widen Gopher Canyon Road to provide a refuge lane (acceleration lane) for vehicles making a northbound left-turn from Twin Oaks Valley Road onto westbound Gopher Canyon Road.

**MM Gopher TRAF-4:** Gopher Canyon Road/I-15 Southbound Ramps – If not completed by another development, install a new traffic signal and widen Gopher Canyon Road to provide an additional eastbound through lane. A detailed signal warrant analysis should be conducted and a signal should not be installed until warrants are met.

**MM Gopher TRAF-5:** Gopher Canyon Road/I-15 Northbound Ramps – If not completed by another development, install a new traffic signal. A detailed signal warrant analysis should be conducted and a signal should not be installed until warrants are met.

### Street Segments

**MM Gopher TRAF-6:** Gopher Canyon Road between E. Vista Way and the Site Access – Widen Gopher Canyon Road to its ultimate GPU classification of a 4.1B Major Road with Intermittent Turn Lanes.




N

0 0.5 Miles

**Gopher Canyon Road Alternative - Daily Traffic Volumes and Peak Hour Turning Movements**

**Gregory Canyon**

Source: Linscott, Law & Greenspan, Engineers, 2012.

FIGURE

**4.15-6**

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**MM Gopher TRAF-7:** Gopher Canyon Road between the Site Access and Vista Valley Drive – Widen Gopher Canyon Road to its ultimate GPU classification of a 4.1B Major Road with Intermittent Turn Lanes.

**MM Gopher TRAF-8:** Gopher Canyon Road between Vista Valley Drive and Twin Oaks Valley Road – Widen Gopher Canyon Road to its ultimate GPU classification of a 4.1B Major Road with Intermittent Turn Lanes.

**MM Gopher TRAF-9:** Gopher Canyon Road between Twin Oaks Valley Road and the I-15 Southbound Ramps – Widen Gopher Canyon Road to its ultimate GPU classification of a 4.1B Major Road with Intermittent Turn Lanes.

**Impact Statement Gopher TRAF-2: The Gopher Canyon Road Alternative would add new traffic to the roadway network. The trips would have the greatest impacts along Gopher Canyon Road, linking to I-15, and to a lesser extent, East Vista Way. The trip distribution through traffic facilities analyzed under the Near-Term Conditions scenario would result in new cumulative traffic contributions that could result in significant adverse cumulative effects at six intersections and four roadway segments. Mitigation measures could reduce impacts that are below the evaluation criteria; however, such measures would need to be implemented via the TIF program at the discretion of the County. Since, their implementation is not certain, and they may not be implemented prior to the significant adverse effects occurring, it is concluded that significant adverse cumulative effects could remain.**

The Near-Term Conditions scenario evaluates cumulative impacts that would occur due to landfill traffic in combination with added traffic that would occur due to new development in the vicinity of the site, as well as new roadway improvements that would help to improve traffic operations, as compared to the roadway capacity under the Existing Conditions Baseline. The analysis of the roadway facilities for Near-Term Conditions scenario indicates that the resulting impacts would be as follows:

### Intersections

With the addition of the traffic generated by the Gopher Canyon Road Alternative, as well as cumulative project traffic and roadway improvements, one intersection would operate at LOS D or better, and the remaining six intersections would operate at LOS F as follows:

- E. Vista Way/SR 76 (Mission Avenue) – LOS F (A.M./P.M. peak hours)
- E. Vista Way/Gopher Canyon Road – LOS F (A.M./P.M. peak hours)
- Gopher Canyon Road/Site Access – LOS F (A.M./P.M. peak hour)
- Gopher Canyon Road/Twin Oaks Valley Road – LOS F (A.M./P.M. peak hour)
- Gopher Canyon Road/I-15 Southbound Ramps – LOS F (A.M./P.M. peak hours)
- Gopher Canyon Road/I-15 Northbound Ramps – LOS F (A.M./P.M. peak hours)

The additional trips and delay caused by cumulative plus landfill traffic at these LOS F locations would exceed the evaluation criteria. Therefore, significant adverse cumulative effects would occur.

### Roadway Segments – Daily Traffic Volumes

With the addition of new landfill traffic and traffic from cumulative projects, the four roadway segments analyzed along Gopher Canyon Road would all operate at LOS F. The added increments of traffic, ranging from 3,740 to 4,880 trips at the respective road segments would exceed the significance level of 100 trips at LOS F intersections. Therefore, significant adverse effects would occur along each of these roadway segments.

### Freeways

The analysis indicated that the northbound and southbound segments of I-15 north and south of Gopher Canyon Road would operate at an acceptable LOS C or better during both the A.M. and P.M. peak hours; and therefore significant adverse effects would not occur.

Mitigation Measures

As indicated in the analysis of impacts under the Existing Conditions Baseline above, the Gopher Canyon Road Alternative would have direct significant adverse effects at six intersections and four roadway segments. In addition, the Gopher Canyon Road Alternative would contribute to significant adverse cumulative effects at the same locations. The affected cumulative intersection and segment impact locations could operate at acceptable levels of service with improvements that could be implemented as part of the County of San Diego Traffic Impact Fee (TIF) Program. The significant adverse effects would be addressed through fair-share contributions to the TIF programs, with payment required at issuance of building permits, in combination with payment from other projects, per the following:

**MM Gopher TRAF-10:** At the commencement of operation, the applicant shall pay the County's TIF to fund its fair share of improvements to address cumulative impacts.

The Traffic Impact Analysis included studies to identify roadways improvements that would reduce impacts to service levels that would be below the evaluation criteria, with the payment of TIF fees and the application of such fees to the construction of physical improvements at the locations identified as having significant adverse effects. The physical improvements identified in the study are shown in Table 4.15-18, *Summary of Significant Adverse Effects and Proposed Physical Improvements*. Although the payment of TIF fees is considered mitigation, since the implementation of the physical improvements is not certain, in terms of the actual improvement and the timing, it is concluded that significant adverse cumulative effects could remain.

**Impact Statement Gopher TRAF-3: The Gopher Canyon Road Alternative would add new traffic to the roadway network. The trips would have the greatest impacts along Gopher Canyon Road, linking to I-15, and to a lesser extent, East Vista Way. The trip distribution through traffic roadway segments analyzed, when measured against the Buildout Conditions Baseline would have no significant adverse effects.**

The analysis of impacts under the Buildout Conditions Baseline scenario identifies the impacts of the traffic associated with the Gopher Canyon Road Alternative against baseline conditions that include the future development and roadway improvements anticipated in the County's General Plan Update. The analysis of

**Table 4.15-18**

**Summary of Significant Adverse Effects and Proposed Physical Improvements**

| Location (As identified in Figure 4.15-5) | Impact Type | Proposed Physical Improvements |
|---|---|---|
| | **Intersections** | |
| 1. E. Vista Way/SR-76 (Mission Avenue) | Near-Term Cumulative | TransNet SR 76 Widening Project to provide additional lanes. |
| 2. E. Vista Way / Gopher Canyon Road | Direct & Near-Term Cumulative | Widen Gopher Canyon Road to 4.1B Major Road standards to provide additional lanes |
| 3. Gopher Canyon Road / Site Access | Direct & Near-Term Cumulative | Widen Gopher Canyon Road to 4.1B Major Road standards to provide additional lanes |
| 5. Gopher Canyon Road / Twin Oaks Valley Road | Direct & Near-Term Cumulative | Widen Gopher Canyon Road to 4.1B Major Road standards to provide additional lanes |
| 6. Gopher Canyon Road / I-15 Southbound Ramps | Direct & Near-Term Cumulative | Widen Gopher Canyon Road to 4.1B Major Road standards to provide additional lanes |
| 7. Gopher Canyon Road / I-15 Northbound Ramps | Direct & Near-Term Cumulative | Widen Gopher Canyon Road to 4.1B Major Road standards to provide additional lanes |

*Source: Linscott Law and Greenspan, LLC, 2012*

the roadway segments analyzed for the Buildout Baseline scenario indicated that the impacts would be as follows:

### Roadway Segments – Daily Traffic Volumes

With the addition of traffic generated by the Aspen Road Alternative, the four roadway segments analyzed would operate at LOS C or better. Therefore, operations would be at an acceptable level and the significance level would not be exceeded; and no significant adverse effects would occur.

## Mitigation Measures

As indicated above, the Gopher Canyon Road Alternative would include mitigation measures to address direct and cumulative significant adverse effects associated with the analyses of the Existing Conditions Baseline and Near-Term Conditions scenario. No further significant adverse effects were identified for the Buildout Conditions Baseline scenario. No further mitigation measures are proposed.

## 4.15.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.15.7.1 Affected Environment

#### Roadway Network

The Merriam Mountain Alternative is located immediately west of I-15, just southwest of Lawrence Welk Village and northeast of the City of Vista. The site is accessed via Lawrence Welk Court and Lawrence Court Drive via links along Champagne Boulevard and the I-15. A new access roadway to the site would be extended from Lawrence Welk Court to the landfill site. The roadway network serving the site is shown on Figure 4.15-7, *Merriam Mountain Alternative – Roadway Network and Facilities Analyzed.* As indicated, the analyzed road network facilities that would serve the site include five intersections, four roadway segments and two freeway segments.

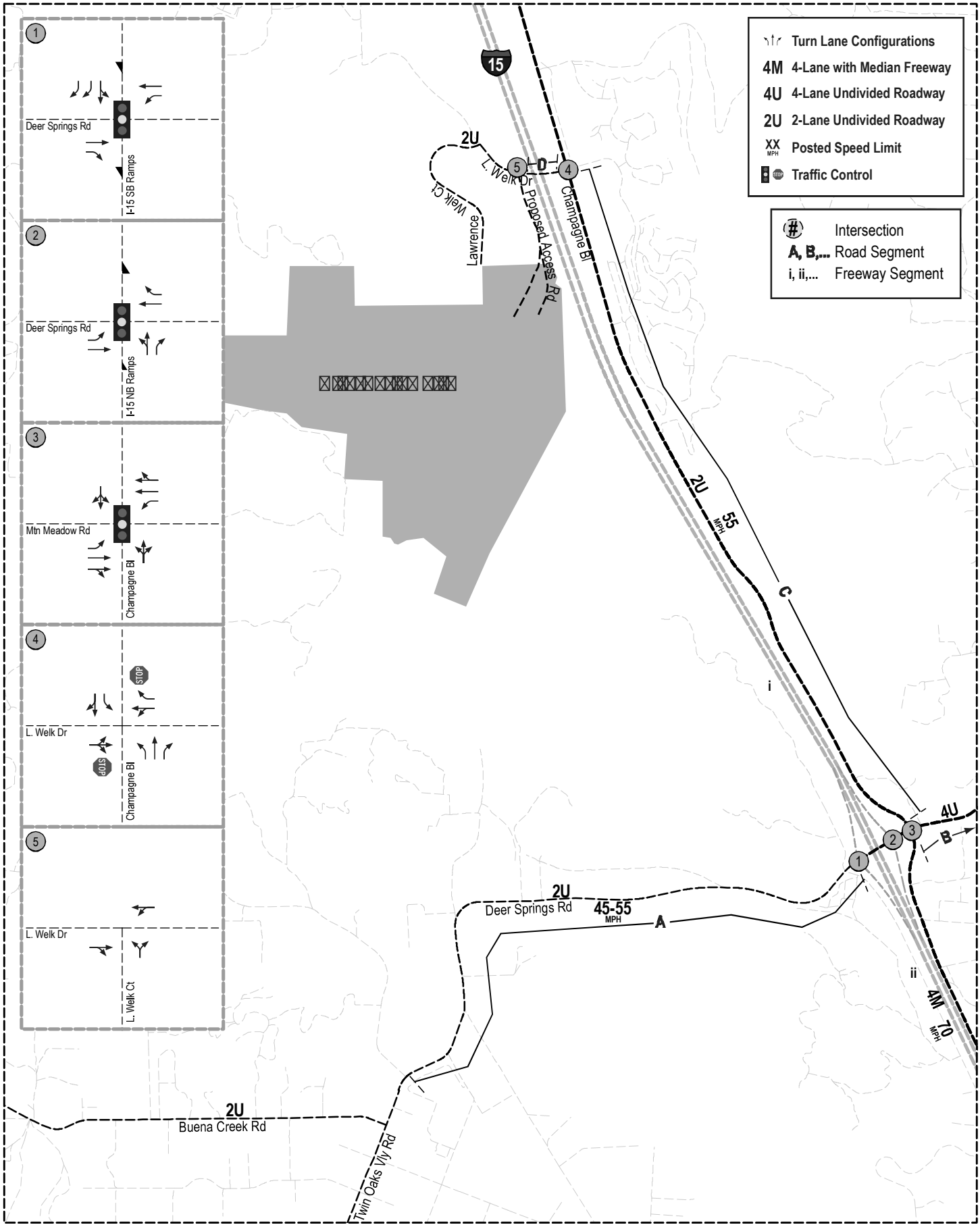
The following is a description of the key roadways that serve the alternative site:

Interstate 15 is classified as a Freeway on the County of San Diego *General Plan Update (GPU), Mobility Element,* October 2010. Within the study area, I-15 is constructed as an eight lane divided freeway with a center divider. The posted speed limit is 70 mph along I-15 in the vicinity of the off-site alternative.

Champagne Boulevard (a continuation of Old Highway 395) from Deer Springs Road/Mountain Meadow Road to Lawrence Welk Drive is classified as a 4.1B Major Road with intermittent turn lanes on the *GPU Mobility Element,* October 2010. It is currently built as a two-lane undivided roadway and per the County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements – Transportation and Traffic*, August 24, 2011, it operates as a two-lane highway with passing opportunities for 40% or more along the length of the roadway and/or have few/limited access points and intersections along the length of the roadway. The posted speed limit on Champagne Boulevard is 55 mph within the vicinity of the off-site alternative.

Deer Springs Road from Twin Oaks Valley Road to the I-15 Ramps is classified as a 6.2 Prime Arterial on the *GPU Mobility Element,* October 2010. From the I-15 ramps to Champagne Boulevard/Centre City Parkway it is classified as a 4.1B Major Road with intermittent turn lanes. It is currently built as a two-lane undivided roadway from Twin Oaks Valley Road to Champagne Boulevard/Centre City Parkway except where additional auxiliary lanes are provided to serve the I-15 interchange. The posted speed limit on Deer Springs Road ranges from 45 to 55 mph within the vicinity of the off-site alternative. Level of Service F operations are accepted along the segment of Deer Springs Road from the I-15 Northbound Ramps to N. Centre City Parkway (Champagne Boulevard), pursuant to Table M-4, GPU Goal M-2, Policy M-2.1. Per that policy, the adverse impacts of adding travel lanes do not justify the resulting benefit that would occur with increased capacity.

Mountain Meadow Road from Champagne Boulevard to Hidden Meadows Road is classified as a 4.1B Major Road with intermittent turn lanes on the *GPU Mobility Element,* October 2010. It is currently built to its ultimate classification as a four-lane roadway with an intermittent two-way left-turn lane. The posted speed limit on Mountain Meadow Road is 50 mph within the vicinity of the off-site alternative.




N

0 4 Miles

**Merriam Mountain Alternative - Roadway Network and Facilities Analysis**

**Gregory Canyon**

Source: Linscott, Law & Greenspan, Engineers, 2012.

FIGURE

**4.15-7**

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## Current Service Levels

Existing service levels have been assessed for each of the roadway facilities analyzed based on the LOS methodology indicating both the quantitative operations level and the qualitative LOS level associated with that level of operations. The existing service levels for each of the roadway facilities analyzed (as identified in Figure 4.15-7) is shown in Table 4.15-19, *Existing Intersection Operations,* through Table 4.15-21, *Existing Freeway Segment Operations*. The facilities have been identified with a number (intersections), letter (roadway segments), or roman numeral (freeway segments) to reflect the their locations, as shown on the figure.

**Table 4.15-19**

**Existing Intersection Operations**

| Intersection | Traffic Control | Critical Movement | Peak Hour | Existing Delay [a] | Existing LOS [b] |
|---|---|---|---|---|---|
| 1. Deer Springs Rd / I-15 SB Ramps | Signal | — | A.M. | 13.7 | B |
| | | | P.M. | 25.5 | C |
| 2. Deer Springs Rd / I-15 NB Ramps | Signal | — | A.M. | 16.4 | B |
| | | | P.M. | 25.0 | C |
| 3. Champagne Blvd / Mountain Meadow Rd | Signal | — | A.M. | 44.6 | D |
| | | | P.M. | 47.2 | D |
| 4. Champagne Blvd / Lawrence Welk Dr | TWSC [c] | WBL | A.M. | 10.7 | B |
| | | | P.M. | 11.6 | B |
| 5. Lawrence Welk Dr / Lawrence Welk Ct (Future Landfill Access Road) | Uncontrolled [d] | NBLR | A.M. | 8.3 | A |
| | | | P.M. | 8.4 | A |

[a] *Average delay expressed in seconds per vehicle.*
[b] *LOS = Level of Service.*
[c] *TWSC = Two-Way Stop Controlled Intersection. Critical movement minor street approach delay reported.*
[d] *This intersection currently serves a small cluster of estate homes. As such, a traffic control device is not provided at this intersection due to relatively low traffic volumes.*

*Source: Linscott Law and Greenspan, LLC, 2012*

In summary, the existing service levels are as follows:

- Intersections (peak hours): The five existing intersections are all currently operating at LOS D or better.
- Street Segment Operations – Daily: On a daily basis the four roadway segments analyzed are operating at LOS D or better except for the following:
  - Deer Springs Road between Twin Oaks Valley Road and the I-15 Southbound Ramps – LOS F
- Freeway Operations: The northbound and southbound segments of I-15 north and south of Deer Springs Road currently operate at an acceptable LOS C or better during both the A.M. and P.M. peak hours.

**Table 4.15-20**

**Existing Street Segment Capacity Analysis**

| Street Segments | General Plan Update Classification [a] | Functional Classification | Existing Capacity (LOS E) [b] | ADT [c] | LOS [d] |
|---|---|---|---|---|---|
| **Deer Springs Road** | | | | | |
| A. Twin Oaks Valley Road to the I-15 SB Ramps | 6.2 Prime Arterial | 2-Ln Rural Collector | 16,200 | 16,740 | F |
| **Mountain Meadow Road** | | | | | |
| B. Champagne Blvd to High Mountain Dr | 4.1B Major Road w/ Intermittent Turn Lanes | 4-Ln Major Road | 34,200 | 7,270 | A |
| **Champagne Boulevard** | | | | | |
| C. Mountain Meadow Rd to Lawrence Welk Dr | 4.1B Major Road w/ Intermittent Turn Lanes | 2-Ln Rural Collector | 22,900 [e] | 5,270 | ≥ D |
| **Lawrence Welk Drive** | | | | | |
| D. Champagne Blvd to Lawrence Welk Ct (Project Access Road) | Non-Mobility Element Roadway | 2-Ln Rural Residential Collector | 4,500 [f] | 200 | ≥ C |

*Bold typeface indicates less than acceptable.*

[a] *GPU Classifications based on GPU Mobility Element, October 2010.*

[b] *Capacities based on County of San Diego Roadway Classification Table.*

[c] *ADT = Average Daily Traffic Volumes.*

[d] *LOS = Level of Service.*

[e] *Per County of San Diego significance criteria, LOS E > 16,200 and LOS F > 22,900 for two-lane highways with signalized intersection spacing over one mile. See Table 5–3 of the LLG traffic study. "≥ D" = Better than or equal to LOS D.*

[f] *Rural Residential Collector capacity of LOS C threshold of up to 4,500 ADT. "≥ C" = Better than or equal to LOS C.*

*Source: Linscott Law and Greenspan LLC, 2012*

**Table 4.15-21**

**Existing Freeway Segment Operations**

| Interstate 15 Segment | Dir. | # of Lanes | Hourly Capacity [a] | Volume [b] | Peak Hour Volume [b] | | V/C [c] | | LOS [d] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A.M. | P.M. | A.M. | P.M. | A.M. | P.M. |
| North of Deer Springs Road | NB | 4M | 9,400 | 120,000 | 2,296 | 6,111 | 0.244 | 0.650 | A | C |
| | SB | 4M | 9,400 | | 6,179 | 3,382 | 0.657 | 0.028 | C | A |
| South of Deer Springs Road | NB | 4M | 9,400 | 119,000 | 2,053 | 5,666 | 0.218 | 0.048 | A | A |
| | SB | 4M | 9,400 | | 6,452 | 3,622 | 0.686 | 0.030 | C | A |

| LOS | V/C |
|---|---|
| A | <0.41 |
| B | 0.62 |
| C | 0.8 |
| D | 0.92 |
| E | 1 |
| F(0) | 1.25 |
| F(1) | 1.35 |
| F(2) | 1.45 |
| F(3) | >1.46 |

[a] *Capacity calculated at 2350 vehicles per hour (vph) per lane (pcphpl) from Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002.*

[b] *ADT and Peak Hour Volumes taken from most recent 2010 Caltrans "5-Day Based Average Hourly Traffic" data.*

[c] *V/C = (Peak Hour Volume/Hourly Capacity)*

[d] *LOS = Level of Service*

*Source: Linscott Law and Greenspan, LLC, 2012*

### 4.15.7.2 Design Features

The Merriam Mountain Alternative would include the construction of a new 0.5-mile long site access road from Lawrence Welk Court. The access road would be sized and configured to meet County roadway standards.

The Merriam Mountain Alternative would have similar operating characteristics to the Applicant's Proposed Alternative. For analysis purposes the daily and annual intake of solid waste is assumed to be the same as the Applicant's Proposed Alternative, with a maximum disposal day of 5,000 tpd to provide for a "worst-case" impact analysis. The associated traffic volume associated with the maximum disposal would limit the maximum number of number of daily site visits to 705 vehicles.

### 4.15.7.3 Environmental Consequences and Mitigation Measures

***Criteria:***

***Intersections***

*An alternative would have a significant adverse effect on roadway intersections if the additional increment of traffic would:*

- *Cause an intersection operating at LOS D to operate at LOS E; or an intersection operating at LOS E to operate at LOS F.*

*Further, an alternative would have a significant adverse effect on roadway intersections if it would:*

- *Operate at LOS E or F, and contribute the following traffic impact:*

| ***Level of service*** | ***Signalized*** | ***Unsignalized*** |
|---|---|---|
| *LOS E* | *Delay of 2 seconds or less* | *20 or less peak hour trips on a critical movement* |
| *LOS F* | *Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement* | *5 or less peak hour trips on a critical movement* |

***Roadway Segments –Total Daily Trips***

*An alternative would have a significant adverse effect on roadway segments if the additional daily increment of traffic would result in one or more of the following;*

- *The additional or redistributed ADT generated by the alternative on a Circulation Element Road or State Highway would cause the road/highway to operate at a LOS E or LOS F; OR*
- *The additional or redistributed ADT generated by the alternative would cause a residential street to exceed its design capacity.*

*Further, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment of daily traffic would include the following number of trips:*

| *Level of Service* | *Two-Lane Road* | *Four-Lane Road* | *Six-Lane Road* |
|---|---|---|---|
| *LOS E* | *200 ADT* | *400 ADT* | *600 ADT* |
| *LOS F* | *100 ADT* | *200 ADT* | *300 ADT* |

*Also, for 2-lane highways, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment of daily traffic would have the following effects on operations:*

**With Signalized Intersection Spacing Over One Mile**

| Level of Service | LOS Criteria | Significance Level |
|---|---|---|
| LOS E | > 16,200 ADT | >325 ADT |
| LOS F | > 22,900 ADT | >225 ADT |

**With Signalized Intersection Spacing Under One Mile**

| Level of Service | Signalized |
|---|---|
| LOS E | Delay of 2 seconds or less |
| LOS F | Delay of 1 second, or<br>5 peak hour trips or less on a critical movements |

### *Freeways*

*An alternative would have a significant adverse effect on a freeway segment if:*

- *The alternative's traffic would cause the operations to drop one letter grade (i.e. from LOS D to LOS E or LOS E to LOS F).*

**Impact Statement Merriam TRAF-1: The Merriam Mountain Alternative would add new traffic to the roadway network. The trips would have the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Lawrence Welk Drive and Champagne Boulevard. The trip distribution through the traffic facilities analyzed, when measured against the Existing Baseline Conditions would have a significant direct adverse effect at one intersection location and along no roadway segments. With the implementation of proposed mitigation, no significant adverse effects would occur.**

The Merriam Mountain Alternative would add traffic to the roadway network, inclusive of haul trucks that would carry waste to the landfill for disposal, worker vehicles operated by landfill employees, and service vehicles to support the landfill operations. The number of trips expected would be tied to the design of the landfill and permit limitations on the amount tonnage that can be disposed. As was the case with the Applicant's Proposed Alternative, the solid waste permit would limit the project to a total of 1 million tons of solid waste per year which averages to 3,200 TPD. However, traffic analyses calculations have been prepared for a potential maximum disposal day of 5,000 TPD, which is inclusive of traffic from landfill

operations and periodic construction, to provide for a "worst-case" impact analysis. The trip generation for the alternative is reflected in Table 4.15-8, above. As indicated, on a maximum load day, it is assumed that 705 vehicles would visit the site generating 2,083 PCE two-way trips.

Trip distribution for the alternative is generally oriented north and south along Champagne Boulevard and I-15. Trips were distributed to the roadway network on the basis of the population distribution from where waste pickup would occur. Population densities in relation to this alternative facility indicate that most of the waste originates from areas south and west of I-15. The total number of trips along each of the roadway segments serving the Merriam Mountain Alternative site, and the intersection turning volumes during the A.M. and P.M. peak hours is shown on Figure 4.15-8, *Merriam Mountain Alternative –Daily Traffic Volumes and Peak Hour Turning Movement*.

The traffic study analyzes the potential impacts of adding the traffic from the landfill as reflected in Figure 4.15-8 to the Existing Conditions Baseline presented in Table 4.15-19 through Table 4.15-21. The analysis indicated that the resulting impacts for the various roadway facilities would be as follows:

### Intersections

Under the Existing Conditions Baseline scenario, with the addition of landfill traffic, the five intersections evaluated are calculated to continue operating at LOS D or better except for the following:

- Champagne Boulevard / Mountain Meadow Road – LOS F (A.M./P.M. peak hours)

Since the additional traffic from the Merriam Mountain Alternative would degrade the operations at this intersection from an acceptable LOS (LOS D) to LOS F operations, the additional increment of traffic would result in a significant adverse direct effect at the intersection of Champagne Boulevard/Mountain Meadow Road.

### Roadway Segments – Daily Traffic Volumes

With the addition of landfill traffic, the four roadway segments analyzed are calculated to continue to operate at LOS D or better except for the following.

- Deer Springs Road between Twin Oaks Valley Road and the I-15 Southbound Ramps – LOS F

The landfill traffic would add 70 trips this roadway segment. This is less than the 100 trip evaluation criterion for 2-lane, roadway segments operating at LOS F; and therefore no significant adverse effects would occur.

### Freeways

The analysis indicated that both the northbound and southbound segments of I-15 north and south of Deer Springs Road would operate at an acceptable LOS C or better during both the A.M. and P.M. peak hours.

Mitigation Measures

The Merriam Mountain Alternative would have a significant adverse direct effect at the intersection of Champagne Boulevard/Mountain Meadow Road. Therefore, direct physical improvements would be required. The following mitigation measure is proposed:

**MM Merriam TRAF-1:** Champagne Boulevard/Mountain Meadow Road – a southbound dedicated right-turn lane shall be provided.

**Impact Statement Merriam TRAF-2: The Merriam Mountain Alternative would add traffic to the roadway network. The trips would have the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Lawrence Welk Drive and Champagne Boulevard. The trip distribution through traffic facilities analyzed under the Near-Term Conditions scenario would result in new cumulative traffic contributions that could result in a direct significant adverse effect at one intersection and significant adverse cumulative effects at three intersections and one roadway segment. Mitigation measures could reduce impacts to service levels below the evaluation criteria; however, such measures would need to be implemented via the TIF program at the discretion of the County. Since, their implementation is not certain and they may not be implemented prior to the significant adverse effect occurring, it is concluded that significant adverse cumulative effects could remain.**

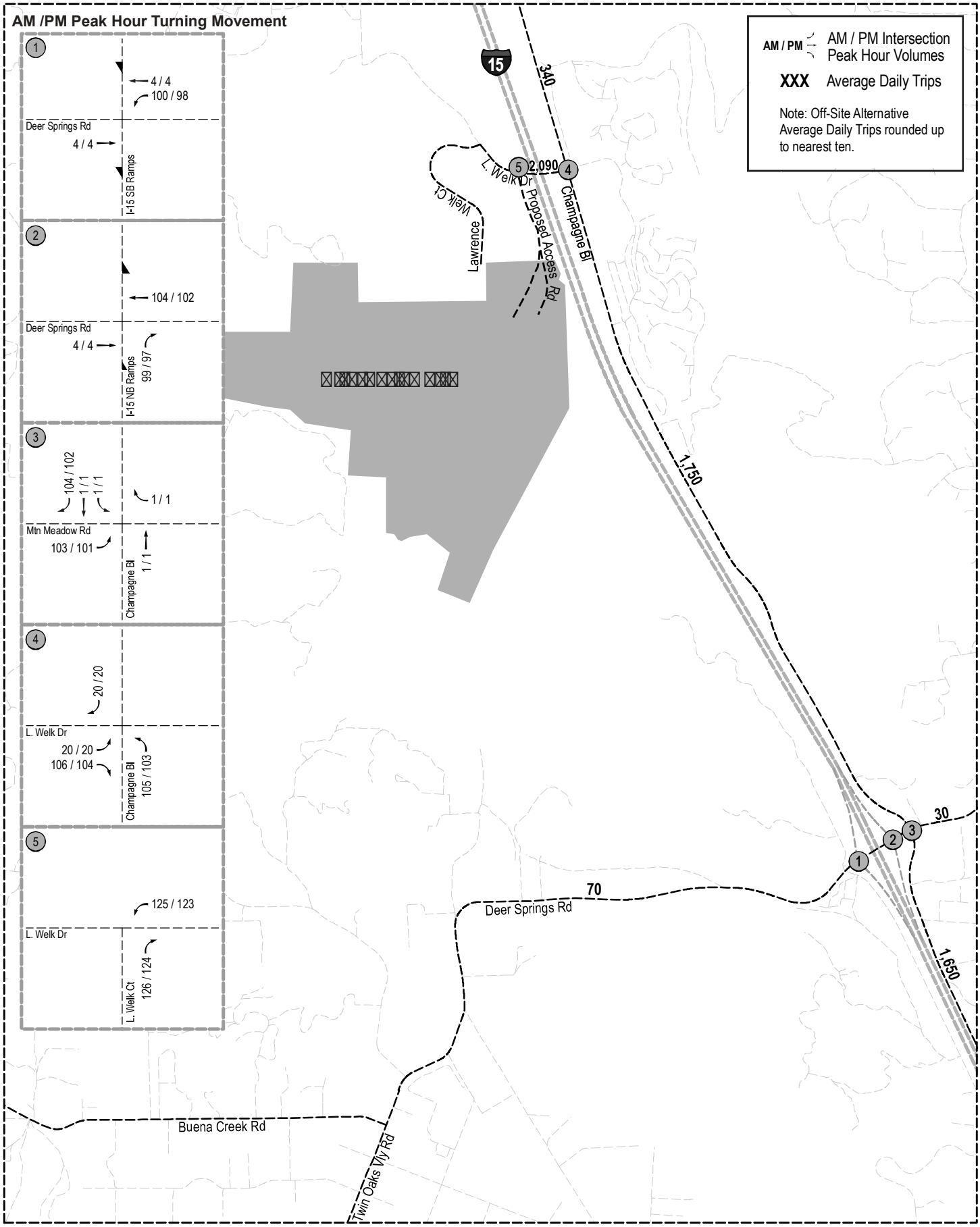
The Near-Term Conditions scenario evaluates adverse cumulative effects that would occur due to landfill traffic in combination with added traffic that would occur due to new development in the vicinity of the site, as well as new roadway improvements that would help to improve traffic operations, as compared to the roadway capacity under the Existing Conditions Baseline. The analysis of the roadway facilities for Near-Term Conditions scenario indicated that the resulting impacts would be as follows:

### Intersections

With the addition of the landfill traffic, as well as cumulative project traffic and roadway improvements, the intersections analyzed would continue operating at LOS C or better, except for:

- Deer Springs Road / I-15 Southbound Ramps – LOS F (P.M. peak hour)
- Deer Springs Road / I-15 Northbound Ramps – LOS F (P.M. peak hour)
- Champagne Boulevard / Mountain Meadow Road – LOS F (A.M./P.M. peak hours)

The additional delay time at these LOS F intersections would range from 69.7 seconds to 138.5 seconds, which exceeds the significance level of a delay of 1 second. Therefore, these delays would result in significant adverse cumulative effects.




N

0 4 Miles

**Merriam Mountain Alternative -Daily Traffic Volume and Peak Hour Turning Movements**

**Gregory Canyon**

Source: Linscott, Law & Greenspan, Engineers, 2012.

FIGURE

**4.15-8**

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### Roadway Segments – Daily Traffic Volumes

With the addition of the landfill traffic and cumulative projects traffic, the four roadway segments analyzed would operate at acceptable LOS levels except for the following:

- Deer Springs Road between Twin Oaks Valley Road and the I-15 Southbound Ramps – LOS F

The added increment of traffic, 6,380 trips, is greater than the significance level of 100 trips. Therefore, a significant adverse cumulative effect would occur along this roadway segment.

### Freeways

The analysis indicated that the northbound and southbound segments of I-15 north and south of Deer Springs Road are would operate at an acceptable LOS C or better during both the A.M. and P.M. peak hours.

## Mitigation Measures

As indicated in the analysis of impacts under the Existing Conditions Baseline above, the Merriam Mountain Alternative would have a direct significant adverse effect at the intersection of Champagne Boulevard and Mountain Meadow Road. A mitigation measure for the significant adverse effect at that location is also proposed above. In addition, the Merriam Mountain Alternative would contribute to significant adverse cumulative effects at three (3) intersections and one (1) roadway segment under the Near-Term Conditions scenario. The cumulative intersection and segment locations could operate at acceptable levels of service with improvements that could be implemented as part of the County of San Diego Traffic Impact Fee (TIF) Program. The impacts would be addressed through fair-share contributions to the TIF programs, with payment required at issuance of building permits, in combination with payment from other projects, per the following:

**MM Merriam TRAF-2:** At the commencement of operation, the applicant shall pay the County's Transportation Impact Fee to fund its fair share of improvements to address cumulative impacts.

The Traffic Impact Analysis included studies to identify roadways improvements that would reduce significant adverse effects to levels that are below the evaluation criteria, with the payment of TIF fees and the application of such fees to the construction of physical improvements at the locations identified as having significant adverse effects. The physical improvements identified in the study are shown in Table 4.15-22, *Summary of Significant Adverse Effects and Proposed Physical Improvements*. Although the payment of TIF fees is considered mitigation, since the implementation of the physical improvements is not certain, in terms of the actual improvement and the timing, it is concluded that significant adverse cumulative effects could remain.

**Impact Statement Merriam TRAF-3: The Merriam Mountain Alternative would add traffic to the roadway network. The trips would have the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Lawrence Welk Drive and Champagne Boulevard. The trip distribution through traffic roadway segments analyzed, when measured against the Buildout Conditions Baseline would have no significant adverse effects.**

**Table 4.15-22**

**Summary of Significant Adverse Effects and Proposed Physical Improvements**

| Location (As Identified in Figure 4.15-7) | Impact Type | Proposed Physical Improvements |
|---|---|---|
| | **Intersections** | |
| 3. Champagne Blvd / Mountain Meadow Rd | Near-Term Cumulative | Widen Champagne Boulevard to 4.1B Major Road standards to provide additional lanes at this intersection |
| 1. Deer Springs Road / I-15 Southbound Ramps | Near-Term Cumulative | Widen Deer Springs Road to 6.1 Prime Arterial standards to provide additional lanes at this intersection |
| 2. Deer Springs Road / I-15 Northbound Ramps | Near-Term Cumulative | Widen Deer Springs Road to 6.1 Prime Arterial standards to provide additional lanes at this intersection |
| | **Roadway Segment** | |
| A. Deer Springs Road betw. Twin Oaks Valley Rd and the I-15 Southbound Ramps | Near-Term Cumulative | Widen Deer Springs Road to 6.1 Prime Arterial standards along this portion of the roadway |

*Source: Linscott Law and Greenspan, LLC, 2012*

The analysis of impacts under the Buildout Conditions Baseline scenario identifies the impacts of the landfill traffic associated with the Merriam Mountain Alternative against baseline conditions that include the future development and roadway improvements anticipated in the County's General Plan Update. The analysis of the roadway segments analyzed for the Buildout Conditions Baseline scenario indicated that the resulting impacts would be as follows:

### Roadway Segments – Daily Traffic Volumes

With the addition of landfill traffic, the four roadway segments analyzed would operate at LOS D or better. Since the roadway segments would operate at LOS D or better, no significant adverse cumulative effects would occur.

## Mitigation Measures

As indicated above, the Merriam Mountain Alternative would include mitigation measures to address direct and cumulative significant adverse effects associated with the analyses of the Existing Conditions Baseline and Near-Term Conditions scenario. No significant adverse effects were identified for the Buildout Conditions Baseline scenario. No mitigation measures are proposed.

## 4.15.8 EAST OTAY MESA ALTERNATIVE

### 4.15.8.1 Affected Environment

#### Roadway Network

The East Otay Mesa Alternative site is located approximately two miles east of the SR 905 exit at Siempre Viva Road. It is also approximately ¼-mile east of the planned extension of Lone Star Road and east of the planned SR 11 Project. Siempre Viva Road currently terminates just slightly east of Enrico Fermi Drive, approximately 1.3 miles west of the alternative site. In order to reach the landfill site from Siempre Viva Road under prevailing conditions, an access road would be constructed from the existing terminus of Siempre Viva Road to the landfill entrance. The SR 11 project proposes to construct a connection from SR 905/SR 125 to a future Federal Port of Entry. As part of this connection, ramps would be constructed at the intersection of SR 11 and Siempre Viva Road which would then provide access for the landfill traffic. Since the funding and timing of the completion of SR 11 are currently unknown, the East Otay Mesa Alternative would be responsible for connecting the landfill access to Siempre Viva Road at its current terminus. Other potential road improvements in the vicinity include an extension of the existing terminus of Siempre Viva Road easterly to Alta Road as mitigation for proposed projects located within the East Otay Mesa Business Park Specific Plan area, just west of the landfill site.

The existing roadway network, and proposed new roadway facilities, that would serve the site are shown on Figure 4.15-9, *East Otay Mesa Alternative – Roadway Network and Facilities Analyzed.* The road network facilities analyzed that would serve the site include three intersections, seven roadway segments and twenty freeway segments. The following is a description of the key roadways that would serve the landfill site.

#### Existing Facilities

Siempre Viva Road is classified on the City of San Diego Otay Mesa Community Plan and currently built as a Six-Lane Prime Arterial from west of SR 905 to Paseo De Las Americas. East of Paseo De Las Americas to Enrico Fermi Drive, Siempre Viva Road is classified as a Six-Lane Prime Arterial and built to Four-Lane Collector Road standards. From the Otay Mesa Community Boundary at Enrico Fermi Drive to future Lone Star Road/SR 11, Siempre Viva Road is classified as a 4.1A Major Road with a raised median on the County of San Diego Mobility Element. Just east of Enrico Fermi Drive it narrows to a two-lane one-way roadway connecting to its terminus at Airway Place.

SR 905 (SR-905)/Otay Mesa Road is classified in the City of San Diego Otay Mesa Community Plan as an east-west Six-Lane Expressway extending from Interstate 5 to the Otay Mesa Community. Approximately one mile east of Interstate 805 (I-805), there is a break in the route and SR-905 becomes Otay Mesa Road. The speed limit on SR 905/Otay Mesa Road varies between 50-65 miles per hour (mph). Currently, the SR 905 project is under construction.

Interstate 805 (I-805) is a north-south freeway, which originates in South County and terminates at its connection with the Interstate 5 (I-5) freeway near Del Mar, California. I-805 is generally an 8-Lane Freeway with auxiliary lanes provided. The posted speed limit is 65 mph along I-805.

Interstate 5 (I-5) is a north-south freeway which originates at the United States-Mexico International Border (US – Mexico Border) and continues northwest beyond SR 76 within the study area It is generally an 8-Lane

Freeway with auxiliary lanes provided. Just south of SR 56, high-occupancy vehicle (HOV) Express Lanes are provided extending north to just south of Manchester Avenue within the study area. The posted speed limit is 65 mph along I-5.

Interstate 15 (I-15) is a north-south freeway originating approximately two miles north of the I-5/SR 54 interchange and continues northeast beyond SR 76 within the study area. It is generally an 8-Lane Freeway except where widening up to 10+ lanes is present with HOV Express Lanes extending from SR 163 to SR 78. The posted speed limit is 65-70 mph along I-15.

### Scheduled or Programmed Road Improvement Projects

Caltrans currently has two (2) major roadway projects in the Otay Mesa Area: SR 905 and SR 11, as follows:

SR-905 Project provides for the construction of a transportation facility from I-805 to the Otay Mesa Port of Entry at the US - Mexico Border. It includes the construction of a six-lane freeway that would run parallel and roughly 1,300 feet to the south of the existing Otay Mesa Road, and a six-lane toll way. The project includes grade separated local access interchanges with SR-125 and an SR-905/Siempre Viva Road grade separated interchange. Portions of the project have been completed and are open to traffic. Remaining portions to be completed include: construction of an interchange at SR-125/SR-905, a four lane local access ramp from SR-905/SR-125 interchange east to the interchange with Enrico Fermi Drive, and construction of an interchange at Heritage Road. [Note to USACE: Completion of relevant link west of the landfill site is expected in near future. PCR will continue to track status.]

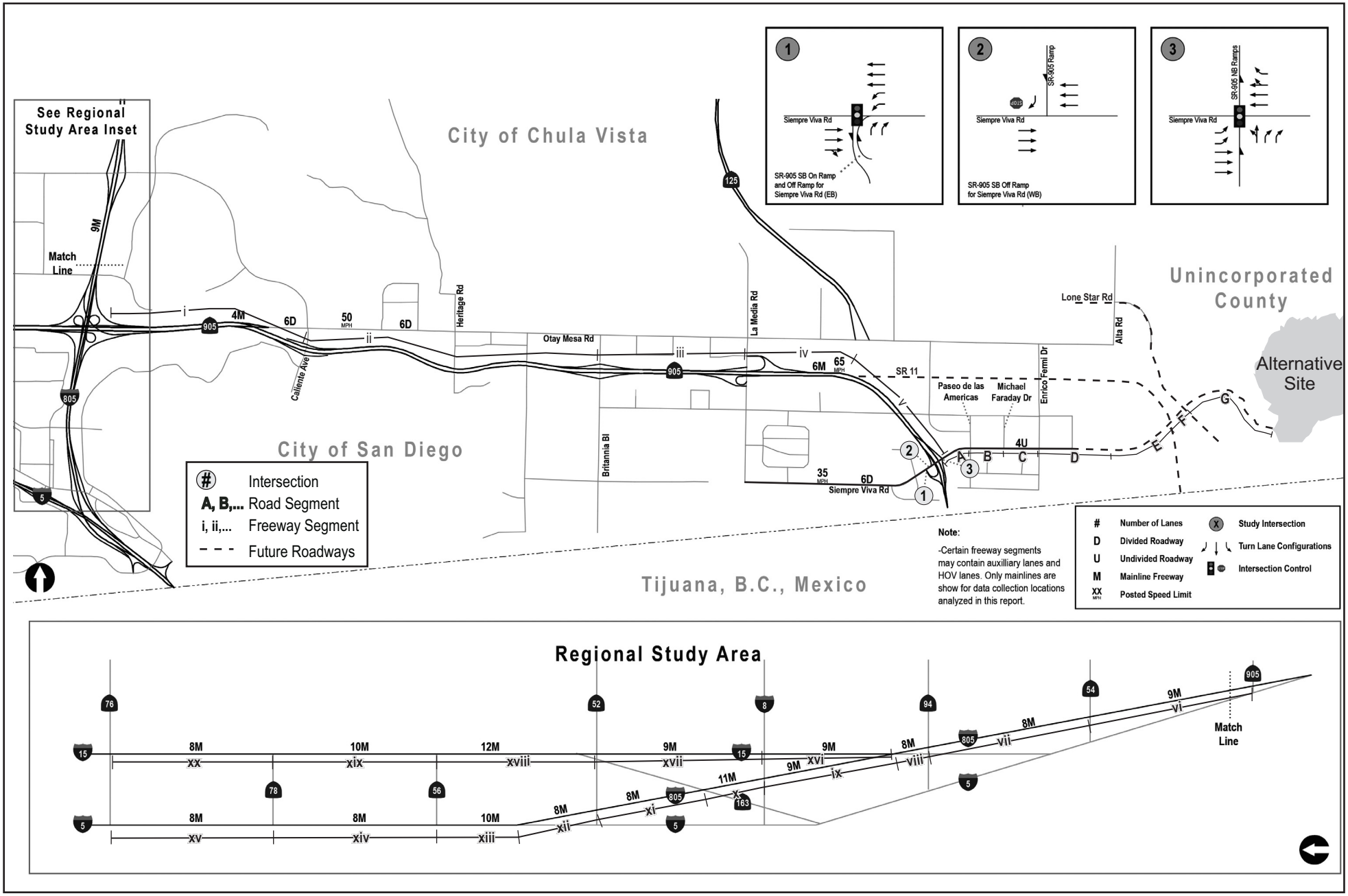
SR-11 Project will consist of approximately two miles of a new four-lane freeway from the proposed SR-905/SR-125 junction to the future Federal Port of Entry. A Final Tier II Environmental Impact Report/Environmental Impact Statement for this project was circulated in March 2012 by the U.S. Department of Transportation and Caltrans. A Preferred Alternative that was defined in the Final EIR was recently designated for the project. Proposed improvements in the vicinity of the alternative site include: primary and secondary site access roads that would be constructed as extensions of Siempre Viva Road, east of future SR 11, and construction of a new access route from a future Lone Star Road.

### Current Service Levels

Existing service levels have been assessed for each of the roadway facilities analyzed based on the LOS methodology indicating both the quantitative operations level and the qualitative LOS level associated with that level of operations. The existing service levels for each of the roadway facilities analyzed (as identified in Figure 4.15-9) is shown in Table 4.15-23, *East Otay Mesa Alternative - Existing Intersection Operations,* through Table 4.15-25, *East Otay Mesa Alternative - Existing Freeway Segment Operations*. The facilities have been identified with a number (intersections), letter (roadway segments), or roman numeral (freeway segments) to reflect the their locations, as shown on the figure.

In summary, the existing service levels are as follows:

- Intersections (peak hours): The three study area intersections are calculated to currently operate at LOS B during the A.M. and P.M. peak hours.




## East Otay Mesa Alternative - Roadway Network and Facilities Analyzed

**Gregory Canyon**

Source: Linscott Law & Greenspan Engineers, 2012.

FIGURE

**4.15-9**

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**Table 4.15-23**

**East Otay Mesa - Existing Intersection Operations**

| Intersection | Traffic Control | Critical Movement | Peak Hour | Existing Delay [a] | Existing LOS [b] |
|---|---|---|---|---|---|
| 1. SR 905 SB Ramp / EB Siempre Viva Rd | Signal | — | A.M. | 11.8 | B |
| | | | P.M. | 13.4 | B |
| 2. SR 905 SB Ramp / WB Siempre Viva Rd | TWSC [c] | SBL | A.M. | 13.3 | B |
| | | | P.M. | 11.1 | B |
| 3. SR 905 NB Ramp / Siempre Viva Rd | Signal | — | A.M. | 13.0 | B |
| | | | P.M. | 15.3 | B |

[a] *Average delay expressed in seconds per vehicle.*
[b] *LOS = Level of Service.*
[c] *TWSC = Two-way stop controlled intersection. Minor street delay reported.*
***General Notes:***
*SBL = Southbound left-turn.*

*Source: Linscott, Law & Greenspan, 2012*

- Street Segment Operations – Daily: The four existing street segments are calculated to currently operate at LOS B or better conditions.
- Freeway Operations: All freeway segments currently operate at an acceptable LOS D or better during both the A.M. and P.M. peak hours with the following exceptions:
  - I-805
    - Between I-8 and SR 163– LOS F(0) – A.M. peak hour
    - Between SR 52 and I-5– LOS E – A.M. peak hour
  - I-15
    - Between I-8 and the SR 52/SR 163 Merge – LOS E – A.M. peak hour

## 4.15.8.2 Design Features

The East Otay Mesa Alternative would include the construction of a new site access road extending easterly from Siempre Viva Road to the landfill entrance. The East Otay Mesa Alternative would have similar operating characteristics to the Applicant's Proposed Alternative. For analysis purposes the daily and annual intake of solid waste is assumed to be the same as the Applicant's Proposed Alternative, with a maximum disposal day of 5,000 tpd to provide for a maximum impact analysis. It is assumed that the associated traffic volume associated with the maximum disposal would limit the maximum number of number of daily site visits to 330 vehicles. The number of vehicles is less than estimated for other alternatives, as the East Otay Mesa Alternative would receive waste from larger transfer trucks that would load waste at waste transfer stations rather than from smaller direct haul trucks that would collect waste from the waste generators. The larger truck size has been considered in converting the number of truck trips to PCE trips for purposes of the impact analysis.

**Table 4.15-24**

**East Otay Mesa - Existing Street Segment Operations**

| City of San Diego Street Segment | General Plan Classification [a] | Functional Classification | Capacity (LOS E) [b] | ADT [c] | LOS [d] | V/C [e] |
|---|---|---|---|---|---|---|
| **Siempre Viva Road** | | | | | | |
| A. SR 905 NB Ramps to Paseo de las Americas | 6-Ln Prime Arterial | 6-ln Prime Arterial | 60,000 | 26,650 | B | 0.44 |
| B. Paseo de las Americas to Michael Faraday | 6-Ln Prime Arterial | 4-Ln Collector | 30,000 | 9,890 | A | 0.33 |
| C. Michael Faraday to Enrico Fermi Dr | 6-Ln Prime Arterial | 4-Ln Collector | 30,000 | 6,440 | A | 0.21 |

| County of San Diego Street Segments | General Plan Update Classification [a] | Functional Classification | Capacity (LOS E) [b] | ADT [c] | LOS [d] |
|---|---|---|---|---|---|
| **Siempre Viva Road** | | | | | |
| D. Enrico Fermi Dr to Alta Road [f] | 4.1A Major Road w/ Raised Median | 2-Ln One-Way [g] | 12,500 | 830 | A |
| E. Alta Road to SR 11 [f] | 4.1A Major Road w/ Raised Median | DNE | — | — | — |
| F. SR 11 to Lone Star Road [f] | 4.1A Major Road w/ Raised Median | DNE | — | — | — |
| G. Lone Star Road to Access [f] | Unclassified | DNE | — | — | — |

[a] *City of San Diego General Plan Classification based on Otay Mesa Community Plan and County of San Diego Classifications based on GPU Mobility Element, October 2010.*
[b] *Capacities based on County of San Diego and City of San Diego Roadway Classification Table.*
[c] *ADT = Average Daily Traffic Volumes.*
[d] *LOS = Level of Service.*
[e] *V/C = Volume to Capacity ratio.*
[f] *Siempre Viva Road currently terminates just east of Enrico Fermi Drive at Airway Place.*
[g] *Capacity for two-lane one-way roadway taken from City of San Diego Roadway Classification Table (Modified).*

***General Notes**:*
*DNE = Does not exist*

*Source: Linscott, Law & Greenspan, 2012*

**Table 4.15-25**

**East Otay Mesa - Existing Freeway Segment Operations**

| Freeway Segment | Dir. | # of Lanes | Hourly Capacity [a] | Volume [b] | Peak Hour Volume [b] | | V/C [c] | | LOS [d] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A.M. | P.M. | A.M. | P.M. | A.M. | P.M. |
| **SR 905** | | | | | | | | | | |
| i. I-805 to Caliente Ave | EB | 2M | 4,700 | 60,000 | 3,741 | 1,725 | 0.796 | 0.367 | C | A |
| | WB | 2M | 4,700 | | 916 | 2,889 | 0.195 | 0.615 | A | B |
| ii. Caliente Ave to Britannia Blvd | EB | 3M | 7,050 | 70,800 | 3,020 | 2,147 | 0.428 | 0.305 | B | A |
| | WB | 3M | 7,050 | | 1,515 | 2,816 | 0.215 | 0.399 | A | A |
| iii. Britannia Blvd to La Media Rd | EB | 3M | 7,050 | 59,000 | 2,090 | 1,910 | 0.296 | 0.271 | A | A |
| | WB | 3M | 7,050 | | 1,639 | 2,423 | 0.232 | 0.344 | A | A |
| iv. La Media Rd to (Future) SR 125 | EB | 3M | 7,050 | 44,500 | 1,545 | 1,341 | 0.219 | 0.190 | A | A |
| | WB | 3M | 7,050 | | 1,314 | 1,898 | 0.186 | 0.269 | A | A |
| v. (Future) SR 125 to Siempre Viva Rd | EB | 3M | 7,050 | 44,500 | 1,545 | 1,341 | 0.219 | 0.190 | A | A |
| | WB | 3M | 7,050 | | 1,314 | 1,898 | 0.186 | 0.269 | A | A |
| **Interstate 805** | | | | | | | | | | |
| vi. SR 905 to SR 54 | NB | 4M | 9,400 | 228,000 | 7,943 | 6,109 | 0.845 | 0.650 | D | C |
| | SB | 5M | 11,750 | | 5,789 | 9,131 | 0.493 | 0.777 | B | C |
| vii. SR 54 to SR 94 | NB | 4M+1A | 9,400 | 228,000 | 8,055 | 5,673 | 0.857 | 0.604 | D | B |
| | SB | 4M | 9,400 | | 4,702 | 8,462 | 0.500 | 0.900 | B | D |
| viii. SR 94 to I-15 | NB | 4M+1A | 9,400 | 220,000 | 7,962 | 4,592 | 0.847 | 0.489 | D | B |
| | SB | 4M+1A | 9,400 | | 4,250 | 7,098 | 0.452 | 0.755 | B | C |
| ix. I-15 to I-8 | NB | 4M | 94,000 | 192,000 | 7,698 | 4,436 | 0.082 | 0.047 | A | A |
| | SB | 5M+1A | 11,750 | | 3,196 | 8,543 | 0.272 | 0.727 | A | C |
| x. I-8 to SR 163 | NB | 5M | 11,750 | 193,000 | 12,590 | 8,708 | 1.071 | 0.741 | F(0) | C |
| | SB | 6M | 14,100 | | 4,686 | 10,628 | 0.332 | 0.754 | A | C |
| xi. SR 163 to SR 52 | NB | 4M+1A | 9,400 | 185,000 | 6,967 | 4,717 | 0.741 | 0.502 | C | B |
| | SB | 4M+1A | 9,400 | | 3,267 | 6,533 | 0.348 | 0.695 | A | C |
| xii. SR 52 to I-5 | NB | 4M+1A | 9,400 | 196,000 | 9,310 | 5,804 | 0.990 | 0.617 | E | B |
| | SB | 4M+1A | 9,400 | | 5,757 | 8,232 | 0.612 | 0.876 | B | D |
| **Interstate 5** | | | | | | | | | | |
| xiii. I-805 to SR 56 | NB | 6M+1HOV | 14,100 | 203,000 | 6,637 | 4,507 | 0.471 | 0.320 | B | A |
| | SB | 4M+1HOV | 9,400 | | 2,298 | 5,876 | 0.244 | 0.625 | A | C |

**Table 4.1516 (Continued)**

**East Otay Mesa Existing Freeway Segment Operations**

| Freeway Segment | Dir. | # of Lanes | Hourly Capacity [a] | Volume [b] | Peak Hour Volume [b] | | V/C [c] | | LOS [d] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A.M. | P.M. | A.M. | P.M. | A.M. | P.M. |
| xiv. SR 56 to SR 78 | NB | 4M+1A | 9,400 | 245,000 | 5,519 | 4,489 | 0.587 | 0.478 | B | B |
| | SB | 4M+1A | 9,400 | | 6,900 | 4,798 | 0.734 | 0.510 | C | B |
| xv. SR 78 to SR 76 | NB | 4M | 9,400 | 191,000 | 4,801 | 6,376 | 0.511 | 0.678 | B | C |
| | SB | 4M | 9,400 | | 6,444 | 5,495 | 0.686 | 0.585 | C | B |
| **Interstate 15** | | | | | | | | | | |
| xvi. I-805 to I-8 | NB | 4M | 9,400 | 162,000 | 7,729 | 5,474 | 0.822 | 0.582 | D | B |
| | SB | 5M | 11,750 | | 4,823 | 6,093 | 0.410 | 0.519 | B | B |
| xvii. I-8 to SR 52/SR163 Merge | NB | 4M+1A | 9,400 | 207,000 | 9,101 | 5,757 | 0.968 | 0.612 | E | B |
| | SB | 5M+1A | 11,750 | | 5,471 | 8,513 | 0.466 | 0.725 | B | C |
| xviii. SR 52/SR 163 Merge to SR 56 | NB | 6M | 14,100 | 296,000 | 6,468 | 6,299 | 0.459 | 0.447 | B | B |
| | SB | 6M+1A | 14,100 | | 11,652 | 8,279 | 0.826 | 0.587 | D | B |
| xix. SR 56 to SR 78 | NB | 5M+1A | 11,750 | 225,000 | 6,520 | 8,043 | 0.555 | 0.685 | B | C |
| | SB | 5M | 11,750 | | 8,766 | 7,041 | 0.746 | 0.599 | C | B |
| xx. SR 78 to SR 76 | NB | 4M | 9,400 | 128,000 | 2,400 | 5,646 | 0.255 | 0.601 | A | B |
| | SB | 4M | 9,400 | | 5,085 | 2,446 | 0.541 | 0.260 | B | A |

[a] *Capacity calculated at 2350 vehicles per hour (vph) per lane (pcphpl) from Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002.*
[b] *ADT Volumes taken from most recent 2010 Caltrans traffic volumes and 2008 traffic volumes taken from the Otay Tech Centre Traffic Study, prepared by LLG in December 2011 and the Otay Business Park Traffic Study prepared by Darnell & Associates, September 2010. Peak hour volumes taken from Caltrans 2012 PeMS, where available.*
[c] *V/C = (Peak Hour Volume/Hourly Capacity)*
[d] *LOS = Level of Service*

***General Notes:***
***Bold*** *typeface indicates less than acceptable*
*Peak hour volumes represent mainline traffic volumes. Landfill traffic is not expected to use the HOV lanes, where provided.*

*Source: Linscott, Law & Greenspan, 2012*

## 4.15.8.3 Environmental Consequences and Mitigation Measures

***Criteria:***

***Intersections***

*An alternative would have a significant adverse effect on roadway intersections if the additional increment of traffic would:*

- *Cause an intersection operating at LOS D to operate at LOS E; or an intersection operating at LOS E to operate at LOS F.*

*Further, an alternative would have a significant adverse effect on roadway intersections if it would:*

- *Operate at LOS E or F, and exceed the following allowable traffic impact:*

| ***Level of service*** | ***Signalized*** | ***Unsignalized*** |
|---|---|---|
| *LOS E* | *Delay of 2 seconds* | *20 or less peak hour trips on a critical movement* |
| *LOS F* | *Delay of 1 second* | *5 or less peak hour trips on a critical movement* |

***Roadway Segments –Total Daily Trips***

*An alternative would have a significant adverse effect on roadway segments if the additional daily increment of traffic would result in one or more of the following;*

- *The additional or redistributed ADT generated by the alternative on a Circulation Element Road or State Highway would cause the road/highway to operate at a LOS E or LOS F.*

*Further, an alternative would have a significant adverse effect on roadway segments if:*

- *The additional increment of daily traffic would include the following number of trips:*

| ***Level of Service*** | ***Two-Lane Road*** | ***Four-Lane Road*** | ***Six-Lane Road*** |
|---|---|---|---|
| *LOS E* | *200 ADT* | *400 ADT* | *600 ADT* |
| *LOS F* | *100 ADT* | *200 ADT* | *300 ADT* |

*<u>For Incorporated areas only</u>*

*An alternative would have a significant adverse effect on roadway segments if:*

- *The additional traffic impact along the roadway segment operating at LOS E would increase the V/C ratio by 0.02 or more, or cause a decrease in speed of 1 mph; or the additional traffic at a roadway segment operating at LOS F would increase the V/C ratio by 0.01, or cause a decrease in speed of 0.5 mph.*

### *Freeways*

*An alternative would have a significant adverse effect on a freeway segment if:*

- *The alternative's traffic would cause the operations to drop one letter grade (i.e. from LOS D to LOS E or LOS E to LOS F); or*
- *The additional traffic impact at a freeway segment operating at LOS E or F would increase the V/C ratio by 0.01 or more, or cause a decrease in speed of 1 mph.*

**Impact Statement East Otay TRAF-1: The East Otay Mesa Alternative would add new traffic to the roadway network. The trips would follow a route along Siempre Viva Road and I-905 linking to northward destinations via the I-805. The trip distribution through the traffic facilities analyzed, when measured against Existing Baseline Conditions would have no significant adverse effects on the existing roadway network. However, Simpre Viva Road would need to be extended from its current terminus easterly to the landfill access road. In order to avoid a significant adverse effect, that roadway extension would be designed to meet specifications established in a proposed mitigation measure.**

The East Otay Mesa Alternative would add traffic to the roadway network, inclusive of transfer trucks that would carry waste to the landfill for disposal, worker vehicles operated by landfill employees, and service vehicles to support the landfill operations. The number of trips expected would be tied to the design of the landfill and permit limitations on the amount of tonnage that could be disposed. As was the case with the Applicant's Proposed Alternative, the solid waste permit would limit the project to a total of 1 million tons of solid waste per year which averages to 3,200 TPD. However, traffic analyses calculations have been prepared for a potential maximum disposal day of 5,000 TPD, which is inclusive of traffic from landfill operations and periodic construction, to provide for a maximum impact analysis. The trip generation for the alternative is reflected in Table 4.15-26, *East Otay Mesa Alternative Trip Generation.*

As indicated, the East Otay Mesa Alternative would be expected to have 240 vehicle visits on a typical day, but would have a maximum limit of 330 vehicle visits. The 330 vehicles visiting the site would produce the equivalent of 1,554 PCE, two-way trips, the number of trips evaluated in the traffic analysis. This contrasts with the 2,083 PCE, two-way trips associated with the 705 vehicle visits associated with the Applicant's Proposed Alternative. The PCE for this alternative is 2.5. Trip distribution for the alternative follows a route along Siempre Viva Road and I-905 extending to the I-805 freeway and heading north to connections with the I-15 and I-5 freeways. Trips were distributed to the roadway network to serve North County transfer stations that would receive waste from locations in or near North County. The total number of trips along each of the roadway segments serving the East Otay Mesa Alternative site, and the intersection turning volumes during the A.M. and P.M. peak hours are shown on Figure 4.15-10, *East Otay Mesa Alternative– Daily Traffic Volumes and Peak Hour Turning Movements*.

The traffic study analyzes the potential impacts of adding the traffic from the landfill as reflected in Figure 4.15-10 to the Existing Conditions Baseline presented in Table 4.15-23 through Table 4.15-25. The analysis indicates that traffic effects on the various roadway facilities would be as follows:

**Table 4.15-26**

**East Otay Mesa - Off-Site Alternative Site Trip Generation**

| Activity Type | Number of Trips | | |
|---|---|---|---|
| | One-Way | Two-Way | With 2.5 PCE Factor |
| **Maximum Waste (5,000 TPD)** | | | |
| Transfer Trucks [a] | 250 | 500 | 1,250 |
| Water/Delivery/Other [b] | 48 | 96 | 240 |
| Total Truck Trips | *298* | *596* | *1,490* |
| Employee [c] | 22 | 44 | 44 |
| Service/Visitor [d] | 10 | 20 | 20 |
| **Total Daily PCE Trips** | | | **1,554** |
| **Average Waste (3,200 TPD)** | | | |
| Transfer Trucks [a] | 160 | 320 | 800 |
| Water/Delivery/Other [b] | 48 | 96 | 240 |
| Total Truck Trips | *208* | *416* | *1,040* |
| Employee [c] | 22 | 44 | 44 |
| Service/Visitor [d] | 10 | 20 | 20 |
| **Total Daily PCE Trips** | | | **1,104** |

*Notes:*
*PCE = passenger car equivalent per discussion in Section 7.1 of this report.*
[a] *Transfer truck capacity = 20 tons.*
[b] *Other trucks consist of periodic construction, including brine, and leachate removal.*
[c] *Number of employee vehicles = 22 per day x 2 trips/day = 44 trips.*
[d] *Number of Service/Visitor Vehicles = 10 per day x 2 trips/day = 20 trips*

***Source:*** *Linscott Law and Greenspan, LLC, 2012.*

### Intersections

Under the Existing Conditions Baseline scenario, with the addition of landfill traffic, the three intersections evaluated are calculated to continue operating at LOS B or better conditions.

### Roadway Segments – Daily Traffic Volumes

With the addition of new landfill traffic, the seven roadway segments analyzed are calculated to operate at LOS B or better conditions. Therefore, no significant adverse effects would occur.

### Freeways

The analysis indicated that all of the freeway segments currently operate at an acceptable LOS D or better during both the A.M. and P.M. peak hours with the following exceptions:

- I-805

  - Between I-8 and SR 163– LOS F(0) – A.M. peak hour
  - Between SR 52 and I-5 – LOS E – A.M. peak hour
- I-15
  - Between I-8 and the SR 52/SR 163 Merge – LOS E – A.M. peak hour

Since the off-site alternative does not reduce V/C for the LOS F(0) freeway mainline segments on I-805 between I-8 and SR 163 by greater than 0.005 and the V/C for the LOS E segment on I-805 between SR 52 and I-5 by greater than 0.010 to an LOS below pre-landfill conditions, no direct significant adverse effects would occur.

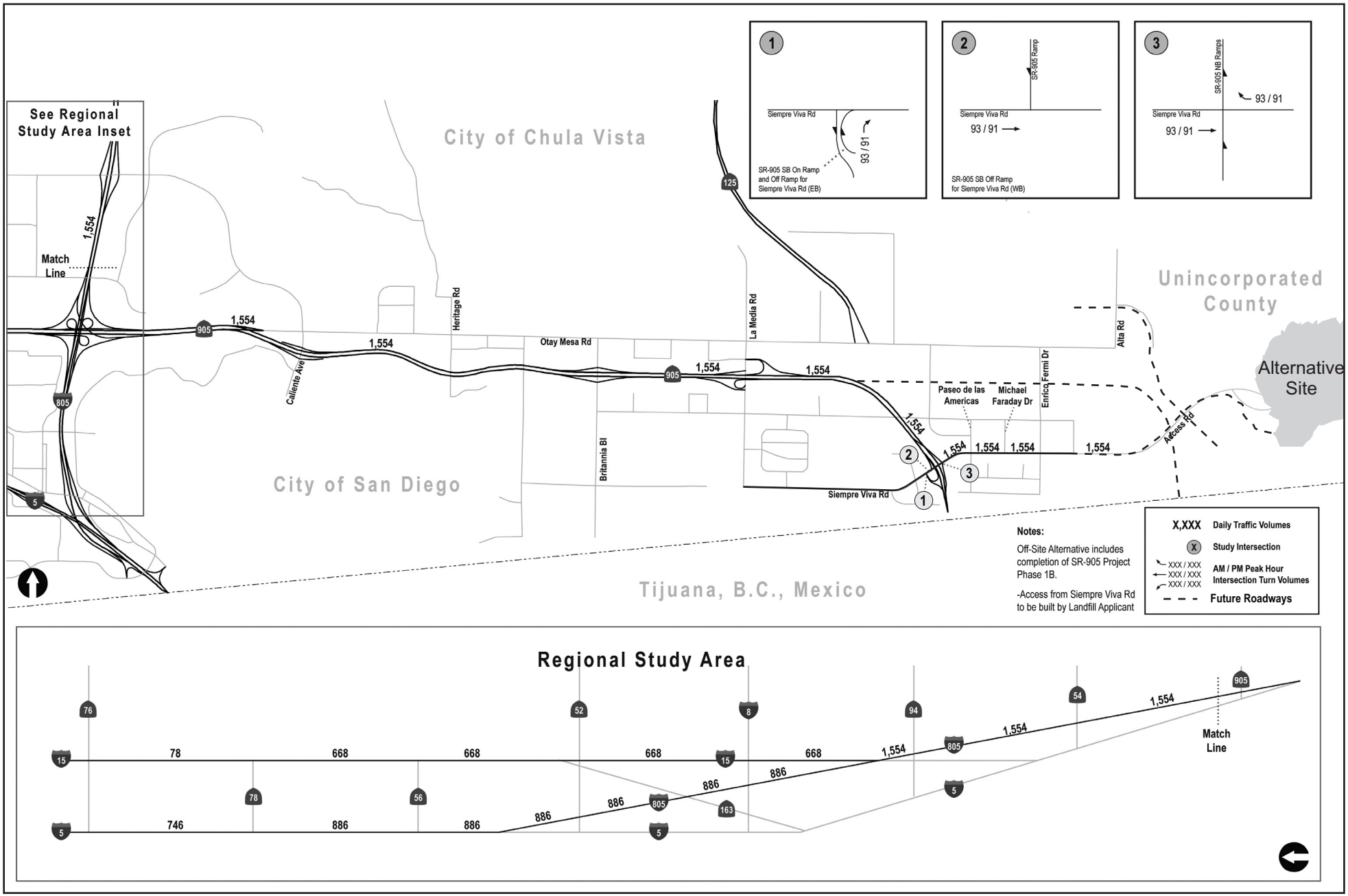
Mitigation Measures

The traffic associated with the East Otay Mesa Alternative would not have a significant adverse effect on the existing roadway network. However, as indicated above, the existing roadway network extends to a location just east of Enrico Fermi Drive, leaving a gap between that network and location of the planned landfill access road. An extension of the existing roadway network is anticipated with development and mitigation measures occurring east of the landfill. Implementation of this alternative would require filling in of the roadway gap if landfill construction preceded completion of the roadway network. The Traffic Impact Analysis indicated certain roadway standards that would need to be met for a new roadway linkage to avoid a direct, significant adverse effect under existing roadway conditions. Accordingly, the following mitigation measure is proposed:

**MM East Otay TRAF-1:** The applicant shall provide a Siempre Viva Road linkage between the landfill access road and the public roadway network, if the network has not been built out to the proposed landfill access road east of Lone Star Road. The new roadway shall extend from the current terminus just east of Enrico Fermi Drive to the GPU Mobility Element roadway terminus just east of Lone Star Road. This link shall be constructed to Minor Collector standards with a roadway capacity of 8,000 ADT.

**Impact Statement East Otay TRAF-2: The East Otay Mesa Alternative would add new traffic to the roadway network. The trips would follow a route along Siempre Viva Road and I-905 linking to northward destinations via the I-805. The trip distribution through traffic facilities analyzed under the Near-Term Conditions scenario would result in new cumulative traffic contributions that would add to cumulative traffic growth in the region. The cumulative traffic would not have a significant adverse effect on existing intersections and road segments. There would however be significant adverse cumulative effects on six freeway segments. Further, Simpre Viva Road would need to be extended from Alta Road to the landfill access road. In order to avoid a significant adverse effect that roadway extension would be designed to meet specifications established in a proposed mitigation measure.**

The Near-Term Conditions scenario evaluates cumulative impacts that would occur due to landfill traffic in combination with added traffic that would occur due to new development in the vicinity of the site, as well as new roadway improvements that would help to improve traffic operations, as compared to the roadway capacity under the Existing Conditions Baseline. Cumulative projects that would be developed under the Near-Term Conditions have been conditioned to improve Siempre Viva Road from Enrico Fermi Drive to Alta




## East Otay Mesa Alternative - Daily Traffic Volumes and Peak Hour Turning Movements

**Gregory Canyon**

Source: Linscott Law & Greenspan Engineers, 2012.

FIGURE

**4.15-10**

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Road to Light Collector standards with a roadway capacity of 16,200 ADT. Also, it is assumed that the SR 11 project would not be fully constructed and the landfill traffic would use the SR 905/Siempre Viva Road interchange, prior to completion of the SR11/Siempre Viva Road interchange.

The analysis of the roadway facilities for Near-Term Conditions scenario indicates that the resulting traffic effects would be as follows:

### Intersections

With the addition of the traffic generated by the East Otay Mesa Alternative, as well as cumulative project traffic and roadway improvements, all intersections are would operate at LOS D or better conditions.

### Roadway Segments – Daily Traffic Volumes

With the addition of new landfill traffic and traffic from cumulative projects, the seven roadway segments analyzed are would operate at LOS C or better conditions.

### Freeways

The analysis indicated that with the addition of the alternative and cumulative projects traffic, all of the twenty freeway segments analyzed would operate at an acceptable LOS D or better during both the A.M. and P.M. peak hours with the following exceptions:

- I-805
  - Between SR 905 and SR 54 – LOS E – A.M. peak hour
  - Between SR 54 and SR 94 – LOS E – A.M. peak hour
  - Between SR 54 and SR 94 – LOS F(0) – P.M. peak hour
  - Between SR 94 and I-15 – LOS E – A.M. peak hour
  - Between I-8 and SR 163 – LOS F(0) – A.M. peak hour
  - Between SR 52 and I-5 – LOS F(0) – A.M. peak hour
  - Between SR 52 and I-5 – LOS E – P.M. peak hour
- I-15
  - Northbound between I-8 and the SR 52/SR 163 Merge– LOS F(0) – A.M. peak hour

The analysis further indicated that the addition of landfill traffic and cumulative project traffic would reduce the V/C of these poorly operating freeway mainline segments for the LOS E and F segments by 0.010 and 0.005, respectively. Therefore significant adverse cumulative effects along these six freeway segments during the A.M. and/or P.M. peak hours would occur.

Mitigation Measures

As indicated above, the East Otay Mesa Alternative would contribute to significant adverse cumulative effects along six Caltrans operated freeway segments during A.M. and/or P.M. peak hours. These significant adverse cumulative effects would be largely due to regional development. In order to enhance traffic operations on the freeway network the following mitigation measure is proposed to off-set the significant adverse cumulative effects of the East Otay Mesa Alternative traffic:

**MM East Otay TRAF-2:** The applicant shall coordinate with Caltrans to contribute an appropriate fair share payment to off-set impacts along the impacted freeway segments.

The payment of traffic impact fees to Caltrans would meet the applicant's obligation to mitigate its traffic impacts. However, the payment of such fees would be general, and it is not certain that physical improvements specifically tied to the alternative would be implemented commensurate with implementation of the alternative and even if so implemented would be constructed commensurate with the timing of the added traffic growth. Therefore, it is concluded that the alternative would contribute to a significant adverse cumulative effect.

**Impact Statement East Otay TRAF-3: The East Otay Mesa Alternative would add new traffic to the roadway network. The trips would follow a route along Siempre Viva Road and SR 905 linking to northward destinations via the I-805. The trip distribution through traffic roadway segments analyzed, when measured against the Buildout Conditions Baseline would have no significant adverse effects on road segments analyzed, but would result in a significant adverse effect along two freeway segments.**

The analysis of impacts under the Buildout Conditions Baseline scenario identifies the impacts of the traffic associated with the East Otay Mesa Alternative against baseline conditions that include future development and roadway improvements anticipated in the County's General Plan Update. It is assumed that the SR 11 project would be fully constructed and the landfill traffic would use the SR11/Siempre Viva Road interchange instead of the SR 905/Siempre Viva Road interchange. The analysis of the roadway segments analyzed for the Buildout Conditions Baseline scenario indicate that traffic effects would be as follows:

### Roadway Segments – Daily Traffic Volumes

With the addition of traffic generated by the East Otay Mesa Alternative, the seven roadway segments analyzed would operate at LOS C or better.

### Freeway Operations

The analysis indicated that with the addition of the added landfill traffic, all freeway segments would operate at an acceptable LOS D or better during both the A.M. and P.M. peak hours with the following exceptions:

- Interstate 805
  - Between SR 905 and SR 54 – LOS E – A.M. peak hour

- Between SR 54 and SR 94 – LOS F(0) – A.M. peak hour
- Between SR 54 and SR 94 – LOS F(0) – P.M. peak hour
- Between SR 94 and I-15 – LOS E – A.M. peak hour
- Between I-8 and SR 163 – LOS F(0) – A.M. peak hour
- Between SR 52 and I-5 – LOS F(0) – A.M. peak hour
- Between SR 52 and I-5 – LOS F(0) – P.M. peak hour

- Interstate 15
  - Northbound between I-8 and the SR 52/SR 163 Merge– LOS F(0) – A.M. peak hour

The analysis further indicated that the addition of the landfill traffic would reduce the V/C for the LOS F(0) segment on I-805 between SR 54 and SR 94 by greater than 0.050. Therefore, a cumulative, significant adverse effect would occur at this location during the A.M. peak hour for the northbound direction and P.M. peak hour for the southbound direction.

Mitigation Measures

As indicated above, the East Otay Mesa Alternative would have cumulative significant adverse effects along one Caltrans operated freeway segment during the A.M. and P.M. peak hours under the Buildout Conditions Baseline scenario. These locations were also identified as having significant adverse effects under the Near-Term cumulative analysis above. Therefore, the mitigation measures proposed for these locations would be addressed by mitigation measure MM East Otay TRAF-2, above. As indicated, the applicant would coordinate with Caltrans to contribute an appropriate fair share payment to off-set significant adverse traffic effects along the impacted freeway segments. However, as was the case there, the payment of such fees would be general, and it is not certain that physical improvements specifically tied to the alternative would be implemented commensurate with implementation of the particular alternative and even if so implemented would be constructed commensurate with the timing of the added traffic growth. Therefore, it is concluded that a significant adverse cumulative traffic effect could remain.

## 4.15.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.15.9.1 Affected Environment

As discussed in Subsection 4.15.2.2 above, this section summarizes the information and analysis contained in Section 5..2, Transportation/Circulation, and Appendix E, Traffic Impact Analysis of the Sycamore Landfill Master Development Plan Revised Final EIR.

#### Roadway Network

The Sycamore Canyon Expansion Alternative is located in the City of San Diego, immediately west of City of Santee. Regional access is provided via SR 52, located just west of the landfill site. Regional trips along SR 52 use Mast Boulevard to access the landfill driveway. Local trips are served via Mast Boulevard (to/from Santee) as well as West Hills Parkway, located south of the landfill site. The site would continue to be accessed from its existing entryway at the intersection of Sycamore Landfill Road (an extension of West Hills Parkway) and Mast Road. The roadway network serving the site is shown on Figure 4.15-11, *Sycamore*

*Canyon Expansion Alternative – Roadway Network and Facilities Analyzed.* As indicated the road network facilities analyzed that would serve the site include seven intersections, six roadway segments and six freeway segments.

The following is a description of the key roadways that serve the alternative site:

SR 52 is generally a four to six lane freeway, which has recently been extended to terminate at SR 67 in Lakeside, providing parallel east-west regional circulation for communities north of I-8. The SR 52 freeway extension through Santee into East County opened to motorists on March 29, 2011. The SANDAG 2050 Regional Transportation Plan indicates that a "Managed Lanes Project" is identified for SR 52 in the vicinity of the landfill site. However, the RTP indicates that this improvement is not expected until 2040, which could be after closure of the landfill.

Mast Boulevard is classified as a Major Road within the City of Santee's Circulation Element. It is a four-lane roadway that is constructed between SR 52 and Los Ranchitos Road near the eastern Santee city limits. Mast Boulevard is expected to be connected eastward to Riverford Drive since SR 52 has been extended to SR 67, based on the City's Circulation Element. The portion of Mast Boulevard between SR 52 and West Hills Parkway is located within the City of San Diego jurisdiction.

West Hills Parkway is classified as a Collector Street from Mast Boulevard to Mission Gorge Road within the City of Santee's Circulation Element. It consists of a four-lane section with a painted median. The primary purpose of this section of road is to allow access to the SR 52 Freeway.

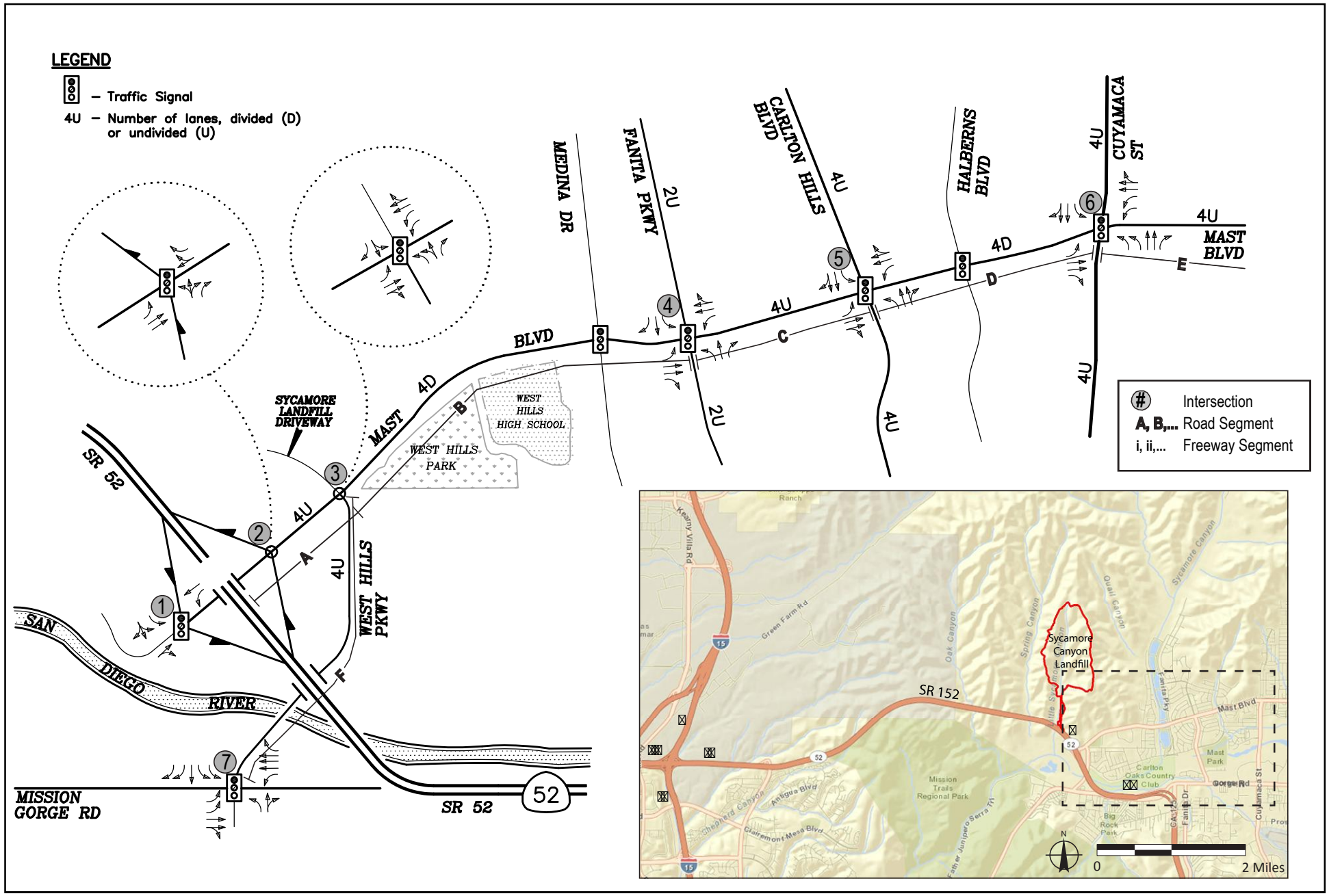
Fanita Parkway is a currently an unclassified road which extends from Carlton Oaks to Lake Canyon Road within the City of Santee. It is currently constructed as a two-lane roadway with a painted median. Fanita Parkway is reclassified as a Parkway (four-lanes) on the City of Santee General Plan 2020 updated Circulation Element.

Carlton Hills Boulevard is classified as a Major Street from Mission Gorge Road to Lake Canyon Road within the City of Santee's Circulation Element. It is currently a four-lane roadway. The roadway has either a raised or painted center median along most of its length.

Cuyamaca Street is classified as a Major Street within the City of Santee's Circulation Element. It extends from Fletcher Parkway in El Cajon to just north of Woodglen Vista Drive in Santee. Within the City of Santee limits, Cuyamaca Street varies as a four or six-lane roadway between Prospect Street and Mast Boulevard, and from two to four lanes north of Mast Boulevard.

### Current Service Levels

Existing service levels have been assessed for each of the roadway facilities analyzed based on the LOS methodology indicating both the quantitative operations level and the qualitative LOS level associated with that level of operations. The existing service levels for each of the roadway facilities analyzed (as identified in Figure 4.15-11) is shown in Table 4.15-27, *Sycamore Canyon Expansion - Existing Intersection Operations,* through Table 4.15-29, *Sycamore Canyon Expansion - Existing Freeway Segment Operations*. The facilities




Not to scale

**Sycamore Canyon Expansion Alternative - Roadway Network and Facilities Analyzed**

**Gregory Canyon**

Source: Sycamore Landfill Master Development Plan, Revised Draft EIR (SCH No. 20030410570), May 2012.

FIGURE

**4.15-11**

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**Table 4.15-27**

**Sycamore Canyon Expansion - Existing Intersection Operations**

| Intersection | Jurisdiction | Control Type | Peak Hour | Existing Delay [a] | Existing LOS [b] |
|---|---|---|---|---|---|
| 1. Mast Boulevard/SR 52 EB Ramps | Caltrans | Signal | A.M. | 27.4 | C |
| | | | P.M. | 20.9 | C |
| 2. Mast Boulevard/SR 52 WB Ramps | Caltrans | Signal | A.M. | 59 | E |
| | | | P.M. | 29.9 | C |
| 3. Mast Boulevard/ W. Hills Parkway/Landfill Driveway | City of San Diego | Signal | A.M. | 69.3 | E |
| | | | P.M. | 21.7 | C |
| 4. Mast Boulevard/Fanita Parkway | City of Santee | Signal | A.M. | 17.6 | B |
| | | | P.M. | 24.7 | C |
| 5. Mast Boulevard/Carlton Hills Boulevard | City of Santee | Signal | A.M. | 25.1 | C |
| | | | P.M. | 19.7 | B |
| 6. Mast Boulevard/Cuyamaca Street | City of Santee | Signal | A.M. | 32.8 | C |
| | | | P.M. | 27.9 | C |
| 7. Mission Gorge Road/West Hills Parkway | City of Santee | Signal | A.M. | 27.4 | C |
| | | | P.M. | 33.6 | C |

[a] *Average delay expressed in seconds per vehicle.*
[b] *LOS = Level of Service. See table at right for delay thresholds.*

*Source: Revised Final EIR for Sycamore Landfill Master Development Plan, 2012*

have been identified with a number (intersections), letter (roadway segments), or roman numeral (freeway segments) to reflect the their locations, as shown on the figure.

In summary, the existing service levels are as follows:

- Intersections (peak hours): All of the seven study area intersections operate at LOS C or better during the A.M. and P.M. peak hours except for the following:
  - Mast Boulevard/SR 52 WB ramps - LOS E during the A.M. peak hour
  - Mast Boulevard/West Hills Parkway/Landfill Driveway - LOS E during the A.M. peak hour.
- Street Segment Operations – Daily: All of the six roadway segments operate at LOS C or better on a daily basis except for the following:

**Table 4.15-28**

**Sycamore Canyon Expansion - Existing Street Segment Capacity Analysis**

| Street Segment | Jurisdiction | Existing Capacity (LOS E) a | Existing ADT b | Existing V/C c | Existing LOS d |
|---|---|---|---|---|---|
| **Mast Boulevard** | | | | | |
| A. SR 52 to West Hills Parkway/ Landfill Driveway | City of San Diego | 30,000 | 26,830 | 0.894 | E |
| B. West Hills Parkway/ Landfill Driveway to Fanita Parkway | City of Santee | 40,000 | 18,580 | 0.464 | B |
| C. Fanita Parkway to Carlton Hills Boulevard | City of Santee | 40,000 | 16,300 | 0.407 | B |
| D. Carlton Hills Boulevard to Cuyamaca Street | City of Santee | 40,000 | 18,570 | 0.464 | B |
| E. East of Cuyamaca Street | City of Santee | 40,000 | 21,440 | 0.536 | B |
| **West Hills Parkway** | | | | | |
| F. Mast Blvd. to Mission Gorge Road | City of Santee | 34,200 | 12,430 | 0.363 | A |

[a] *Roadway segment capacities based on City of San Diego/City of Santee Roadway Classification Tables (See Appendix C)*
[b] *Average Daily Traffic*
[c] *Volume to Capacity ratio*
[d] *Level of Service*

*Source: Revised Final EIR for Sycamore Landfill Master Development Plan, 2012*

- Mast Boulevard segment between SR 52 and West Hills Parkway/landfill driveway - LOS E. Freeway Operations: The six freeway segments analyzed would operate at LOS D or better, except for the following:[5]
  - I-15 south of SR-52 (A.M. peak hour)
  - SR 52 west of I-15 (A.M. peak hour)
  - SR 52 west of Mast Boulevard (A.M. peak hour)
  - SR 52 east of Mast Boulevard (P.M. peak hour)

## 4.15.9.2 Design Features

Access for the Sycamore Canyon Expansion Alternative would continue to be provided via Sycamore Canyon Landfill Road (landfill driveway) from its intersection with Mast Boulevard and West Hills Parkway. Improvements would include new scales, scale house, parking area, etc. along the access driveway. These facilities have been designed on the basis of queuing analyses to accommodate all landfill traffic and avoid significant adverse effects at the entryway intersection.

The Sycamore Canyon Expansion Alternative would have operations that are larger in scale than those of the Applicant's Proposed Alternative, with greater waste volumes as well as activity associated with the export

[5] *It should be noted that the existing volumes on I-15 were collected prior to the recent completion of the I-15 Corridor Express Lanes Project. Therefore, the capacity used in the analysis reflects the pre-project capacity consistent with when the volumes were observed.*

**Table 4.15-29**

**Sycamore Canyon Expansion - Existing Freeway Segment Operations**

| Freeway and Segment | Direction | # of Lanes Mainline/Aux Per Direction | Capacity [a] | Volume [b] | Peak Hour Volume | | V/C [c] | | LOS [d] | |
|---|---|---|---|---|---|---|---|---|---|---|
| **I-15** | | | | | A.M. | P.M. | A.M. | P.M. | A.M. | P.M. |
| i. North of SR 52 | NB | 5M/0 AUX | 10,000 | 155,432 | 5,444 | 5,162 | 0.544 | 0.516 | B | B |
| | SB | 4M/1AUX | 9,200 | | 5,779 | 6,106 | 0.628 | 0.664 | C | C |
| ii. South of SR 52 | NB | 4M/0AUX | 8,000 | 144,553 | 7,959 | 6,419 | 0.995 | 0.802 | E | D |
| | SB | 4M/0AUX | 8,000 | | 4,941 | 6,363 | 0.618 | 0.795 | B | C |
| **SR 52** | | | | | | | | | | |
| iii. West of I-15 | EB | 3M/0AUX | 6,000 | 72,862 | 1,207 | 2,700 | 0.201 | 0.450 | A | B |
| | WB | 2M/1AUX | 5,200 | | 6,041 | 1,961 | 1.162 | 0.377 | F(0) | A |
| iv. East of I-15 | EB | 3M/0AUX | 6,000 | 78,557 | 1,625 | 3,287 | 0.271 | 0.548 | A | B |
| | WB | 3M/1AUX | 7,200 | | 3,847 | 1,740 | 0.534 | 0.242 | B | A |
| v. West of Mast Blvd. | EB | 3M/0AUX | 6,000 | 81,390 | 1,386 | 3,878 | 0.231 | 0.646 | A | C |
| | WB | 3M/0AUX | 6,000 | | 6,104 | 2,295 | 1.017 | 0.383 | F(0) | A |
| vi. East of Mast Blvd | EB | 2M/0AUX | 4,000 | 81,360 | 1,921 | 4,622 | 0.480 | 1.156 | B | F(0) |
| | WB | 2M/0AUX | 4,000 | | 3,528 | 2,256 | 0.896 | 0.564 | D | B |

[a] *Capacity based on 2,000 vehicles/hour/lane for Freeway Mainlines (M) and 1,200 vehicles/hour/lane for Auxiliary Lanes (Aux).*
[b] *Average Daily Traffic*
[c] *V/C = Volume/ Capacity*
[d] *LOS = Level of Service*

*Source: Revised Final EIR for Sycamore Landfill Master Development Plan, 2012*

of aggregate materials. The alternative is an existing landfill operation that is currently visited by 1,035 vehicles daily. The maximum number of expected trips at year 2030 serving the maximum tonnage that would be allowed with the expansion is 2,428 vehicles.[6]

## 4.15.9.3 Environmental Consequences and Mitigation Measures

***Criteria:***

***Intersections***

*An alternative would have a significant adverse effect on roadway intersections if the additional increment of traffic would:*

*Cause an intersection operating at LOS D to operate at LOS E; or an intersection operating at LOS E to operate at LOS F.*

*Further, an alternative would have a significant adverse effect on roadway intersections if it would:*

- *Operate at LOS E or F, and exceed the following allowable traffic impact:*

| ***Level of service*** | ***Delay*** |
|---|---|
| *LOS E* | *Delay of 2.0 seconds* |
| *LOS F* | *Delay of 1 second* |

***Roadway Segments –Total Daily Trips***

*An alternative would have a significant adverse effect on roadway segments if:*

- *The additional traffic impact along the roadway segment operating at LOS E would increase the V/C ratio by 0.02 or more, or cause a decrease in speed of 1 mph; or the additional traffic at a roadway segment operating at LOS F would increase the V/C ratio by 0.01, or cause a decrease in speed of 0.5 mph.*

***Freeways***

*An alternative would have a significant adverse effect on a freeway segment if:*

- *The alternative's traffic would cause the operations to drop one letter grade (i.e. from LOS D to LOS E or LOS E to LOS F), or*
- *The additional traffic impact at a freeway segment operating at LOS E or LOS F would increase the V/C ratio by 0.01 or more, or cause a decrease in speed of 1 mph.*

**Impact Statement Sycamore TRAF-1: The Sycamore Canyon Expansion Alternative would add new traffic to the roadway network. The trips would be mostly added to Mast Boulevard heading west to SR 52 and then along SR 52 for regional distribution, particularly along I-15. The trip distribution through the traffic facilities analyzed, when measured against the Existing Baseline Conditions would**

[6] *These numbers refer to the number of vehicle only, prior to accounting for 2-way trips or conversion to PCE. The current number of vehicles includes 620 waste haul vehicles, 200 aggregate vehicles and 215 passenger/light truck vehicles. The 2030 estimate includes 1,913 waste haul vehicles, 300 aggregate vehicles and 215 passenger/light truck vehicles.*

**have direct significant adverse effects at two intersections and one roadway segment. It would have no significant adverse on freeway segments. With the incorporation of mitigation measures, no significant adverse effects would occur.**[7]

The Sycamore Canyon Expansion Alternative would add traffic to the roadway network, inclusive of haul trucks that would carry waste to the landfill for disposal, trucks that would transport aggregate materials and other passenger/light truck vehicles operated by landfill employees and recyclers. The solid waste permit that is sought under this alternative would increase permitted daily tonnage of waste received from 3,695 tpd to 11,450 tpd. The traffic impact analysis for this alternative evaluated the expected increase in landfill trips for three traffic generation scenarios including the number of landfill trips that could occur upon approval of the landfill expansion, a number of trips that would be expected to occur during the near-term (2015 timeframe) and a longer term (2030 timeframe). The trip generation for the alternative at each of these three timeframes is reflected in Table 4.15-30, *Sycamore Canyon Expansion Alternative Trip Generation.*

As indicated, the Sycamore Canyon Expansion Alternative would be expected to have 1,284 vehicle visits upon landfill approval, increasing to 2,428 vehicle visits as the amount of waste received increases over the years. These numbers of vehicles visiting the site would be equivalent to a total of 5,136 PCE, two-way trips increasing to 9,712 vehicle trips. The PCE for this alternative is 2.0. Trip distribution for the alternative includes a small percentage of the trips to and from easterly destinations, with the majority of the trips connected to westerly destinations via Mast Boulevard to SR 52 to I-15. The total number of trips along each of the roadway segments serving the Sycamore Canyon Expansion Alternative site, and the intersection turning volumes during the A.M. and P.M. peak hours for each of the traffic generation scenarios evaluated is shown on Figure 4.15-12,*Sycamore Canyon Expansion Alternative – Daily Traffic Volumes and Peak Hour Turning Movements (Project Approval)* to Figure 4.15-14*, Sycamore Canyon Expansion Alternative – Daily Traffic Volumes and Peak Hour Turning Movements (2030 Buildout), respectively*.

The traffic study analyzes the potential impacts of adding the traffic from the landfill as reflected in Figure 4.15-10 to the Existing Conditions Baseline presented in Table 4.15-23 through Table 4.15-25. The analysis indicated that the resulting impacts for the various roadway facilities would be as follows:

### Intersections

Under the Existing Conditions Baseline scenario, with the addition of the 5,136 trip level associated with traffic at the time of Project Approval, the seven intersections evaluated would continue operating at LOS C or better except for the following:

- Mast Boulevard/SR 52 WB Ramps (LOS F, A.M. peak hour)
- Mast Blvd/West Hills Pkwy/Project Driveway (LOS F, A.M. peak hour)

[7] *The Traffic Impact Analysis prepared for the Sycamore Landfill Master Plan Expansion EIR includes both the "Existing Baseline" analysis and the "2015 Cumulative Analysis" under the general heading of "Near Term Analysis" (Chapter 9.0 of the Traffic Impact Analysis). For consistency with other sections of this EIS the Near Term Existing Baseline analysis is included in this Existing Baseline Conditions discussion; and the 2015 Near Term Cumulative analysis is discussed under the Near Term analysis heading, consistent with the analysis of the other EIS alternatives.*

**Table 4.15-30**

**Sycamore Canyon Expansion Alternative Trip Generation**

| Activity Type | Number of Trips | | |
|---|---|---|---|
| | One-Way | Two-Way | With 2.0 PCE Factor |
| **Project Approval – Near Term Trips** | | | |
| Collection Trucks | 869 | 1,738 | 3,476 |
| Aggregate Vehicles | 200 | 400 | 800 |
| *Total Truck Trips* | *1,069* | *2,138* | *4,276* |
| Passenger/Light Trucks | 215 | 430 | 860 |
| **Total Daily PCE Trips** | | | **5,136** |
| **2015 – Near Term Trips** | | | |
| Collection Trucks | 1,250 | 2,500 | 5,000 |
| Aggregate Vehicles | 300 | 600 | 1,200 |
| *Total Truck Trips* | *1,550* | *3,100* | *6,200* |
| Passenger/Light Trucks | 215 | 430 | 860 |
| **Total Daily PCE Trips** | | | **7,060** |
| **2030 Build-Out Trips** | | | |
| Collection Trucks | 1,913 | 3,826 | 7,652 |
| Aggregate Vehicles | 300 | 600 | 1,200 |
| *Total Truck Trips* | *2,213* | *4,426* | *8,852* |
| Passenger/Light Trucks | 215 | 430 | 860 |
| **Total Daily PCE Trips** | | | **9,712** |

[a] *Other trucks consist of periodic construction, including aggregate transport off-site, brine, and leachate removal.*

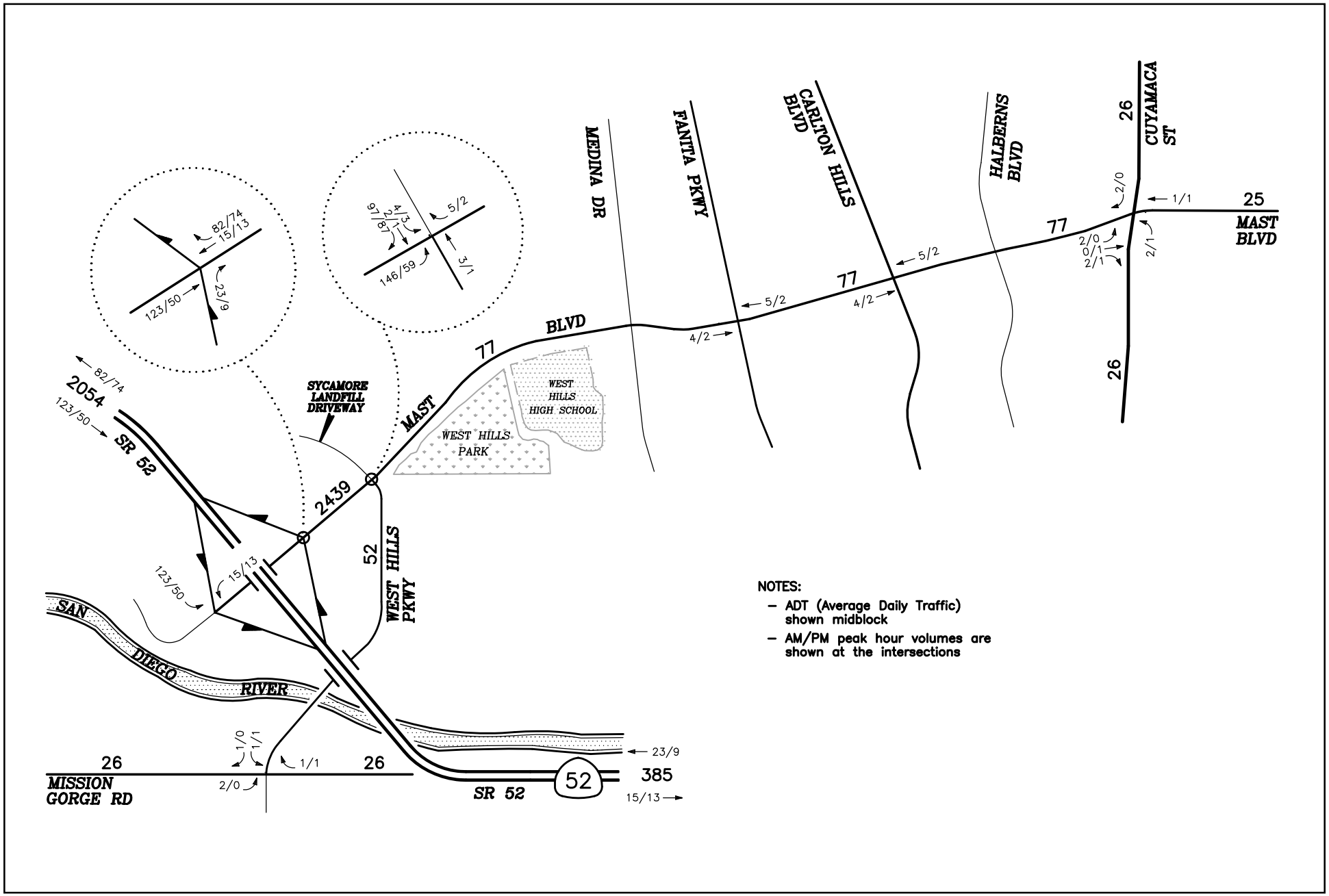
***Source:*** *Revised Final EIR for Sycamore Landfill Master Development Plan, 2012*

The increase in delay times at these locations due to the additional landfill traffic would exceed the allowable evaluation criterion (1 second of delay) at these locations in the A.M. peak hour; and therefore would result in direct significant adverse effects.

### Roadway Segments – Daily Traffic Volumes

With the increase in landfill traffic level expected at the time of Project Approval, the six roadway segments analyzed would operate at LOS C or better except for the following:

- Mast Boulevard from SR 52 to the West Hills Parkway/landfill driveway intersection – LOS E.
- The increase in V/C at this location due to the additional landfill traffic would exceed the allowable evaluation criterion of 0.02. Therefore, this is considered a direct significant adverse effect.




Not to scale

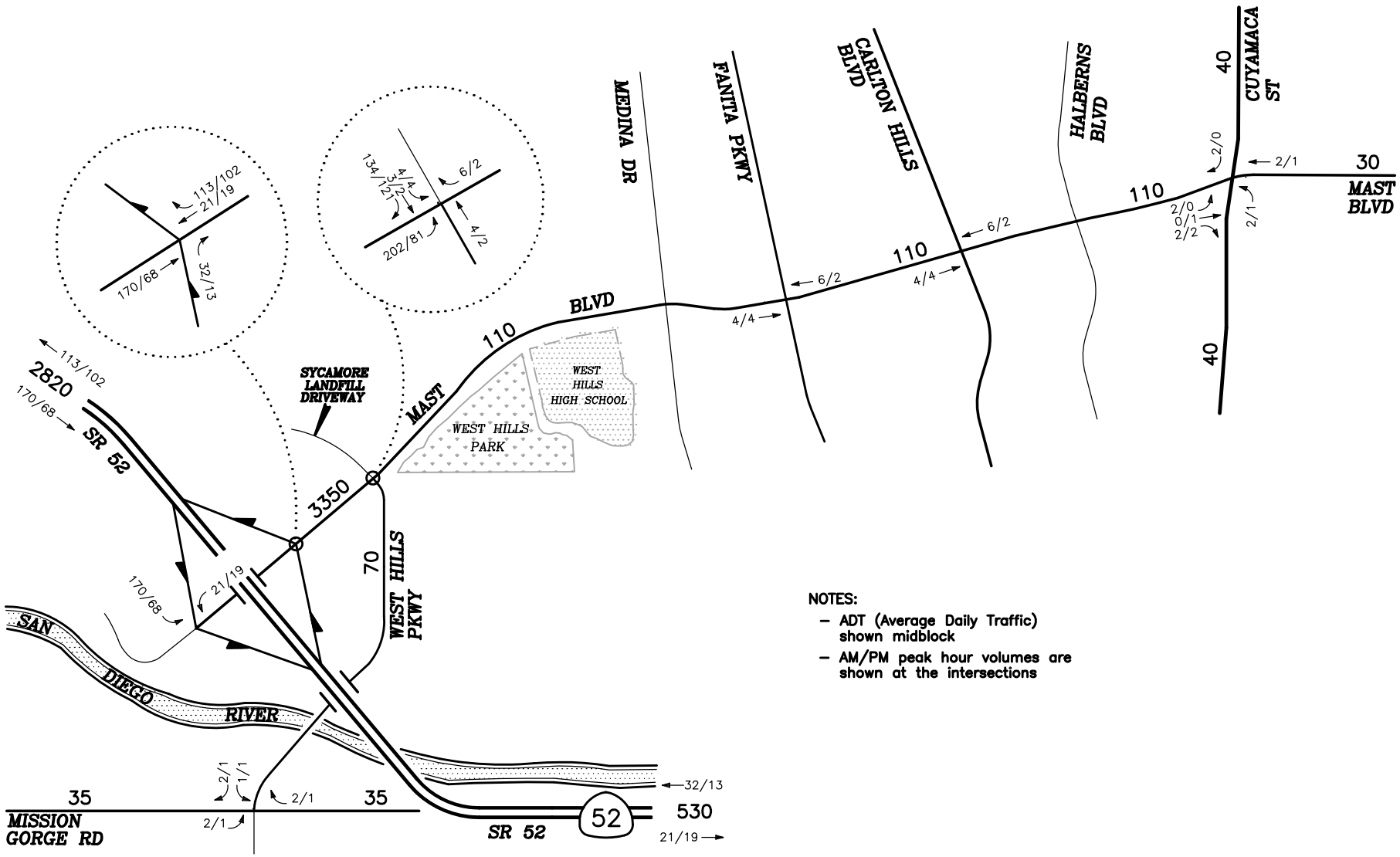
**Sycamore Canyon Expansion Alternative - Daily Traffic Volumes and Peak Hour Turning Movements (Project Approval)**

**Gregory Canyon**

Source: Sycamore Landfill Master Development Plan, Revised Draft EIR (SCH No. 20030410570), May 2012.

FIGURE

**4.15-12**



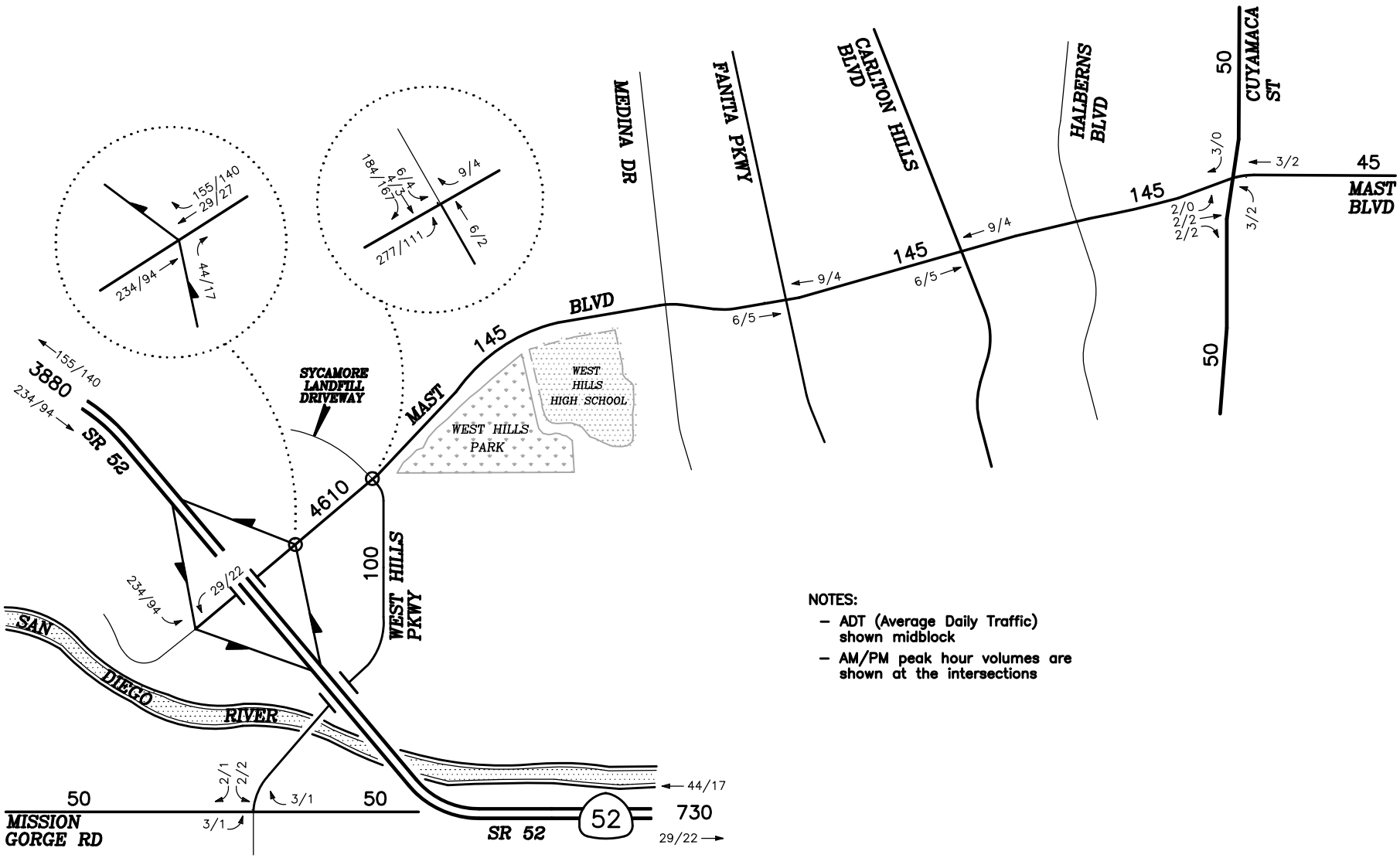

Not to scale

**Sycamore Canyon Expansion Alternative - Daily Traffic Volumes and Peak Hour Turning Movements (Year 2015)**

**Gregory Canyon**

Source: Sycamore Landfill Master Development Plan, Revised Draft EIR (SCH No. 20030410570), May 2012.

FIGURE **4.15-13**

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**Sycamore Canyon Expansion Alternative - Daily Traffic Volumes and Peak Hour Turning Movements (2030 Buildout)**

**Gregory Canyon**

Source: Sycamore Landfill Master Development Plan, Revised Draft EIR (SCH No. 20030410570), May 2012.

FIGURE

**4.15-14**

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### Freeways

The analysis of the twenty freeway segments analyzed indicated that LOS levels would be D or better except for the following:

- I-15 south of SR-52 – LOS F[0] (A.M. peak hour)
- SR 52 west of I-15 – LOS F[0] (A.M. peak hour)
- SR 52 west of Mast Boulevard – LOS F[0] (A.M. peak hour)
- SR 52 east of Mast Boulevard – LOS F[0] (P.M. peak hour)

The increase in V/C at these locations due to the additional landfill traffic would not exceed the allowable evaluation criterion (0.005) and therefore no significant adverse effects would occur.

### Other Information Regarding the Sycamore Canyon Expansion Alternative

As discussed in the Methodology Section above, the Revised Final EIR for the Sycamore Landfill Master Development Plan includes additional data for information purposes, without conclusions regarding significance of adverse effects. The additional analysis is based on the Caltrans ILV (Intersection Lane Vehicles) methodology, and it evaluates capacity conditions at two freeway intersections: Mast Boulevard/SR 52 eastbound ramps, and Mast Boulevard/SR 52 westbound ramps. The analysis indicates that the traffic associated with the landfill at near-term Project Approval conditions would continue to operate at under or near capacity with respect to intersecting vehicles.

#### Mitigation Measures

The Sycamore Canyon Expansion Alternative would have a direct significant adverse effect at the intersections of Mast Boulevard/SR 52 westbound ramps (A.M. Peak Hour) and Mast Boulevard/West Hills Parkway/landfill driveway, and the following street segment: Mast Boulevard from SR 52 westbound ramps to West Hills Parkway/landfill driveway. There were no significant adverse effects on freeway segments. The following proposed mitigation measures would avoid the occurrence of significant adverse effects.

**MM Sycamore TRAF 1**: Mast Boulevard/SR 52 WB Ramps Intersection (A.M. Peak Hour) – Widen and improve the westbound Mast Boulevard approach to provide a dedicated through lane and dual right-turn lanes from Mast Boulevard to WB SR 52.

**MM Sycamore TRAF 2:** Mast Boulevard/West Hills Parkway/landfill driveway Intersection – Widen and improve the intersection to provide the following lane geometrics:

- Eastbound: two lefts, two thru-lanes and a shared thru-right
- Westbound: two lefts, three thru lanes and a right
- Northbound: two lefts one thru and one right (change to permissive signal phasing)
- Southbound: one left, one thru and one right (change to permissive signal phasing)

**MM Sycamore TRAF 3**: Mast Boulevard segment from SR 52 WB Ramps to West Hills Parkway/Project Driveway – Improve Mast Boulevard to six-lanes with a raised median from the SR 52 westbound ramps intersection to West Hills Parkway/landfill driveway to accommodate the increased through lanes at the intersection.

**Impact Statement Sycamore TRAF-2: The Sycamore Canyon Expansion Alternative would add new traffic to the roadway network. The trips would be mostly added to Mast Boulevard heading west to SR 52 and then along SR 52 for regional distribution, particularly along I-15. The trip distribution through traffic facilities analyzed under the Near-Term 2015 Cumulative Conditions scenario would result in direct significant adverse effects at two intersections, one roadway segment and three freeway segments. The proposed mitigation measures would reduce the effects to levels below the evaluation criteria at the intersection and roadway segment locations, but would not be sufficient to fully mitigate the effects at the freeway segments, and would result in significant adverse effects.**[8]

The Near-Term 2015 Cumulative Conditions scenario evaluates impacts that would occur due to landfill traffic against a baseline that includes additional development and roadway improvements associated with cumulative projects. The landfill traffic is assumed to consist of 7,060 daily average PCE trips expected in 2015. The analysis of the roadway facilities for Near-Term Cumulative Conditions scenario indicated that the resulting impacts would be as follows:

### Intersections

With the addition of the 2015 increase in landfill traffic, 7,060 daily trips, that would occur against the 2015 Cumulative Conditions Baseline, the seven intersections evaluated would continue operating at LOS C or better except for the following:

- Mast Boulevard/SR 52 WB Ramps (LOS F, A.M. peak hour)
- Mast Blvd./West Hills Pkwy./landfill driveway (LOS F/E, A.M./P.M. peak hours, respectively)

The increase in delay times at these locations due to the additional landfill traffic would exceed the allowable evaluation criterion (1 second of delay) at these locations in the peak hours indicated. These are considered direct, significant adverse effects.

### Roadway Segments – Daily Traffic Volumes

With the increase in landfill traffic that would occur with under the 2015 Cumulative Conditions scenario the six roadway segments analyzed would operate at LOS B or better except for the following:

- Mast Boulevard from SR 52 to the West Hills Parkway/landfill driveway – LOS F.

[8] *The Near-Term 2015 Cumulative Conditions analysis for this alternative follows a City of San Diego Methodology in which cumulative development is added to the existing baseline to create a cumulative baseline against which the increase in landfill traffic is evaluated. This contrasts with the County methodology followed for the other alternatives, which compares the addition of the cumulative traffic plus the landfill traffic against the existing baseline conditions. However, the analysis indicates that the mitigations measures proposed for intersection and street locations with significant adverse effects would improve operations inclusive of both cumulative and landfill traffic to levels that are better than existing baseline conditions.*

The increase in V/C at this location due to the additional landfill traffic would exceed the allowable evaluation criterion of 0.02. Therefore, this is considered a direct, significant adverse effect.

### Freeways

The analysis of the twenty freeway segments analyzed incorporates the additional capacity afforded the I-15 due to completion of the I-15 Express Lanes Project. The analysis indicated that LOS levels would be D or better except for the following:

- Westbound SR 52 west of I-15 – LOS F[0] (A.M. peak hour)
- Westbound SR 52 west of Mast Boulevard – LOS F[0] (A.M. peak hour)
- Eastbound SR 52 east of Mast Boulevard – LOS F[0] (P.M. peak hour)
- Westbound SR 52 east of Mast Boulevard – Los E (A.M. peak hour)

The increase in V/C at these locations due to the additional landfill traffic would exceed the allowable evaluation criteria, and these freeway impacts are considered direct, significant adverse effects.

### Other Information Regarding the Sycamore Canyon Expansion Alternative

As indicated above, an additional analysis was performed for information purposes, without conclusions regarding the significance of adverse effects. The additional analysis evaluates capacity conditions (per Caltrans ILV methodology) at two freeway intersections: Mast Boulevard/SR 52 eastbound ramps, and Mast Boulevard/SR 52 westbound ramps. The analysis indicates that the traffic associated with the landfill at 2015 Cumulative Conditions would continue to operate at under capacity conditions, with the exception of the A.M. peak hour at Mast Boulevard/SR 52 westbound ramps when over capacity conditions would prevail.

#### Mitigation Measures

The analysis of traffic impacts of the Sycamore Canyon Expansion Alternative under the 2015 Cumulative Baseline Conditions indicates that the landfill traffic would result in direct significant adverse effects at the same two intersections and road segment as impacted under the Existing Conditions Baseline. The mitigation measures cited above, MM Sycamore TRAF 1 through MM Sycamore TRAF 3, would be applicable to these impacts as well; and would likewise avoid significant adverse effects at these locations. In addition, the analysis under the 2015 Cumulative Baseline Conditions indicated that landfill traffic would result in a direct significant adverse effect on SR 52 Freeway segments west of I-15, east and west of Mast Boulevard. Therefore, the Traffic Impact Analysis proposed the following mitigation measure that would partially mitigate the significant adverse effects on freeway segment.

**MM Sycamore TRAF 4**: Prior to amending the Solid Waste Facilities Permit to allow for an increase in disposal activity equal to or greater than 1,250 daily tickets, the applicant shall enter into a Highway Improvement Agreement with Caltrans to fund, at an amount not to exceed $1.5 million, both a design study and the construction of improvements to the SR-52/Mast Boulevard interchange.

The Traffic Impact Analysis for this alternative also included an evaluation of a Traffic Demand Management strategy TDM as a means of further addressing significant adverse effects on freeway segments. Such a program would involve limiting the number of haul tickets arriving during the peak periods through mechanisms such as direct control, provisions in waste haulers' contracts, and charging more for disposals that occur during peak hours. The analysis concluded that if TDM limits could be reliably implemented and enforced, the contribution of landfill traffic to significant adverse conditions on freeway facilities could be fully mitigated to levels below the evaluation criteria. However, the implementation mechanisms require that the landfill owner and operator have the ability to directly control the traffic entering the landfill at all times of the landfill's operations. As such, the TDM cannot be relied upon as a mitigation measure for the impacted freeway segments, since its effectiveness cannot be assured day-to-day. Nonetheless, the analysis indicates that the landfill operator is committed to voluntarily reducing peak hour trips to equal-to or less-than the TDM limits to the extent possible given all circumstances.

**Impact Statement Sycamore TRAF-3: The Sycamore Canyon Expansion Alternative would add new traffic to the roadway network. The trips would be mostly added to Mast Boulevard heading west to SR 52 and then along SR 52 for regional distribution, particularly along I-15. The trip distribution through traffic roadway segments analyzed, when measured against the Buildout Conditions Baseline would have cumulative significant adverse effects at the same two intersections, one roadway segment and three freeway segments as were subject to significant direct adverse effects in the above analysis scenarios. The mitigation measures proposed for those scenarios would fully mitigate these cumulative, significant adverse effects at the intersection and roadway locations but only partially mitigate the cumulative, significant adverse effects at the freeway segment locations.**

The analysis of impacts under the Buildout Conditions Baseline scenario, inclusive of the maximum number of trips expected (9,712 PCE two-way trips), identifies the impacts of the landfill traffic associated with the Sycamore Canyon Expansion Alternative against 2030 baseline conditions that include the future development and roadway improvements anticipated in the regional community plan. The analysis of the roadway segments analyzed for the Buildout Conditions Baseline scenario indicated that the resulting impacts would be as follows:

### Intersections

With the addition of the 2030 increase in landfill traffic that would occur, the maximum traffic generated at 9,712 trips, against the 2030 Buildout scenario, the seven intersections evaluated are would continue operating at LOS D or better except for the following:

- Mast Boulevard/SR 52 WB Ramps (LOS E, P.M. peak hour)
- Mast Boulevard/SR 52 WB Ramps (LOS F, A.M. peak hour)
- Mast Blvd./West Hills Pkwy./landfill driveway (LOS F, A.M./P.M. peak hours)

The increase in delay times would exceed the allowable evaluation criterion (1 second of delay) at these intersections during the A.M. peak hours. These are considered cumulative, significant adverse effects.

### Roadway Segments – Daily Traffic Volumes

With the increase in landfill traffic that would occur with under the 2030 Buildout Conditions Baseline scenario the six roadway segments analyzed would operate at LOS C or better except for the following:

- Mast Boulevard from SR 52 to the West Hills Parkway/landfill driveway – LOS F.

The increase in V/C at this location would exceed the allowable evaluation criterion of 0.02. Therefore, this is considered a cumulative, significant adverse effect.

### Freeways

The analysis of the twenty freeway segments analyzed indicates that under the 2030 Buildout Conditions Baseline scenario LOS levels would be D or better except for the following:

- I-15 south of SR 52 - LOS E (A.M. peak hour)
- SR 52 west of I-15 – LOS F(3) (A.M. peak hour)
- SR 52 east of I-15 – LOS F(2)(A.M./P.M. peak hours)
- SR 52 west of Mast Boulevard – LOS F(3)/F(1) (A.M./P.M. peak hours, respectively)
- SR 52 east of Mast Boulevard – LOS F(3) (A.M./P.M. peak hours)

The increase in V/C at the four SR 52 locations would exceed the allowable evaluation criterion of 0.02. Therefore, these are cumulative significant adverse effects.

### Other Information Regarding the Sycamore Canyon Expansion Alternative

As indicated above, an additional analysis was performed for information purposes, without conclusions regarding the significance of adverse effects. The additional analysis evaluates capacity conditions (per Caltrans ILV methodology) at two freeway intersections. The analysis indicates that under 2030 Buildout with landfill conditions Mast Boulevard/SR 52 eastbound ramps in the A.M. peak hour would operate at under capacity conditions; Mast Boulevard/SR 52 eastbound ramps in the P.M. peak hour and Mast Boulevard/SR 52 westbound ramps in the A.M. peak hour would operate at near capacity conditions; and Mast Boulevard/SR 52 westbound ramps in the P.M. peak hour would operate at overcapacity conditions.

## Mitigation Measures

The analysis of traffic impacts of the Sycamore Canyon Expansion Alternative under the 2030 Buildout scenario indicated that the landfill traffic would have cumulative, significant adverse effects at the same two intersections and road segment as affected under the Existing Conditions Baseline. Therefore, mitigation measures cited above, MM Sycamore TRAF 1 through MM Sycamore TRAF 3, would be applicable to these significant adverse effects as well; and would likewise reduce significant adverse effects at these locations to levels that are below the evaluation criteria. In addition, the analysis under the 2030 Buildout indicated that landfill traffic would result in cumulative significant adverse effects on four SR 52 Freeway segments. As described for the significant adverse freeway effects under the 2015 Conditions Baseline analysis above,

Mitigation Measure MM Sycamore TRAF 4 would partially mitigate these significant adverse effects. Further, as described above, the significant adverse effects could potentially be fully mitigated with implementation of a TDM program; and the analysis indicates that the landfill operator is committed to voluntarily reducing peak hour trips to equal-to or less-than the TDM limits to the extent possible given all circumstances. However, such a program cannot be relied upon as a mitigation measure for the impacted freeway segments, since its effectiveness cannot be assured day-to-day; and cumulative significant adverse effects may remain.

# 4.16 UTILITIES AND SERVICE SYSTEMS
# 4.16.1 WATER SUPPLY

## INTRODUCTION

This section provides an analysis of the potential effects of the alternatives with respect to water supply. The section includes an overview of regulations pertinent to water supply, a description of existing water supplies at each site, the anticipated water demand at each site, and an assessment of the adequacy of water supply and infrastructure capacity to meet the estimated demand for each of the alternatives. The section also addresses potential changes in water availability resulting from global climate change.

The adequacy of water supply for the Applicant's Proposed Alternative is based primarily on the 2009 Addendum to the Gregory Canyon Certified Final EIR (the 2009 Addendum). The 2009 Addendum is supported by three studies: a 2009 Kleinfelder & Associates Water Usage Assessment (the Kleinfelder technical report); a March 2007 Water Supply Report for the Gregory Canyon Watershed; and a November 2009 Evaluation of Additional Percolating Groundwater Resources in the Gregory Canyon Property. For alternative sites that are within the service boundary of a municipal water supplier, the water supplier's 2010 Urban Water Management Plan (UWMP) was utilized to determine the quantity of available water supplies. Information for the Merriam Mountain Alternative site was derived from a 2009 Draft EIR for the Merriam Mountains. The analysis of potential impacts to water supply from the Sycamore Canyon Expansion Alternative is based on the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012). Potential impacts resulting from global climate change are qualitatively based on climate change documents prepared by the California Department of Water Resources (DWR) and Metropolitan Water District (MWD) of Southern California.

For a discussion of each of the alternatives potential impacts to groundwater resources beyond supply, please refer to Section 4.9, Hydrogeology, of this EIS.

## 4.16.1.1 REGULATORY FRAMEWORK

### 4.16.1.2.1 State

#### California Urban Water Management Plan Act

The California Urban Water Management Planning Act (California Water Code [CWC] Division 6, Part 2.6, Sections 10610-10657) addresses several state policies regarding water conservation and the development of water management plans to ensure the efficient use of available supplies. The California Urban Water Management Planning Act also requires water suppliers to develop water management plans every five years, on or before December 31, in years ending in five and zero, to identify short-term and long-term demand management measures to meet growing water demands during normal, dry, and multiple-dry years. Specifically, municipal water suppliers that serve more than 3,000 customers or provide more than 3,000 acre-feet per year (AFY) of water must adopt an UWMP. Sections 10610 through 10657 of the CWC detail the information that must be included in these plans.

### Senate Bill 610

State legislation addressing water supply, Senate Bill (SB) 610, became effective January 1, 2002. SB 610, codified in CWC §10910 et seq., describes requirements for both water supply assessments (WSAs) and UWMPs. SB 610 requires that for projects that meet specific size criteria, a WSA must be prepared that determines whether the projected water demand associated with a proposed project is included as part of the most recently adopted UWMP. Specifically, a WSA shall identify existing water supply entitlements, water rights, or water service contracts held by the public water system, and prior years' water deliveries received by the public water system. In addition, it must address water supplies over a 20-year period and consider normal, single-dry, and multiple-dry year conditions. In accordance with SB 610 and Section 10912 of the CWC, such projects subject to CEQA requiring completion of a WSA include the following:

- Residential developments of more than 500 dwelling units;
- Shopping centers or business establishments employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- Commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- Hotels, motels, or both, having more than 500 rooms;
- Industrial, manufacturing, or processing plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- Mixed-use projects that include one or more of the projects specified in this subdivision; or
- Projects that would demand an amount of water equivalent to or greater than the amount of water required by a 500 dwelling unit project.

The WSA must be approved by the public water supplier at a regular or special meeting. The lead agency must then make certain findings related to water supply based on the WSA.

In addition, under SB 610, a water supplier responsible for the preparation and periodic updating of an UWMP must describe the water supply projects and programs that may be undertaken to meet the total projected water use of the service area. If groundwater is identified as a source of water available to the supplier, the following additional information must be included in the UWMP: (1) a groundwater management plan; (2) a description of the groundwater basin(s) to be used and the water use adjudication rights, if any; (3) a description and analysis of groundwater use in the past five years; and (4) a discussion of the sufficiency of the groundwater that is projected to be pumped by the supplier.

### Senate Bill 7

Complementary legislation to SB 610 was enacted on November 10, 2009, with the passage of SB 7. SB 7 mandates new water conservation goals for UWMPs, requiring urban water suppliers to achieve a 20 percent per capita water consumption reduction by the year 2020 statewide, as described in the "20 x 2020" State Water Conservation Plan. As such, each updated UWMP must now incorporate a description of how each respective urban water supplier will quantitatively implement this water conservation mandate, in addition

to the requirements of SB 610. Compliance with SB 7 can be through a wide range of actions such as development of recycled water supplies, retail water pricing, and traditional conservation programs.

SB 7 utilizes existing and projected per capita water use rates to establish an urban water use target and achieve a 20 percent reduction per capita water use by 2020. SB 7 also requires establishing a 2015 interim water use target. To meet its 2020 water use target, each agency can increase its use of recycled water to offset potable water use and also increase its water conservation measures. The required water use targets for 2020 and an interim target for 2015 are determined using one of four "Target" methods – each method has numerous methodologies. The 2020 urban water use target may be updated in a supplier's 2015 UWMP.

#### California Code of Regulations

California Code of Regulations (CCR), Title 20, Sections 1605.1(h) and 1605.1(i) establishes efficiency standards (i.e., maximum flow rates) for new federally-regulated plumbing fittings and fixtures, including showerheads and lavatory faucets. The maximum flow rate for showerheads and lavatory faucets are 2.5 gallons per minute (gpm) at 80 pounds per square inch (psi) and 2.2 gpm at 60 psi, respectively. In addition, Section 1605.3(h) establishes state efficiency standards for non-federally regulated plumbing fittings, including commercial pre-rinse spray valves.

### 4.16.1.2.2 Regional

#### San Diego County Water Authority

The San Diego County Water Authority (SDCWA) is a public agency that was founded in 1944 to supplement existing supplies by importing water into the San Diego Region. The SDCWA is a Member Agency of the MWD. The SDCWA's 24 member agencies purchase water from the SDCWA for retail distribution within their service territories. A 36-member Board of Directors (Board) comprised of member agency representatives governs the SDCWA.

The SDCWA approved its Final 2010 UWMP on June 23, 2011. The UWMP was prepared in accordance and compliance with the Urban Water Management Planning Act (CWC Sections 10610 through 10656, discussed above) and includes the conservation measures, programs and policies required by the CWC. The UWMP serves as the SDCWA's long-term planning document to ensure a reliable water supply for the region. This 2010 UWMP Plan identified a diverse mix of water resources projected to be developed over the next 25 years to ensure long-term water supply reliability for the SDCWA region. With an aggressive conservation program, the SDCWA region has conserved an average of 53,605 AFY of water over in the 2005–2010 period when compared to the benchmark year of demand in 1991. Conserved agricultural transfer water from the Imperial Valley will provide 200,000 AFY by 2021. The Water Authority has contracted rights to 77,700 AFY of conserved water from projects to line the All-American and Coachella Canals. Further, deliveries of conserved water from the Coachella Canal reached the region in 2007, and deliveries from the All-American Canal reached the region in 2010. The UWMP identifies developing these supplies as key to diversifying the SDCWA region's supply sources, but other factors are also important, such as member agencies implementing and managing local resources.

In addition, SDCWA developed a Groundwater Resource Development Report (June 1997) to assist in developing a Groundwater Implementation Plan and to serve as a reference and resource document to be

updated periodically. In this report, the Mission, Bonsall, Pala and Pauma basins within the San Luis Rey River Basin, were considered (among others) as productive shallow alluvial aquifers within the SDCWA service area.

## 4.16.1.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effect of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts regarding water supply.

### 4.16.1.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. An alternative would have a significant adverse effect on water supply if:

- An alternative would require or result in the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant adverse environmental effects;
- On-site water use would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or
- Water usage would significantly impact the supply of recycled water to other existing users of the recycled water.

### 4.16.1.2.2 Methodology

The analysis in this section compares the available water supply from known sources at each alternative site to the water demand for each alternative to determine if available water supply is sufficient to meet the projected demand.

The Applicant's Proposed Alternative would utilize groundwater resources, which are discussed in detail in Section 4.9, Hydrogeology, of this EIS. Available on-site groundwater resources include riparian underflow and percolating groundwater. The adequacy of available groundwater supply for the Applicant's Proposed Alternative is based primarily on the 2009 Addendum, and associated studies. Water demand for the Applicant's Proposed Alternative is conservatively calculated based on an average daily usage rate with no consideration of precipitation. The average amount of water needed per day during excavation for dust control is based on the annual amount of soil that would be excavated, for construction activities and/or operational needs, and then divided by 307 operational days per year. The water demand at the Gregory Canyon site considers the use of pre-moisturized clay material, which would be moisturized at its place of extraction, and the use of SOILTAC chemical soil sealant on roadways (rather than water) for dust suppression. The safe yield analysis for groundwater available for use at the Gregory Canyon site is presented in Section 4.9, Hydrogeology, of this EIS. The legality of utilizing underlying alluvial groundwater on the Gregory Canyon site is summarized from an Allen Matkins Leck Gamble Mallory & Natsis LLP

Memorandum (December 2009) (the Allen Matkins Memorandum). The Allen Matkins Memorandum is discussed in detail in Section 4.9, Hydrogeology, of this EIS.

The availability of municipal water supplies to accommodate the alternative sites was determined through written correspondence and planning documents prepared by the districts serving the alternative sites. Specifically, the water supplier's 2010 UWMP was used to determine the quantity of available water supplies. Information for the Merriam Mountain Alternative site was derived from the 2009 Draft EIR for the Merriam Mountains. The analysis of potential impacts resulting from the Sycamore Canyon Expansion Alternative is based on the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012).

As discussed above, the CWC requires the preparation of a WSA whenever a project that would demand an amount of water equivalent to or greater than the amount of water required by a 500 dwelling unit project. The factors used to calculate the water demand for a 500 unit project vary depending on the source. For the purposes of this analysis, figures presented in the *Guidebook for Implementation of SB 610 and SB 221*[1] are used to calculate the average water demand of a 500 dwelling unit project. The Guidebook states that "In determining whether a project would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project . . . one unit typically consumes 0.3 to 0.5 AFY." Similarly, the San Diego General Plan Update Final EIR uses an average of approximately 0.5 AFY of groundwater per single-family residence for the analysis.[2] Using the low number in the range provided by DWR, the water demand would be 150 AFY; using the high number in the range provided by DWR would result in 250 AFY. With the exception of the Sycamore Canyon Expansion Alternative, because each of the proposed alternatives would provide a similar sized landfill, the water demand for the alternative sites would be similar, at 75 AFY. The Sycamore Canyon Expansion Alternative would have a peak demand of approximately 84 AFY.[3] Thus, the water demand for the alternatives (i.e., 75–84 AFY) would be less than the water demand for a 500 dwelling unit project (i.e., 150 AFY). Therefore, none of the alternatives are subject to the requirements of SB 610 and a WSA is not required from the water supplier to demonstrate that water demand is included as part of the most recently adopted UWMP. No additional discussion on this topic is required.

The potential for global climate change to impact the availability of water supplies is qualitatively evaluated using documents prepared by the DWR and MWD to determine if anticipated changes in climate could have corresponding changes in precipitation that could reduce water available for use at each of the alternative sites, necessitating the construction or water facilities or the expansion of existing facilities. As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, much of the science around global climate change is evolving, especially in regards to predicted changes in the patterns of precipitation.

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[1] *California Department of Water Resources, October 2003.*

[2] *County of San Diego Department of Planning and Land Use, San Diego General Plan Final Environmental Impact Report. page 2.16-14. August 2011.*

[3] *Sycamore Landfill Master Development Plan Revised Final EIR, August 2012.*

## 4.16.1.3 APPLICANT'S PROPOSED ALTERNATIVE

### 4.16.1.3.1 Affected Environment

The Applicant's Proposed Alternative site is within the jurisdiction of the San Luis Rey Municipal Water District (SLRMWD) and Rainbow Municipal Water District (RMWD). Figure 4.16.1-1, *Water Districts Serving the Gregory Canyon Site*, depicts the service boundaries of these two providers. Approximately 1,420 acres of the site generally southeast of SR 76 are located within the service area of SLRMWD. The SLRMWD service area covers approximately 3,000 acres and local landowners operate their own private wells, with no imported water. SLRMWD staff estimates that landowners pump between 2,500 and 3,500 AFY[4] of water from the San Luis Rey River basin, mainly for agricultural and domestic purposes. The SLRMWD largely exists to establish a boundary, with no general infrastructure, and primarily facilitates cooperation between landowners on matters of water rights.

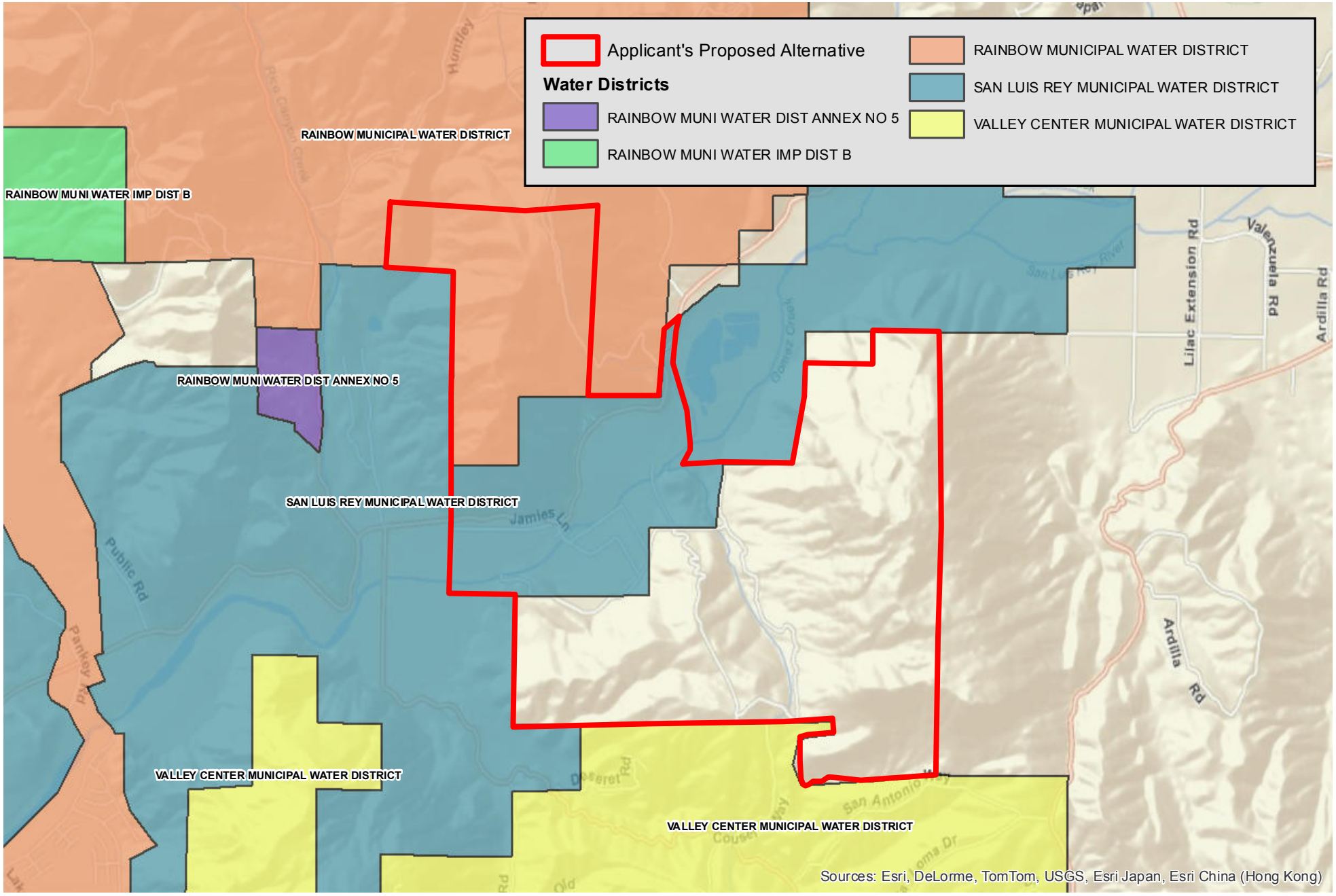
As shown in Figure 4.16.1-1, the remainder of the site, approximately 350 acres located generally northwest of SR 76, is located within the service area of RMWD. West of the site, RMWD maintains a 16-inch domestic water line near Rice Canyon Road, within approximately 1,000 feet of the northwest corner of the property line. The RMWD also maintains a 12-inch diameter potable water line crossing the San Luis Rey River at Gird Road, approximately 5.5 miles east of the site. An additional 22-inch diameter potable water line is located approximately 6.5 miles east of the site, crossing the San Luis Rey River at Ramona Drive.

As discussed in Section 4.9, Hydrogeology, two sources of groundwater exist on the Gregory Canyon property, riparian underflow and percolating groundwater. Riparian underflow is supported by an alluvial aquifer, which is contained within a sediment wedge at the southern, lower reaches of the mouth of the Gregory Canyon watershed. Appendix C to the applicant's JTD concludes that the groundwater within the alluvium forms an unconfined aquifer recharged by direct infiltration from precipitation or runoff from the bedrock ridges east and west of the canyon, and by underflow through weathered bedrock. Because groundwater recharge is inconsistent and seasonal, historical depth-to-water measurements from the period 1965 to 1990 for the alluvial aquifer indicate that groundwater levels for a particular well may fluctuate from the ground surface to approximately 25 feet below ground surface (bgs) in the center of the river valley. The safe yield quantity of riparian underflow available for withdrawal from the alluvial aquifer was determined to range from 8,414 to 66,742 gallons per day (gpd) (see subsection 4.16.1.4.3 below).

Subsequent to Water Rights Decision 1645, the ability to legally use underlying groundwater in the Pala alluvial aquifer was analyzed in the Allen Matkins Memorandum, utilizing geologic data collected in the field. The Allen Matkins Memorandum concludes that riparian underflow in the alluvium underlying the San Luis Rey River is available for reasonably anticipated future uses on portions of the site, as long as riparian underflow pumped from wells located within the boundaries of the underlying alluvium is used on portions of the landfill within the boundaries of the underlying alluvium. In contrast, percolating groundwater (discussed below) may be used throughout the property.

Percolating groundwater is available in two locations on the Gregory Canyon property. One location is the Gregory Canyon watershed, where percolating groundwater in Gregory Canyon can be characterized as a

[4] *1 acre-foot = 325,850 gallons of water*

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0 0.5 1 Miles

**Applicant's Proposed Alternative - Water Districts**

**Gregory Canyon**

Source: ESRI Street Map, 2009; SANDAG, 2012; PCR Services Corporation, 2012.

FIGURE

**4.16.1-1**

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fracture-controlled, interconnected flow system. The second location is within three smaller watersheds within the site. These watersheds, which are displayed on Figure 4.9-2, *Additional Watershed Locations at the Gregory Canyon Site*, in Section 4.9, Hydrogeology, of this Draft EIS, have a similar surface topography and underlying geology as that found in Gregory Canyon, with the exception that none of the three watersheds contains groundwater-bearing alluvium. Each of these watersheds produces percolating groundwater in the underlying fractured bedrock system that can be accessed by wells. The safe yield withdrawal quantities for the four percolating water sources on the site (i.e., the Gregory Canyon watershed and the three other watersheds) are estimated to be 41,925 gpd. When combined with the alluvial groundwater discussed above, the total safe groundwater yield under existing conditions ranges from 50,339 to 108,667 gpd.

### 4.16.1.3.2 Design Features from the Gregory Canyon EIR

The following design features would be implemented at the site and would reduce water demand:

- Soil sealant would be used on most internal haul roads to reduce water demand.
- Exposed areas would be revegetated with native, drought tolerant landscaping.

#### Riparian Underflow

Groundwater would be used as the primary water source for the initial construction, operation, and closure of the Applicant's Proposed Alternative. As discussed above, the Gregory Canyon site includes two sources of groundwater, riparian underflow and percolating groundwater. Percolating groundwater is available for use throughout the site. In contrast, riparian underflow is limited to certain portions of the property (i.e., portions of the site overlying the water-bearing alluvium). Owing to the legal restrictions of utilizing riparian underflow, the following design features would be implemented:

- The extent of the riparian areas on the landfill footprint shall be marked using monuments or other markings placed by the operator, following a survey performed by a licensed surveyor.
- Water storage tanks and water trucks shall be installed with a bracket to hold removable signs. A sign shall be placed on each storage tank or water truck noting whether its contents include riparian underflow, percolating groundwater or recycled water.
- Riparian underflow would not be commingled with percolating groundwater in any water storage tank.
- Riparian underflow shall not be commingled with percolating groundwater or recycled water in any water truck where discharged outside of the riparian areas. When riparian underflow and recycled water are commingled in a water truck, the signage shall indicate that both types of water are present. Use of that product shall then be limited to riparian portions of the landfill property.

#### Percolating Groundwater – On-Site Wells

As discussed in Section 4.9, Hydrogeology, the Applicant's Proposed Alternative would be implemented in a manner to maintain a safe groundwater yield. The following design features shall be implemented to ensure that groundwater withdrawal does not exceed safe yields:

- Each groundwater pumping well shall be installed with a totalizer meter, as well as a level control to cycle the pump on and off at a rate that matches the well's production capability. The settings for the level control shall be determined through pump testing and a sustainable yield calculation using RockWorks Drawdown Calculator software (or an equivalent method approved by the Local Enforcement Agency [LEA]).

- In order to provide ongoing verification, each pumping well shall undergo a new pumping test on a biennial basis (every other year), and the sustainable yield re-calculated using RockWorks Drawdown Calculator software (or an equivalent method approved by the LEA). If needed, the level controls shall be re-set based on the results of the calculation of long-term sustainable yield.

- In order to provide ongoing verification, an updated safe yield analysis would be undertaken on a biennial basis within each watershed, with the results compared with actual pumping rates obtained from the totalizer meters. Based on this comparison, coupled with the biennial sustainable yield analysis, a recommendation regarding additional modifications to pumping rates would be submitted to LEA for review and concurrence.

- Alluvial groundwater capture shall be evaluated on a biennial basis to ensure that groundwater extracted from bedrock wells do not draw groundwater from the alluvial aquifer. Alluvial well MW-3 and proposed alluvial well GMW-2A shall be used as observation wells during the initial and biennial pumping tests performed for bedrock wells GLA-3, GLA-12, GLA-13, GLA-B, GLA-C, GLA-G, and GMW-1. If drawdown is measured in the adjacent alluvial observation wells during the pumping test, the pumping rate shall be adjusted so that no measurable drawdown is indicated in these alluvial observation wells.

- An alluvial observation well shall be installed in the vicinity of the Area 1 and Area 3 pumping wells. Alluvial groundwater capture shall be evaluated as part of the initial and biennial pump tests for the Area 1 and Area 3 bedrock pumping wells. If drawdown is measured in the adjacent alluvial observation well during the pumping test, the pumping rate shall be adjusted so that no measurable drawdown is indicated in the alluvial observation well.

### Recycled Water

Although the applicant's intention is to use groundwater to meet water demand, should the demand for water exceed the safe groundwater yield, the applicant has entered into a contract with the San Gabriel Valley Water Company (SGVWC) to supply 80,000 gpd of recycled water. The following design features would be implemented to accommodate recycled water and to avoid adverse effects from the use of recycled water on site:

- A 20,000 gallon recycled water storage tank would be installed on the site that includes a containment tank constructed of an impervious material capable of accommodating the entire volume of water in the tank to avoid spillage of recycled water on site.

- A fill pipe would be used to gravity feed the recycled water from recycled water delivery trucks into the recycled water storage tank to avoid spillage from hand use on site.

- A spill containment area and distribution fill pipe would be constructed on the site to fill trucks for on-site recycled water to avoid a spillage of recycled water and to control and contain any spilled recycled water within the containment area.

- A recycled water supervisor would be retained at the landfill site to supervise and educate all on-site personnel on the proper use and handling of recycled water and to ensure proper operation and handling of recycled water on site.
- The recycled water tank and recycled water trucks would be posted with a large sign stating "RECYCLED WATER – DO NOT DRINK" in large readable English and Spanish print and all distribution piping would be colored purple or wrapped in purple tape to designate it as recycled water.
- Disinfecting of all water trucks and tanks prior to reuse with other than recycled water.
- Readily available potable or bottled water on site for drinking and hand-washing.
- Water resources would be prioritized so that, when available, on-site percolating groundwater would be used first for areas designated for biological mitigation, landscape irrigation, and dust control on on-site haul roads and Borrow/Stockpile areas A and B before recycled water is used.
- Water resources would be prioritized so that, when available, on-site riparian underflow or percolating groundwater would be used first, before recycled water is used, for any areas not within the landfill footprint.

### 4.16.1.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to water supply if an alternative would require or result in the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant adverse environmental effects.*

**Impact Statement Gregory WATER-1: The Applicant's Proposed Alternative would primarily rely on groundwater to meet the water demand for the alternative. Thus, new water facilities or the expansion of existing facilities would not be required. In the event that groundwater is not sufficient, recycled water provided by the SGVWC would be used. The SGVWC facility improvements required to supply recycled water would not result in a significant adverse environmental effect.**

The Applicant's Proposed Alternative would primarily use groundwater resources to meet the landfill's water demand. The analysis regarding the adequacy of groundwater supply is provided in Impact Statement Gregory WATER-2, below. In the unlikely event that water demand exceeds groundwater supplies or that groundwater supplies are interrupted, recycled water would be provided by the SGVWC based on a contract between Gregory Canyon, Ltd. and SGVWC.

Two types of physical improvements to accommodate on-site water demand are discussed in Chapter 3.0, Description of Alternatives, of this EIS. Improvements necessary on site to use groundwater resources would include the installation of groundwater wells and associated piping, as well as storage tanks (a 20,000-gallon water tank north of the ancillary facilities area and a 10,000-gallon water tank within Borrow/Stockpile Area B). These improvements would be completed as part of the initial construction. With the implementation of design features and mitigation measures identified throughout this EIS, the initial construction of the Applicant's Proposed Alternative (including the installation of groundwater wells, piping, and storage tanks) would not result in significant adverse environmental effects.

The other improvements would occur at the SGVWC facility for the provision of recycled water. As discussed above, in the unlikely event that water demand exceeds groundwater supplies or that groundwater supplies are interrupted, recycled water would be provided by the SGVWC based on a contract between Gregory Canyon, Ltd. and SGVWC for 80,000 gpd (or approximately 75 AFY[5]) of recycled water. Recycled water purchased and sold by SGVWC consists of Title 22 tertiary effluent purchased from the Upper San Gabriel Valley Municipal Water District (USGVMWD) through a purchase agreement with USGVMWD dated June 27, 2006, and produced at the Whittier Narrows Water Reclamation Plant (WRP), owned and operated by a consortium of sanitation districts, including the Los Angeles County Sanitation District. The contracted amount of up to 80,000 gpd was chosen because this amount exceeds the highest anticipated average annual water usage requirement of 66,785 gpd (i.e., Scenario 1), which is discussed in Gregory WATER-2, below.

With respect to recycled water capacity, the SGVWC currently has an excess supply of recycled water and is actively promoting the increased use of the resource. In this regard, the SGVWC 2010 UWMP lists "achieving maximum use of all available recycled water" as one of its water management goals. Currently, the SGVWC has the ability to deliver up to 7,000 AFY of recycled water to customers in its service area.[6] As of 2010, the SGVWC was delivering approximately 2,015 AFY of recycled water, thus utilizing only 28.8 percent of its current recycled water capacity.[7] The SGVWC does not project utilizing its full 7,000 AFY capacity until the Year 2035. At 80,000 gpd (75 AFY), the contract with the applicant represents only 1.5 percent of the remaining recycled water capacity. Because the contracted quantity of recycled water would not exceed the available supply and the SGVWC is currently encouraging the increased use of recycled water, the Applicant's Proposed Alternative would not require new recycled water treatment facilities, or the expansion of existing water facilities to provide adequate supplies, the construction of which would result in significant adverse environmental effects.

With respect to the recycled water conveyance infrastructure, recycled water from the Whittier Narrows WRP is conveyed through an existing 18-inch recycled water pipeline owned and operated by USGVMWD. The 18-inch pipeline runs along North Loma Avenue to an existing SGVWC facility located at 2701 North Loma Street, South El Monte, California. The pipeline operates at approximately 84 psi,[8] which SGVWC believes would provide adequate water pressure for the loading of recycled water delivery trucks. Recycled water would be transported in single-tank, double-axle recycled water trucks with a capacity of between 6,500 and 7,000 gallons. Because recycled water is an alternate source and would be used if necessary on an occasional basis, the applicant would contract with a private water hauler to supply the recycled water trucks.

Off-site improvements required at the SGVWC facility would include the installation of a pressure regulator (to reduce water pressure), meter, standpipe, and possibly a pump, from which recycled water trucks could be filled. SGVWC would access the 18-inch recycled water pipeline at the 2701 North Loma Street Facility by constructing a "T" perpendicular to the pipeline, which would bring the recycled water onto the SGVWC property. Although the landfill would be limited to 307 operating days per year, the loading standpipe would be open to the applicant on a 24-hour, 7-day a week basis, to the extent possible.

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[5] *Based on 307 operating days per year.*

[6] *SGVWC, 2010 Urban Water Management Plan. pg 4-31. July 2011*

[7] *Ibid. Table 9.*

[8] *USGVMWD, Preliminary Design Report for the Recycled Water Project Rosemead Extension, Figure 2-3*

The 2009 Addendum assessed the potential environmental impacts (i.e., air quality and health risk, and noise) from the physical improvements to the SGVWC facility. The SGVWC facility is located in an industrial area primarily consisting of light industrial businesses, such as salvage yards or auto body shops. The nearest sensitive receptors are multi-family uses located approximately 100 meters (330 feet) to the northeast of the water facility along Mabel Avenue. Construction-related daily maximum localized emissions would not exceed the South Coast Air Quality Management District (SCAQMD) daily significance thresholds for $NO_X$, CO, $PM_{10}$, and $PM_{2.5}$ at these locations. Localized construction emissions resulting from construction activities at the recycled water site would not result in a significant short-term air quality impact. With respect to noise, it is estimated that the maximum aggregated construction related noise levels at the nearest residential receptors (multi-family residences located northeast of the facility along Mabel Avenue) would be up to 65 dBA. Thus, temporary construction would result in a short-term temporary increase in ambient noise levels at the nearby residential uses. However, construction noise impacts would not result in significant environmental effects because of the limited nature of this construction work and because construction activity would comply with City of El Monte's construction hour limits. In summary, the 2009 Addendum concluded that the physical improvements required to convey recycled water to the Applicant's Proposed Alternative site would not necessitate the need for new facilities or expansion facilities that would result in significant adverse effects.

Mitigation Measures

The Applicant's Proposed Alternative would not result in the construction of new water facilities or the expansion of existing facilities, the construction of which would result in significant adverse effects. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if on-site water use would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Gregory WATER-2: The Applicant's Proposed Alternative would withdraw sustainable quantities of groundwater and sufficient area would remain on-site to allow recharge. The water demand would not exceed the safe yield. Thus, the Applicant's Proposed Alternative would not result in significant adverse effects to groundwater supplies or groundwater recharge.**

### Comparison of Available Supply and Demand

This subsection provides a comparative analysis of water demand and water supply for the Applicant's Proposed Alternative. With respect to water demand, the Kleinfelder technical report[9] provided a detailed analysis of water demand for the landfill which is discussed below.

[9] *Kleinfelder. Water Usage Assessment for the Proposed Gregory Canyon Landfill. December 7, 2009.*

### Water Demand

The Kleinfelder technical report evaluated water demand during the initial construction, operation, and closure of the Applicant's Proposed Alternative and developed five separate scenarios. The five scenarios correspond to the landfill's four operational phases and closure period; however, the scenarios were developed in recognition that the four operational phases would overlap. A summary of the five scenarios is as follows:

- **Scenario 1:** Landfill construction and operation within portions of Phase 1 of the landfill development. This scenario represents initial construction of the landfill.
- **Scenario 2:** Simultaneous construction and operation within Phases 2 and 3 of the landfill development. This scenario would occur during a later stage of landfill development in a different portion of the landfill property.
- **Scenario 3:** A period in which operations would occur with no construction. Waste placement was assumed to occur at the southern portion of the landfill footprint to provide for a higher estimate of internal road lengths.
- **Scenario 4:** Activities occurring during the final year of landfill operation. Waste placement was assumed to occur within Phases 2 and 3 of the landfill to provide for a higher estimate of internal road lengths. No construction would occur.
- **Scenario 5:** The time period immediately following the cessation of operations, when final cover would be placed.

Table 4.16.1-1, *Annualized Water Demand by Scenario*, provides a summary comparison of annualized water demand for each of the five scenarios. As shown in Table 4.16.1-1, Scenario 1 (landfill construction and operation in Phase I) would generate the highest annualized water demand at 66,785 gpd.

### Water Supply

As mentioned above, there are two sources of groundwater at the Gregory Canyon site: riparian underflow and percolating groundwater. The availability of both of these groundwater sources would be affected by landfill operations, but in different manners. Specifically, the quantity of riparian underflow available for use would be reduced as later stages of landfill operation move into the southern, upper portions of Gregory Canyon, where it is not legal to use riparian underflow (i.e., on portions of the landfill within the boundaries of the underlying alluvium). In contrast, the quantity of percolating groundwater available would be reduced by landfill operations because the landfill footprint would obstruct rainwater infiltration through the soil within the Gregory Canyon watershed and groundwater recharge would thus be diminished.[10]

As discussed in Section 4.9, Hydrogeology, of this EIS, environmental controls (i.e., totalizer meters, level controls) would be implemented to prevent groundwater withdrawal from exceeding safe yields.[11] With

[10] *The analysis assumed an infiltration rate of 1.6 inches per year (about 10 percent of precipitation). At the full 183 acres, this could result in an average decrease in groundwater recharge of 2,960 cubic feet per day (2.5 acre-feet per year) from existing conditions.*

[11] *Safe yield is an important concept in groundwater management. Safe yield is achieved when the amount of groundwater pumped from a particular basin balances the amount of groundwater flowing into that basin, either from groundwater flow or rainwater infiltration. Safe yield does not consider the storage capacity of the underlying basin.*

**Table 4.16.1-1**

**Annualized Water Demand by Scenario**

| Scenario | Scenario Description | Annualized Water Demand[a] |
|---|---|---|
| 1 | Construction and operation within Phase 1 of the landfill development | 66,785 gpd |
| 2 | Construction and operation within Phases 2 and 3 of the landfill development | 40,617 gpd |
| 3 | Operations would occur with no construction. Waste placement was assumed to occur at the southern portion of the landfill footprint | 36,780 gpd |
| 4 | Activities during the final year of landfill operation. Waste placement assumed within Phases 2 and 3 of landfill development | 37,764 gpd |
| 5 | Period immediately following the cessation of operations, when final cover would be placed | 34,753 gpd |

[a] *The annualized water demand pro rates the daily maximum usage over the 307 operating days per year. As an example, if topical application of soil sealant occurs forty days per year, the annualized average value for this activity would be calculated using the following equation: (daily maximum water usage x 40) divided by 307 = (annualized average water usage).*

*Source: Kleinfelder and Associates, 2009. PCR Services, 2012.*

implementation of the environmental controls, the Applicant's Proposed Alternative would not substantially deplete groundwater supplies such that there would be a lowering of local groundwater levels. Further, as concluded in Section 4.9, Hydrogeology, of this EIS, the landfill footprint would not occupy enough of an area to result in a significant effect on groundwater recharge. This analysis focuses on whether the safe yield quantity of groundwater available for withdrawal would be adequate to meet the water demand of the landfill.

Under the maximum landfill footprint of 183 acres, the estimated safe yield from percolating groundwater within the Gregory Canyon watershed would be 21,576 gpd. In addition to percolating groundwater from the Gregory Canyon watershed, the estimated safe yield of percolating groundwater from the other three on-site watersheds would remain constant because no change in groundwater infiltration rates would occur in these watersheds. The calculated safe yield of the three other watersheds is 20,349 gpd. In total, the safe yield of percolating groundwater from both the Gregory Canyon watershed and the other three on-site watersheds would remain constant at 41,925 gpd.

As mentioned, the use of riparian underflow is location-dependent, with use only being permitted on the southern portions of the site that overlie alluvial deposits. The quantity of riparian underflow available for use is presented in the 2009 Kleinfelder & Associates Water Usage Assessment. A summary of the availability of riparian underflow during the five scenarios discussed above is as follows:

- During Scenario 1, riparian underflow could supply approximately 66,742 gpd.
- During Scenario 2, the ability of the landfill to utilize riparian underflow diminishes, since both construction and operation would be occurring at the southern portion of the landfill footprint. During Scenario 2, riparian underflow could supply approximately 8,414 gpd.

- During Scenario 3, operations would also be occurring at the southern portion of the landfill footprint, reducing the ability to use riparian underflow. During Scenario 3, riparian underflow could supply approximately 8,414 gpd.
- During Scenario 4, a larger amount of riparian water could be utilized. During Scenario 4, riparian underflow could supply approximately 14,197 gpd.
- During Scenario 5, an even larger amount of riparian water could be utilized. During Scenario 5, riparian underflow could supply approximately 21,510 gpd.

### Comparison of Supply and Demand

The Applicant's Proposed Alternative would use groundwater as the primary source of water, and would use recycled water if underlying groundwater proves insufficient to meet the demands of the landfill. As shown on Table 4.16.1-2, *Summary Comparison of Annualized Water Demand and Supply for the Applicant's Proposed Alternative*, groundwater from wells on the landfill property would be adequate to meet the landfill's water demand during construction, operation, closure and post-closure maintenance of the facility. During the scenarios analyzed, the groundwater supply would be greater than demand by at least 24 percent. As a result, the extraction of 34,753 to 66,785 gpd of groundwater would not cause the Pala Hydrologic Subarea to be substantially depleted such that there would be a net deficit in aquifer volume or a lowering of the local groundwater levels and no significant adverse effect would occur.

**Table 4.16.1-2**

**Summary Comparison of Annualized Water Demand and Supply for the Applicant's Proposed Alternative**

| | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Scenario 5 |
|---|---|---|---|---|---|
| **Estimated Demand (gpd)** | **66,785 gpd** | **40,617 gpd** | **36,780 gpd** | **37,764 gpd** | **34,753 gpd** |
| *Source of Supply* | | | | | |
| Percolating Groundwater – Gregory Canyon | 21,576 gpd | 21,576 gpd | 21,576 gpd | 21,576 gpd | 21,576 gpd |
| Percolating Groundwater – Other Watersheds | 20,349 gpd | 20,349 gpd | 20,349 gpd | 20,349 gpd | 20,349 gpd |
| Riparian Underflow | 66,742 gpd | 8,414 gpd | 8,414 gpd | 14,197 gpd | 21,510 gpd |
| **Total Supply (gpd)** | **108,667 gpd** | **50,339 gpd** | **50,339 gpd** | **56,122 gpd** | **64,435 gpd** |
| Ratio of Supply to Demand | 1.63:1 | 1.24:1 | 1.37:1 | 1.48:1 | 1.85:1 |

*Source: Kleinfelder & Associates, 2009*

Although available groundwater would be adequate to meet the needs of the Applicant's Proposed Alternative without overdrafting groundwater resources, as outlined in subsection 4.16.1.4.2, above, the alternative would include design features to prevent the overdraft of groundwater independent of the quantity of groundwater available. For instance, each groundwater well would be operated at a capacity that would not overdraft groundwater resources, as determined by a sustainable yield calculation for each well. The applicant would update sustainable yield calculations for each well on a biennial basis. Based on this calculation, a totalizer meter and level control would be installed in each groundwater well and calibrated to

the calculated sustainable yield so that pumping matches the well's production capacity. If the groundwater level in the well drops below the sustainable yield as measured by the level control, the well would automatically shut off. Additionally, alluvial observation wells would be installed so that no measurable drawdown is recorded in the observation wells.

If drawdown is measured in the adjacent alluvial observation wells during pumping tests, the pumping rate would be adjusted so that no measurable drawdown is indicated in these wells. Further, in accordance with an agreement the applicant has signed with the SLRMWD and several private landowners downstream of the site (the agreement is discussed in detail in Section 4.9, Hydrogeology), the applicant would reduce groundwater withdrawal if the amount of water available to users in the SLRMWD is insufficient to meet the beneficial needs of users in the SLRMWD, as determined by technical reports prepared by the SLRMWD or other beneficial users. With implementation of sustainable production rates and the above design features, the Applicant's Proposed Alternative would not exceed the calculated safe yield of on-site groundwater resources and would not overdraft groundwater basins.

In the unlikely event that an interruption in groundwater supplies is required to prevent an overdraft situation, the applicant has entered into a contract with the SGVWC to supply up to 80,000 gpd (75 AFY[12])of recycled water to ensure adequate water supplies for landfill operations.[13] SGVWC, which is a privately-owned utility regulated by the California Public Utilities Commission, engages in the sale of both potable water and recycled water. The contract with SGVWC serves as an alternate water supply to meet landfill water demands. Recycled water purchased and sold by SGVWC consists of Title 22 tertiary effluent purchased from the USGVMWD through a purchase agreement with USGVMWD dated June 27, 2006, and produced at the Whittier Narrows WRP, owned and operated by a consortium of sanitation districts, including the Los Angeles County Sanitation District. Operation of the Whittier Narrows WRP is governed by Los Angeles Regional Water Quality Control Board (LARWQCB) Order No. R4-2009-0077, National Pollutant Discharge Elimination System (NPDES) No. CA0053716. Recycled water standards are set forth in LARWQCB Order No. R4-2009-0077. The largest current use of recycled water from the Whittier Narrows WRP is groundwater recharge, with some use for irrigation. The WRP operator is actively promoting additional reuse options. No blending of effluent from the Whittier Narrows WRP with raw water takes place prior to sale to USGVMWD and then to SGVWC.

The contracted amount of up to 80,000 gpd was chosen because this amount exceeds the highest anticipated average annual water usage requirement of 66,785 gpd (i.e., Scenario 1). While the current recycled water agreement between the USGVMWD and SGVWC expires on June 30, 2017, SGVWC has expressed its intention to extend the term of the agreement to coincide with the term of its underlying supply agreement with USGVMWD. There are a number of reasons to expect that the underlying contract would continue to be extended by both parties. For instance, SGVWC already has commitments to provide up to 2,000 AFY of recycled water,[14] and the incremental amount to be supplied to the landfill (approximately 75 AFY[15]) is very

[12] *Based on 307 operating days per year.*

[13] *The San Diego Regional Water Quality Control Board (SDRWQCB) tentative Order No. R9-2009-004, dated April 9, 2009, proposes to authorize the use of recycled water at the landfill site from any source, subject to meeting water quality standards and other conditions.*

[14] *2009 Addendum to the Certified Final Environmental Impact Report, pg. 25.*

[15] *80,000 gpd X 307 operating days = 24,560,000 gallons. Divided by 325,851.4 gallons in an acre foot of water = 75.37 AFY*

small in relation to its overall commitments. As a result, it is expected that the applicant would have continuing access to SGVWC recycled water for an extended period of time.

In conclusion, the above analysis shows that groundwater supplies would be adequate to meet the water demand of the Applicant's Proposed Alternative and the design features would ensure that no overdraft occurs. Further, recycled water would be available should an interruption of groundwater occur. Therefore, the Applicant's Proposed Alternative would not result in an overdraft of the Pala Hydrologic Subarea and no significant adverse effect with respect to the depletion of groundwater supplies or water resources would result.

### Groundwater Recharge

Groundwater recharge at the site is by direct infiltration from precipitation or runoff from the bedrock ridges of the on-site canyons, including Gregory Canyon. The groundwater recharge would decrease slightly in the Gregory Canyon watershed as a result of the development of the landfill because the waste prism would inhibit infiltration over the footprint area. Borrow/Stockpile Areas would be located within two of the three other on-site watersheds, but the fill would not notably reduce recharge in these watersheds.[16] No development would occur in the watershed north of the San Luis Rey River, and infiltration rates in that watershed would remain unchanged. Assuming an infiltration rate of 1.6 inches per year (about 10 percent of precipitation), the Applicant's Proposed Alternative could result in an average decrease in groundwater recharge of approximately 2,960 cubic feet per day (25 AFY).[17] This amount comprises a small percentage of average annual groundwater recharge (2,165 AFY) and a small portion the recharge area of the Pala Subarea.[18] Thus, the Applicant's Proposed Alternative would not result in significant adverse effects to groundwater recharge.

#### Mitigation Measures

With implementation of design features, the Applicant's Proposed Alternative would not have a significant adverse effect on groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater levels. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if water usage would significantly impact the supply of recycled water to other existing users of the recycled water.*

**Impact Statement Gregory WATER-3: The 80,000 gpd (approximately 75 AFY) of recycled water that could be provided by the SGVWC would not compromise the ability of the SGVWC to provide recycled water to other users. No significant adverse effects to SGVWC's recycled water supplies would occur.**

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[16] *Geo-Logic Associates. Evaluation of Additional Percolating Groundwater Resources on the Gregory Canyon Property, San Diego, California, pg. 4. November 2009.*

[17] *Geo-Logic Associates. Geologic, Hydrogeologic and Geotechnical Investigations Report (Appendix C of the JTD), pg. 2-12. November 2003.*

[18] *County of San Diego Department of Planning and Land Use, General Plan Groundwater Study, Appendix D-1: Groundwater Study Appendices, Table C-57: Pala Basin. April 2010.*

The quantity of recycled water available for use at the Applicant's Proposed Alternative site is established by the terms of the applicant's contract with the SGVWC. The SGVWC limits the contracted deliveries of recycled water to the quantity of recycled water available to it by the USGVMWD. The SGVWC currently has an excess supply of recycled water and is actively promoting the increased use of the resource. In this regard, the SGVWC 2010 UWMP lists "achieving maximum use of all available recycled water" as one of its water management goals. Currently, the SGVWC has the ability to deliver up to 7,000 AFY of recycled water to customers in its service area.[19] As of 2010 (the most recent year data is available), the SGVWC was delivering approximately 2,015 AFY of recycled water, thus utilizing only 28.8 percent of its current recycled water capacity.[20] The SGVWC doesn't project utilizing its full 7,000 AFY capacity until the Year 2035. At 80,000 gpd (approximately 75 AFY under 307 operating days per year), the contract with the applicant represents only 1.5 percent of the remaining recycled water capacity. Because the contracted quantity of recycled water would not exceed the available supply and the SGVWC is currently encouraging the increased use of recycled water, the Applicant's Proposed Alternative would not impact the supply of recycled water available to existing customers, and no significant adverse effects would result.

Mitigation Measures

The Applicant's Proposed Alternative would not result in significant adverse effects with respect to recycled water supplies to existing users. No mitigation measures are proposed.

## 4.16.1.4 NO FEDERAL ACTION ALTERNATIVE

### 4.16.1.4.1 Affected Environment

The No Federal Action Alternative generally represents existing conditions at the Applicant's Proposed Alternative site. Therefore, the affected environment for the No Federal Action Alternative is the same as that for the Applicant's Proposed Alternative. Refer to Subsection 4.16.1.4.1 for a detailed description of the affected environment for water resources at the site.

### 4.16.1.4.2 Design Features

Under the No Federal Action Alternative, the property would not be developed and a conservation bank would be created. Activities that would occur under the No Federal Action Alternative would meet applicable regulatory requirements.

### 4.16.1.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to water supply if an alternative would require or result in the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant adverse environmental effects.*

**Impact Statement No Federal Action WATER-1: The No Federal Action Alternative would not appreciably increase water demand at the Applicant's Proposed Alternative site and no new water**

[19] *SGVWC, 2010 Urban Water Management Plan. pg 4-31. July 2011.*

[20] *Ibid. Table 9.*

**facilities or expanded water facilities would be required to accommodate the No Federal Action Alternative.**

Under the No Federal Action Alternative, the site would remain generally undeveloped. Existing groundwater wells would likely be used to irrigate the conservation bank. No new groundwater wells would be installed. No recycled water would be imported for the implementation of the conservation bank. Thus, under the No Federal Action Alternative, there would be no adverse effect with respect to the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant adverse environmental effects.

Mitigation Measures

The No Federal Action Alternative would not result in adverse effects with respect to new or expanded water facilities. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if on-site water use would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement No Federal Action WATER-2: As groundwater withdrawal would be limited to that required for the conservation bank and groundwater infiltration rates would remain essentially unchanged, the No Federal Action Alternative would not result in an adverse effect due to groundwater supplies or groundwater recharge.**

Under the No Federal Action Alternative, the site would remain generally undeveloped. Riparian underflows and groundwater percolation would not be altered. Groundwater from the existing wells would be used for the irrigation of the conservation bank; however, the quantity of groundwater required would be small when compared to the development of an on-site landfill. As the No Federal Action Alternative would use quantities of groundwater well below safe yield volumes and the Pala Hydrologic Subarea is not currently in a state of overdraft, the No Federal Action Alternative would not result in an adverse effect with respect to groundwater supplies.

While minor grading would take place for the conservation bank, there would be no change in the amount of impervious surfaces on the site when compared to the overall site area, and thus, there would be no change in the amount of infiltration that would occur.

Therefore, under the No Federal Action Alternative, there would be no adverse effect with respect to groundwater supply and groundwater recharge.

Mitigation Measures

The No Federal Action Alternative would not result in adverse effects with respect to groundwater supply and groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if water usage would significantly impact the supply of recycled water to other existing users of the recycled water.*

**Impact Statement No Federal Action WATER-3: The No Federal Action Alternative would not require recycled water to implement the conservation bank. Thus, the No Federal Action Alternative would not result in an adverse effect with respect to the supply of recycled water to existing users.**

No recycled water would be required for the operation of the conservation bank under the No Federal Action Alternative. As such, the No Federal Action Alternative would not result in an adverse effect to recycled water users.

Mitigation Measures

The No Federal Action Alternative would not result in an adverse effect with respect to recycled water. No mitigation measures are proposed.

## 4.16.1.5 ASPEN ROAD ALTERNATIVE

### 4.16.1.5.1 Affected Environment

The Aspen Road site contains two sources of groundwater, bedrock groundwater and alluvial groundwater, as discussed in Section 4.9, Hydrogeology, of this EIS. An on-site spring constitutes a geologic separation between these two groundwater resources. Previous technical reports prepared for the North County Class III Landfill Draft EIS/EIR by Geotechnical Consultants, Inc. (GCI) indicates that groundwater within the bedrock aquifer discharges to a spring located at the mouth of Aspen Canyon. Groundwater within weathered gabbro was encountered on the Aspen Road Alternative site at depths of 50 to 60 feet below ground surface; however, the active spring indicates shallow groundwater levels may be present in some areas. Borings were not advanced beneath the weathered gabbro to evaluate groundwater resources within the unweathered fractured rock beneath the site. Shallow alluvial/colluvial deposits were present immediately downstream of the active spring, and GCI concluded that groundwater within the alluvium/colluvial deposits is likely sourced by the spring as well as the moderate surface flow along the tributary drainage east-northeast of the spring. Borings taken downstream of the spring encountered groundwater in the alluvial aquifer at depths of 7 to 20 feet below ground surface.

GCI evaluated the feasibility of using underlying groundwater as a potential resource for the Aspen Road Alternative. Above the active spring, the bedrock groundwater is a thin, slow moving feature that exists within weathered bedrock. As demonstrated during aquifer testing performed on monitoring wells installed within the alluvial/colluvial deposits and the weathered bedrock, the aquifer materials were incapable of transmitting water to the wells in usable quantities. Below the spring, where a monitoring well was constructed within the shallow alluvial deposits, a yield of 5 gpm was sustainable for a short time period. However, the alluvium in this area is a relatively small geologic unit that would become dewatered by any extended effort to extract groundwater, even at modest pumping rates of 5 to 10 gpm.[21] Therefore, GCI concluded that the groundwater identified beneath the Aspen Road Alternative site is not a developable

[21] *The underlying alluvium has insufficient storage capacity and would not be capable of providing a consistent yield of economically viable quantities of water to support construction or operation of a landfill.*

resource, and would not be adequate to serve the needs of a landfill. Thus, on-site groundwater within the alluvial/colluvial deposits and weathered bedrock would not be sufficient for use at the Aspen Road Alternative site.

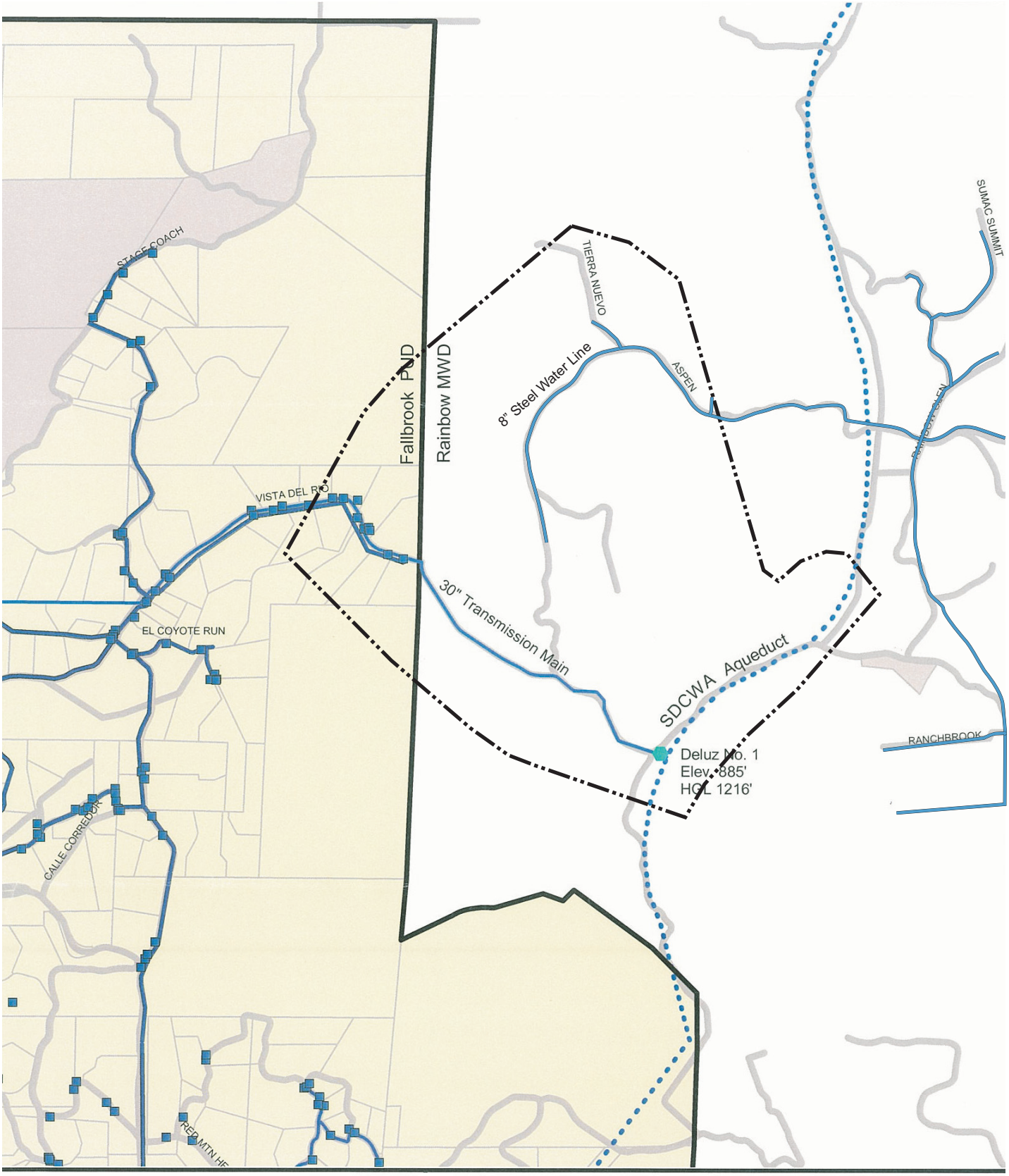
Although the Aspen Road Alternative site does not contain developable groundwater supplies, a public service response letter from the Fallbrook Public Utility District (FPUD) indicated that a small portion of the Aspen Road Alternative site is located within its service boundaries and that it could serve that portion of the site. The majority of the Aspen Road site is located within the boundaries of the Rainbow Municipal Water District (RMWD). The RMWD maintains the U-1 water distribution system in the vicinity of the Aspen Road Alternative site, which consists of 29,544 feet of pipe ranging from 6 to 14 inches in diameter.[22] An 8-inch steel water line runs along Aspen Road through the site. Figure 4.16.1-2, *Water Districts Serving the Aspen Road Site*, illustrates boundaries of the water districts serving the property.

With respect to the FPUD, the San Diego County General Plan Final EIR indicates that the FPUD service area includes the Fallbrook Country Town Area and surrounding vicinity, and the eastern portion of the De Luz area in northern San Diego County. The FPUD service area covers approximately 28,000 acres and has approximately 8,970 connections. FPUD operates approximately 230 miles of pipeline, four lift stations, one groundwater well, and the Red Mountain Reservoir, which has a storage capacity of 1,300 AF. FPUD provides 47 percent of its service to residential land uses, 47 percent to agricultural land uses, and 6 percent to commercial land uses. The average daily consumption for FPUD is 47.7 AF. Approximately 99 percent of FPUD water is purchased from the SDCWA, which imports its water from the MWD of Southern California. The vast majority of tap water delivered by FPUD is treated at MWD's Lake Skinner Filtration Plant in Riverside County. The remainder (one percent) of FPUD water supply comes from the Capra Well. With respect to conveyance infrastructure in the vicinity of the Aspen Road Alternative site, the FPUD maintains a 30-inch water main running through the site along Rainbow Glen Road. This 30-inch water main ultimately connects to the SDCWA Aqueduct located in the southeastern portion of the site. Although the FPUD maintains recycled water conveyance infrastructure, the recycled water infrastructure is not located within the vicinity of the site. The FPUD Board is considering a merger with the RMWD, although no timeline for this merger has been established.[23]

With respect to the RMWD, the Final EIR for the County's General Plan Update indicates that the RMWD provides water service to the unincorporated areas of northwestern San Diego County, specifically the unincorporated communities of Rainbow, Bonsall, and a portion of Fallbrook. The RMWD service area is bounded by Camp Pendleton on the west, the City of Vista on the south, the Fallbrook Community Planning Area on the east, and the County of Riverside on the north. The RMWD covers 49,800 acres and has approximately 7,200 connections. RMWD has 17 reservoirs (total capacity 1,350 AF), 46 pressure stations, and approximately 300 miles of pipeline. The majority of water service is provided to agricultural customers and the average daily consumption of RMWD is a maximum of 58,619 gpm. The RMWD receives the majority of its water from the SDCWA, which receives its water from MWD's Robert A. Skinner Filtration Plant. A recently completed multi-million dollar capital improvement project has made the Skinner Treatment Plant one of the largest in the nation; the plant currently has a capacity of 630 million gallons per day (mgd). With

[22] *Written correspondence from Brian C. Lee, Assistant General Manager/District Engineer, Rainbow Municipal Water District. November 26, 2012.*

[23] *Ibid.*




N

Not to scale

**Aspen Road Alternative - Water Districts**

**Gregory Canyon**

Source: Fallbrook Public Utility District, 2012.

FIGURE

**4.16.1-2**

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respect to conveyance infrastructure in the vicinity of the site, the RMWD maintains the U-1 water vast distribution system, which consists of 29,544 feet of pipe ranging from 6 to 14 inches in diameter. An 8-inch steel water line as part of the U-1 system traverses the Aspen Road Alternative site along the alignment of Aspen Road. The RMWD does not generate nor distribute recycled water within its boundaries.[24] The FPUD Board is considering a merger with the RMWD, although no timeline for this merger has been established.

In addition to these water sources, recycled water from the SGVWD is anticipated to be available for use at the Aspen Road Alternative site as an alternate water source should a disruption of potable water supplies occur. This recycled water would likely be secured through a modified agreement with the SGCWC similar to that executed under the Applicant's Proposed Alternative, except the Aspen Road Alternative site would be identified as the recipient location of the recycled water.

### 4.16.1.5.2 Design Features

As with the Applicant's Proposed Alternative, the Aspen Road Alternative would be designed to meet regulatory requirements. With respect to groundwater quantity, since groundwater resources are not adequate to support the construction and operation of a landfill it is assumed that the Aspen Road Alternative would not utilize groundwater and the alternative would not require design features intended to ensure that groundwater resources are not overdrafted. The Aspen Road Alternative would implement water-saving measures similar to those proposed for the Applicant's Proposed Alternative, including utilizing a chemical soil sealant on unpaved internal access roadways and drought-tolerant landscaping. For purposes of this EIS, it is assumed that water for the Aspen Road Alternative would be supplied by the FPUD and/or RMWD, or from recycled water purchased from the SGVWC. Per applicable requirements, a water storage tank would be located in the ancillary facilities area.

### 4.16.1.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to water supply if an alternative would require or result in the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant adverse environmental effects.*

**Impact Statement Aspen WATER-1: The Aspen Road Alternative would rely on water from the FPUD and/or RMWD in quantities that would not require the construction of new water facilities, or the expansion of existing facilities to accommodate these needs.**

#### Comparison of Available Supply and Demand

Water demand at the site would likely be accommodated by municipal water suppliers, either FPUD or RMWD (see Figure 4.16.1-2).[25] Although the site straddles the FPUD/RMWD boundary, given the uncertainty over the final design of water conveyance infrastructure to serve the site, this EIS conservatively analyzes a scenario where one of the suppliers would provide water to the entire site. This analysis assumes that there is no existing water demand on the Aspen Road site. Although the site is primarily vacant, a few rural

[24] *RMWD. 2010 UWMP. pg. 12.*

[25] *Although the RMWD indicated that additional information to ultimately determine infrastructure capacity would be needed, this analysis assumes that water could be supplied by both of the suppliers because both districts maintain infrastructure within the boundaries of the site.*

residences, buildings, and trailers that consume a small quantity of water are located on the site. Agricultural uses are also located on the eastern and western portions of site.

As previously discussed, this analysis assumes that the Aspen Road Alternative would have a water demand of 75 AFY. Table 4.16.1-3, *Projected Water Demand for the Fallbrook Public Utilities District (FPUD)* and Table 4.16.1-4, *Projected Water Demand for the Rainbow Municipal Water District (RMWD)*, presents the projected water demand for these municipal water providers. As concluded in the UWMPs for these water providers, water supplies would meet or exceed the projected water demand within the districts, although both suppliers may need to implement conservation measures in the case of multiple dry years. Both the FPUD and RMWD import the majority of their water supply from the SDCWA, which purchases much of its water from the MWD. The SDCWA is pursuing several projects to diversify its water supply to ensure adequate supply during multiple dry years, such as entering into a transfer agreement with the Imperial Irrigation District, which will provide up to 200,000 AFY by 2030; increasing transfers from the lining of the All American and Coachella Canals under the Quantification Settlement Agreement (QSA) of 2003, which will provide up to 80,200 AFY by 2030; and the identification of desalination plants.

**Table 4.16.1-3**

**Projected Water Demand for the Fallbrook Public Utilities District (FPUD)**

| | Demand (AFY) | | | | | |
|---|---|---|---|---|---|---|
| **Water District** | **Existing (2012)[a]** | **2015** | **2020** | **2025** | **2030** | **2035** |
| Fallbrook Public Utilities District[a] | 11,398 | 14,140 | 15,043 | 16,333 | 17,253 | 18,313 |
| Increase Over Existing (2012) Demand | | 2,742 | 3,645 | 4,935 | 5,855 | 6,915 |
| Aspen Road Alternative Demand (AFY) | | 75 | 75 | 75 | 75 | 75 |
| Percentage of Increase Over Existing Demand | | 2.74% | 2.06% | 1.52% | 1.28% | 1.08% |
| Percentage of Total Demand | | 0.53% | 0.50% | 0.46% | 0.43% | 0.41% |

[a] *2012 data extrapolated from 2010 and 2015 water demand data provided in the 2010 UWMP*

*Source: Fallbrook Public Utilities District, 2010 Urban Water Management Plan (Table 7); PCR Services, 2012.*

With respect to the FPUD, as shown in Table 4.16.1-3, in the event of a maximum water demand of 75 AFY at the Aspen Road Alternative, water demand would constitute 2.74 percent of the projected increase in water demand and 0.53 percent of the total water demand at the FPUD by the Year 2015, and 1.08 percent of the projected increase in water demand and 0.41 percent of the total water demand at the FPUD by the Year 2035. This figure is conservative in that water demand during much of the landfill's construction, operation, and closure would be less than 75 AFY. Thus, under the conservative scenario where the FPUD would supply the entire site, the Aspen Road Alternative would not require the construction of new water facilities or the expansion of existing water facilities, the construction of which would cause significant environmental effects.

**Table 4.16.1-4**

**Projected Water Demand for the Rainbow Municipal Water District (RMWD)**

| Water District | Demand (AFY) | | | | | |
|---|---|---|---|---|---|---|
| | Existing (2012)[a] | 2015 | 2020 | 2025 | 2030 | 2035 |
| Rainbow Municipal Water District | 18,796 | 21,537 | 21,070 | 22,446 | 24,078 | 26,137 |
| Increase Over Existing (2012) Demand | | 2,741 | 2,274 | 3,650 | 5,282 | 7,341 |
| Aspen Road Alternative Demand (AFY) | | 75 | 75 | 75 | 75 | 75 |
| Percentage of Increase Over Existing Demand | | 2.74% | 3.30% | 2.05% | 1.42% | 1.02% |
| Percentage of Total Demand | | 0.35% | 0.36% | 0.33% | 0.31% | 0.29% |

[a] *2012 data extrapolated from 2010 and 2015 water demand data provided in the 2010 UWMP*

*Source: Rainbow Municipal Water District, 2010 Urban Water Management Plan (Table 10); PCR Services, 2012.*

With respect to the RMWD, as shown in Table 4.16.1-4, in the event of a maximum water demand of 75 AFY at the Aspen Road Alternative, water demand would constitute 2.74 percent of the projected increase in water demand and 0.35 of the total water demand at the RMWD by the Year 2015, and 1.02 percent of the projected increase in water demand and 0.41 percent of the total water demand at the RMWD by the Year 2035. This figure is conservative in that water demand during much of the landfill's construction, operation, and closure would be less than 75 AFY. Thus, under the conservative scenario where the RMWD would supply the entire site, the Aspen Road Alternative would not require the construction of new water facilities or the expansion of existing water facilities, the construction of which would cause significant environmental effects.

As the site is located within the existing service boundaries of municipal water suppliers and given the presence of an existing RMWD 8-inch steel water main on the site and the fact that the FPUD also maintains infrastructure on the site, it is likely that minor infrastructure improvements would be required to deliver water to the site, such as the installation of additional water pipes and regulator valves. The construction of these improvements would be completed during initial construction. Please refer to Section 4.3 (Air Quality and Greenhouse Gases) and Section 4.11 (Noise and Vibration) of this EIS for a detailed discussion of temporary air and noise impacts associated with the initial construction of the landfill.

As discussed above, neither the FPUD nor the RMWD supply recycled water to the vicinity. Although the FPUD maintains recycled water conveyance infrastructure, this infrastructure is not within the vicinity of the site and the FPUD has indicated that it would be cost prohibitive to supply recycled water to the site.[26] The RMWD does not generate nor distribute recycled water within its boundaries. Although the utilities serving the site do not supply recycled water within the project vicinity, in the event that the FPUD and/or RMWD became unable to provide adequate potable water for the Aspen Road Alternative, then recycled water could be provided from SGVWC as an alternate water source under a modified contract that identifies the Aspen Road Alternative as the recipient site for recycled water. As detailed in the discussion of the Applicant's

[26] *Telephone correspondence between Jeff Marchand, Engineering Technician III, and Shawn Gaver, PCR Services Corporation. June 22, 2012.*

Proposed Alternative above, the delivery of 80,000 gpd (75 AFY) of recycled water from the SGVWC would not result in significant adverse effects.

Mitigation Measures

The FPUD and RMWD have adequate water supplies to meet the demand of the Aspen Road Alternative, and would not require the construction of new water facilities or the expansion of existing facilities to accommodate the Aspen Road Alternative, the construction of which would cause significant adverse effects. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if on-site water use would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Aspen WATER-2: The Aspen Road Alternative would not use groundwater and would occupy a small portion of the Gavilan Hydrologic Subarea. Therefore, no significant adverse effects would result to groundwater supplies or groundwater recharge as a result of the Aspen Road Alternative.**

Due to the limited presence of groundwater underlying the Aspen Road Alternative site, groundwater would not be used in the initial construction, operation, and closure of the Aspen Road Alternative. Therefore, the Aspen Road Alternative would not withdraw underlying groundwater and the alternative would not result in an adverse effect with respect to groundwater supplies in the Gavilan Hydrologic Subarea.

Similar to the Applicant's Proposed Alternative, development of the landfill would create an impervious layer that would reduce the infiltration of precipitation through the soil layers. The approximately 165 acre landfill footprint would constitute a negligible portion (0.6 percent) of the recharge area of the 28,956 acre Gavilan Subarea, and an even smaller portion of the larger overall Santa Margarita Hydrologic Unit. Therefore, the reduction in infiltration would not result in significant adverse effects with respect to groundwater recharge.

With regard to groundwater movement, landfill construction would alter the existing groundwater setting. Specifically, the geologic units through which groundwater migration is occurring would be removed by excavation for the landfill. This, combined with requisite surface drainage controls around any landfill development, would alter the identified groundwater environment beneath the Aspen Road Alternative site. As with the Applicant's Proposed Alternative, a subdrain system would be installed in accordance with applicable regulations. The subdrain system would be designed and implemented to maintain natural groundwater flow conditions so that the subdrain system would operate properly and effectively. Therefore, the Aspen Road Alternative would not result in a significant adverse effect with respect to groundwater movement.

In summary, the Aspen Road Alternative would not utilize groundwater in the construction and operation of the landfill and would not substantially reduce infiltration rates in the groundwater basin. Therefore, the

Aspen Road Alternative would not result in significant adverse effects with respect to the depletion of groundwater supplies or groundwater recharge.

Mitigation Measures

The Aspen Road Alternative would not result in significant adverse effects with respect to groundwater supplies and groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if water usage would significantly impact the supply of recycled water to other existing users of the recycled water.*

**Impact Statement Aspen WATER-3: The Aspen Road Alternative would primarily rely on potable water from the FPUD and/or RMWD. However, if recycled water were required, the quantity of recycled water used would not compromise the ability of the SGVWC to provide water to other users.**

As discussed above, the RMWD does not provide recycled water and the FPUD does not maintain recycled water conveyance infrastructure within the vicinity of the Aspen Road Alternative site. As such, there would be no impact to recycled water users of the FPUD and RMWD. While potable water would be the water source at the Aspen Road Alternative site, if potable water becomes unavailable from the FPUD or RMWD, then as with the Applicant's Proposed Alternative, recycled water could be provided as an alternate water source by the SGVWC under a modified contract that identifies the Aspen Road Alternative site as the recipient for recycled water. As concluded in the discussion of the Applicant's Proposed Alternative above, the use of 80,000 gpd (75 AFY) would not impact recycled water supplies to existing SGVWC users. Therefore, no significant adverse effect with respect to existing recycled water users would result.

Mitigation Measures

The Aspen Road Alternative would rely on potable water from the FPUD and/or RMWD. However, if recycled water were required, the SGVWC currently has excess capacity for delivering recycled water as an alternate water source, of which the applicant's contracted quantity of 80,000 gpd (75 AFY) only comprises a small portion. Therefore, the Aspen Road Alternative would not result in a significant adverse environmental effect with respect to recycled water supplies to existing users. No mitigation measures are proposed.

## 4.16.1.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.16.1.6.1 Affected Environment

As with the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative site is located within the San Luis Rey Hydrologic Unit. For a discussion of the San Luis Rey Hydrologic Unit, please see Subsection 4.16.4.1, Affected Environment, above. The site is located in the Lower San Luis Hydrologic Area, which is subdivided into the following six hydrologic subareas: Mission, Bonsall, Moosa, Valley Center, Woods, and Rincon. The site is located in the Bonsall Hydrologic Subarea, which is approximately 65,494 acres in size. Groundwater in this subarea moves from east to west. The primary source of recharge in the Bonsall Hydrologic Subarea is flow from the San Luis Rey River. The Subarea has an estimated storage capacity of 25,000 acre feet.

Well production capacity within the Bonsall Hydrologic Subarea ranges from 400 to 1,100 gpm, with an average estimated production capacity of 750 gpm. The depth to groundwater is estimated to be less than 50 feet in the central canyon flow line, with groundwater substantially deeper over the remainder of the site. Based on USGS calculations, the estimated sustainable yield in the Bonsall Hydrologic Subarea is 5,400 AFY. Existing beneficial uses identified by the RWQCB in the Lower San Luis Hydrologic Area include municipal, agricultural, and industrial purposes.

The Gopher Canyon Road Alternative site is partially located within the service boundaries of the Vallecitos Water District (VWD). As detailed in the San Diego County General Plan Final EIR, the VWD provides water service to the City of San Marcos, portions of the City of Vista, Escondido, and Carlsbad, and the unincorporated areas/communities of Twin Oaks, portions of San Dieguito, and North County Metro. VWD serves approximately 19,500 connections over a 28,800 acre service area. One hundred percent of the water supply is imported from SDCWA. VWD operates nine pump stations, 329 miles of pipeline and 16 reservoirs (227 AF total capacity). Average daily consumption for VWD is 17 mgd. VWD provides approximately 90 percent of its water supply to residential land uses, four percent to commercial land uses, three percent to landscape uses, and less than one percent to industrial, institutional, governmental, and agricultural land uses.

### 4.16.1.6.2 Design Features

The Gopher Canyon Road Alternative would also implement water-saving measures similar to those proposed for the Applicant's Proposed Alternative, including utilizing a chemical soil sealant on unpaved internal access roadways and drought-tolerant landscaping. The Gopher Canyon Road Alternative would implement design features to prevent overdraft of underlying groundwater supplies, such as determining safe yield and the use of a totalizer meter and level control in each groundwater well to ensure that pumping matches the well's production capacity. If the water level in the well drops below the sustainable yield as measured by the level control, the well would automatically shut off. Additionally, alluvial observation wells would be installed so that no measurable drawdown is recorded in the observation wells.

The Gopher Canyon Road Alternative would provide a water storage and delivery infrastructure in accordance with applicable regulations. The applicant would include design features relative to recycled water similar to the Applicant's Proposed Alternative, such as those to prevent the mixing of potable and recycled water.

In addition to groundwater resources, the applicant would likely enter an agreement with the SGCWC to provide recycled water for the Gopher Canyon Road Alternative as an alternate water source should a disruption of groundwater supplies occur. This recycled water would likely be secured through a modified agreement with the SGCWC similar to that executed under the Applicant's Proposed Alternative, except the Gopher Canyon Road site would be identified as the recipient location of the recycled water.

### 4.16.1.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect to water supply if an alternative would require or result in the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant adverse effects.*

**Impact Statement Gopher WATER-1: The Gopher Canyon Road Alternative would likely rely on groundwater for construction, operation, and closure of the facility. The construction of groundwater wells would not result in significant adverse effects.**

It is assumed that the Gopher Canyon Road Alternative would rely on groundwater for the initial construction, operation, and closure of the landfill with the potential for supplemental supplies to be provided through a contract with SGVWC. On-site improvements to use groundwater at the site would include the installation of groundwater wells and associated piping, and storage tanks. The construction of these improvements would be temporary and be included in the initial construction. As discussed throughout this EIS, the initial construction phase of the Gopher Canyon Road Alternative (including the installation of groundwater wells) would not result insubstantial adverse effects. Please refer to Section 4.3 (Air Quality and Greenhouse Gases) and Section 4.11 (Noise and Vibration) of this EIS for a detailed discussion of temporary air and noise impacts associated with the initial construction of the landfill.

To the extent that groundwater would not meet the water requirements of the landfill, recycled water could be provided as an alternate water source through a modified contract with the SGVWC that identifies the Gopher Canyon Road Alternative as the recipient site for recycled water. As discussed in subsection 4.16.1.4.3 above, the limited physical improvements at the SGVWC facility to deliver up to 80,000 gpd (75 AFY) would not necessitate the need for new facilities or expansion of facilities that would result in significant adverse effects.

Mitigation Measures

The Gopher Canyon Road Alternative would not require the construction of new water facilities or the expansion of existing facilities, the construction of which would result in significant adverse effects. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if on-site water use would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Gopher WATER-2: The Gopher Canyon Road Alternative would implement design features to limit groundwater withdrawal to sustainable levels and would occupy a small portion of the Bonsall Hydrologic Subarea. Therefore, the Gopher Canyon Road Alternative would not result in a significant adverse effect with respect to groundwater supplies or groundwater recharge.**

Groundwater underlying the Gopher Canyon Road Alternative site would likely be used in the initial construction, operation, and closure of the landfill. As discussed above and similar to the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative would include design features to maintain a safe yield of groundwater and prevent overdraft from the Bonsall Hydrologic Subarea. A safe yield from the Bonsall Hydrologic Subarea would be accomplished through the installation of totalizer meters and level controls with automatic shut-off switches in on-site groundwater wells. The level controls would automatically shut down a well if drawdown exceeds the calculated sustainable yield of the well. The

settings for the level control would be determined through pump testing and a sustainable yield calculation. As the Gopher Canyon Road Alternative would maintain a safe yield of underlying groundwater resources, the alternative would not result in a significant adverse effect with regard to the production capacity of off-site wells or the beneficial needs of other groundwater users in the Basin.

Similar to the Applicant's Proposed Alternative, development of the landfill would create an impervious layer that would reduce the infiltration of precipitation through the soil layers. The approximately 180 acre landfill footprint would constitute a small portion (0.3 percent) of the recharge area of the 65,494 acre Bonsall Hydrologic Subarea, and an even smaller portion of the larger overall San Luis Rey Hydrologic Unit. Therefore, the reduction in infiltration would not result in a significant adverse effect with respect to groundwater recharge.

With regard to groundwater movement, a subdrain system would be installed in accordance with applicable regulations. The subdrain system would be designed and implemented to maintain natural groundwater flow conditions so that the subdrain system would operate properly and effectively. Therefore, the Gopher Canyon Road Alternative would not result in a significant adverse effect with respect to groundwater movement.

In summary, the Gopher Canyon Road Alternative would include design features similar to that of the Applicant's Proposed Alternative to ensure that use of underlying groundwater supplies would not result in an overdraft situation. Additionally, the Gopher Canyon Road Alternative would comprise a small portion of the recharge area of the Bonsall Hydrologic Subarea and would not substantially affect groundwater recharge rates. Therefore, the Gopher Canyon Road Alternative would not result in significant adverse effects with respect to the depletion of groundwater supplies or groundwater recharge.

Mitigation Measures

The Gopher Canyon Road Alternative would not result in significant adverse effects with respect to groundwater supplies or groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if water usage would significantly impact the supply of recycled water to other existing users of the recycled water.*

**Impact Statement Gopher WATER-3: The Gopher Canyon Road Alternative would primarily rely on groundwater withdrawn from on-site groundwater wells. If recycled water were to be utilized, it would likely be supplied from the SGVWC, which has adequate capacity to accommodate the landfill without impacting existing users.**

As discussed above, the Gopher Canyon Road Alternative is located in the San Luis Rey Hydrologic Unit, where most water is supplied by groundwater wells. As a result, recycled water provided to the Gopher Canyon Road Alternative would likely be provided through a modified contract with the SGVWC. As concluded in the discussion of the Applicant's Proposed Alternative above, the use of 80,000 gpd (75 AFY) would not impact recycled water supplies to existing SGVWC users. Therefore, no significant adverse effect with respect to existing recycled water users would result.

Mitigation Measures

The Gopher Canyon Road Alternative would not result in a significant adverse effect with respect to recycled water supplies to existing users. No mitigation measures are proposed.

## 4.16.1.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.16.1.7.1 Affected Environment

Like the Applicant's Proposed Alternative, the Merriam Mountain site is located within the San Luis Rey Hydrologic Unit. For a discussion of the San Luis Rey Hydrologic Unit, please refer to subsection 4.16.1.4.1, Affected Environment, above. The site is located in the Lower San Luis Hydrologic Area, which occupies the western third of the San Luis Rey Hydrologic Unit. The Lower San Luis Hydrologic Area is further subdivided into six hydrologic subareas, which are the Mission, Bonsall, Moosa, Valley Center, Woods, and Rincon Hydrologic Subareas. The site is located in the Moosa Hydrologic Subarea, which is approximately 12,794 acres in size. Groundwater in the Moosa Subarea generally moves from east to west.

Groundwater is present in the fractured rock aquifer at estimated depths from between 50 and 200 feet below surface grade, and a shallower or perched water table may be present beneath the primary canyon flow line. No groundwater or seepage was observed in the shallow trench explorations; however, the 2009 Draft EIR for the Merriam Mountains Specific Plan, which includes the site, recognized that near-surface groundwater seepage should be anticipated at the topsoil–bedrock contact after periods of heavy rainfall. It is anticipated that groundwater levels would fluctuate during periods of high precipitation and/or irrigation and may become perched on the underlying bedrock or concentrated in fractures within the bedrock. Localized seeps may occur after periods of rainfall. Existing beneficial uses identified by the RWQCB in the Lower San Luis Hydrologic Area include municipal, agricultural, and industrial purposes.

The Merriam Mountain Alternative site is partially located within the service boundaries of the VWD. For a description of the VWD, please refer to Section 4.16.1.7.1, Affected Environment, above.

### 4.16.1.7.2 Design Features

As with the Applicant's Proposed Alternative, the Merriam Mountain Alternative would utilize site-specific design features to meet federal, state, and local regulatory requirements and to minimize hydrogeologic impacts at the site. Groundwater would be utilized in the initial construction, operation, and closure of landfill activities at the Merriam Mountain site. Per regulations, groundwater would be utilized where legally permitted under applicable groundwater regulations and adjudications in the Moosa Hydrologic Subarea. As with the Applicant's Proposed Alternative, groundwater would be sustainably withdrawn to prevent overdraft in the Moosa Hydrologic Subarea through the installation of totalizer meters and level controls with automatic shut-off switches in on-site groundwater wells. The settings for the level controls would be determined through pump testing and safe/sustainable yield calculations that would be completed prior to the start of landfill construction. In order to provide ongoing verification, each pumping well would undergo a new pumping test on a biennial basis (every other year), and the safe yield and sustainable yield would be recalculated using appropriate software. The Merriam Mountain Alternative would also implement water-saving measures similar to those proposed for the Applicant's Proposed Alternative,

including utilizing a chemical soil sealant on unpaved internal access roadways and drought-tolerant landscaping.

The Merriam Mountain Alternative would provide water storage and delivery infrastructure in accordance with applicable regulations. For instance, the alternative would construct a water storage tanks and a double containment fill pipe in the landfill's ancillary area. Further, any on-site water tanks would be constructed over an impervious material capable of accommodating the entire volume of the tank. Moreover, a spill containment area and distribution fill pipe would be constructed on the Merriam Mountain Alternative site to fill trucks for on-site recycled water to avoid a spillage of recycled water and to control and contain any spilled recycled water within the containment area. A recycled water supervisor will be retained at the landfill site to supervise and educate on-site personnel on the proper use and handling of recycled water and to ensure proper operation and handling of recycled water on site. Lastly, any recycled water tanks and recycled water trucks will be posted with a large sign stating "RECYCLED WATER – DO NOT DRINK" in large readable English and Spanish print and distribution piping will be colored purple or wrapped in purple tape to designate it as recycled water.

In addition to groundwater resources, the Applicant would likely enter an agreement with the SGCWC to provide recycled water for the Merriam Mountain Alternative as an alternate water source should a disruption of groundwater supplies occur. This recycled water would likely be secured through a modified agreement with the SGCWC similar to that executed under the Applicant's Proposed Alternative, except the Merriam Mountain site would be identified as the recipient location of the recycled water.

### 4.16.1.7.3 Environmental Consequences and Mitigation

*Criterion: An alternative would have a significant adverse effect to water supply if an alternative would require or result in the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant adverse environmental effects.*

**Impact Statement Merriam WATER-1: The Merriam Mountain Alternative would utilize groundwater as the primary water source. The construction of groundwater wells would not result in a significant adverse environmental effect.**

Similar to the Applicant's Proposed Alternative, the Merriam Mountain Alternative would utilize groundwater as the primary water source for the initial construction, operation, and closure of landfill facilities on this site. On-site improvements to use groundwater at the site include the installation of groundwater wells and associated piping, and storage tanks. The construction of these improvements would be temporary and be included as part of the initial construction. As discussed throughout this EIS, the initial construction phase of the Merriam Mountain Alternative (including the installation of groundwater wells) would not result significant adverse effects. Please refer to Section 4.3 (Air Quality and Greenhouse Gases) and Section 4.11 (Noise and Vibration) of this EIS for a detailed discussion of temporary air and noise impacts associated with the initial construction of the landfill.

Similar to the Applicant's Proposed Alternative, the Merriam Mountain Alternative, recycled water from the SGVWC could be utilized as an alternate water source should groundwater supplies prove insufficient to meet landfill water demand. Recycled water could be provided as an alternate water source through a modified contract with the SGVWC that identifies the Merriam Mountain Alternative as the recipient site for

recycled water. As discussed in Section 4.14.1.4.3 above, the use of 80,000 gpd (75 AFY over 307 operating days) of recycled water would require minor infrastructure improvements at the SGVWC facility. However, the analysis concluded that the construction of these improvements would not result in a significant adverse effect.

Mitigation Measures

The Merriam Mountain Alternative would not result in the construction of new water facilities or the expansion of existing facilities, the construction of which would result in significant adverse effects. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if on-site water use would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Merriam WATER-2: The Merriam Mountain Alternative would implement design features to limit groundwater withdrawal to sustainable levels and would occupy a small portion of the Moosa Hydrologic Subarea. Therefore, the Merriam Mountain Alternative would not result in significant adverse effects with respect to groundwater supplies or groundwater recharge.**

Groundwater underlying the Merriam Mountain Alternative site would likely be used in the initial construction, operation, and closure of the landfill. Similar to the Applicant's Proposed Alternative, the Merriam Mountain Alternative would include design features to maintain a safe yield of groundwater and prevent overdraft from the Moosa Subarea. Safe yield of the Moosa Subarea would be accomplished through the installation of totalizer meters and level controls with automatic shut-off switches in on-site groundwater wells. The level controls would automatically shut down a well if drawdown exceeds the calculated sustainable yield of the well. The settings for the level control would be determined through pump testing and a sustainable yield calculation. Therefore, the Merriam Mountain Alternative would not result in a significant adverse effect with regard to the production capacity of off-site wells or the beneficial needs of other groundwater users in the Basin.

Similar to the Applicant's Proposed Alternative, development of the landfill would create an impervious layer that would reduce the infiltration of precipitation through the soil layers. The approximately 199 acre landfill footprint would constitute a small portion (1.6 percent) of the recharge area of the 12,794 acre Moosa Subarea, and an even smaller portion of the larger overall San Luis Rey Hydrologic Unit. Therefore, the reduction in infiltration would not result in a significant adverse effect with respect to groundwater recharge.

In summary, the Merriam Mountain Alternative would include design features similar to that of the Applicant's Proposed Alternative to prevent the overdraft of underlying groundwater supplies. Additionally, the Merriam Mountain landfill Alternative would comprise a small portion of the recharge area of the Moosa Hydrologic Subarea and would not substantially affect groundwater recharge rates. Therefore, the Merriam

Mountain Alternative would not be anticipated to result in significant adverse effects with respect to the depletion of groundwater supplies or groundwater recharge.

Mitigation Measures

The Merriam Mountain Alternative would not result in significant adverse effects with respect to groundwater supplies and groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if water usage would significantly impact the supply of recycled water to other existing users of the recycled water.*

**Impact Statement Merriam WATER-3: The Merriam Mountain Alternative would primarily rely on groundwater withdrawn from on-site groundwater wells. If recycled water were to be utilized, it would likely be supplied from the SGVWC, which has adequate capacity to accommodate the alternative without impacting existing users.**

As discussed above, the Merriam Mountain Alternative is located in the San Luis Rey Hydrologic Unit, where most water is supplied by groundwater wells. As a result, recycled water provided to the Merriam Mountain Alternative would likely be provided through a modified contract with the SGVWC. As concluded in the discussion of the Applicant's Proposed Alternative, the use of 80,000 gpd (75 AFY) would not have a significant adverse effect on recycled water supplies to existing SGVWC users. Therefore, no significant adverse effect with respect to existing recycled water users would result.

Mitigation Measures

The Merriam Mountain Alternative would not result in a significant adverse effect with respect to recycled water supplies to existing users. No mitigation measures are proposed.

## 4.16.1.8 EAST OTAY MESA ALTERNATIVE

### 4.16.1.8.1 Affected Environment

The East Otay Mesa Alternative site is located within the Tijuana Hydrologic Unit. The Tijuana Hydrologic Unit is a triangular-shaped area that is drained by Cottonwood and Campo creeks, which are tributaries to the Tijuana River. It covers an area of about 470 square miles and lies mainly in the mountain-valley section. The Tijuana Hydrologic Unit is subdivided into eight hydrologic areas, which are the Tijuana Valley, Potrero, Barrett Lake, Monument, Cottonwood, Cameron, and Campo Hydrologic Areas. The Tijuana Valley Hydrologic Area, in which the East Otay Mesa Alternative site is located, is further divided into two hydrologic subareas, the San Ysidro and Water Tanks Hydrologic Subareas. The East Otay Mesa Alternative site is located within the Water Tanks Hydrologic Subarea, which is approximately 9,582 acres in size. The Lower Tijuana River Basin is one of the groundwater basins in San Diego that has been studied for the implementation of a groundwater management plan. A goal of the management plan is to rejuvenate the quality of the groundwater in the basin to meet basin objectives. The proposal set forth in the management plan is to pump the poor quality groundwater from the basin to the ocean, and recharge the basin with reclaimed and natural run off waters, which will then be extracted for beneficial use when water quality objectives are met.

The East Otay Mesa Alternative site in underlain by crystalline bedrock, which previous investigations have determined to be non-water bearing (no shallow, underlying aquifer).[27] Local groundwater is limited to fractured joint systems and two seasonal surface seeps associated with local fractures. As a result, the East Otay Mesa Alternative would likely use municipal water.

With regard to the provision of municipal water, the East Otay Mesa Alternative is partially located within the Otay Water District (OWD). The remainder of the site is not located within an established water district. Municipal water from the OWD is likely available via lines in Otay Mesa Road that currently serve industrial uses to the west.

The OWD is committed to expand the use of recycled water within its recycled water boundaries in order to minimize its overall demand for potable water, and currently has one of the largest recycled water distribution systems in San Diego County. The OWD maintains two sources of recycled water supply; recycled water produced locally at the District's RWCWRF and a recycled water supply produced at the City of San Diego's SBWRP. The RWCWRF has a rated design capacity of 1.3 mgd. The OWD entered into an agreement to purchase recycled water from the City of San Diego's SBWRP. In accordance with the terms of the agreement, the City of San Diego will provide an annual amount of at least 6 mgd of recycled water to the OWD. The term of the agreement is 20 years from January 1, 2007. These two recycled water sources provide a recycled water capacity to the OWD of 7.3 mgd. In 2010, the OWD supplied approximately 4,074 AFY (approximately 3.64 mgd) of recycled water to users. Current uses consist primarily of commercial landscape irrigation, golf course irrigation, and irrigation of public places like parks, streetscapes, schools, highway medians, and open space areas. The Olympic Training Center facility in Chula Vista also uses recycled water to irrigate practice fields and common areas around the campus. These users collectively demand more water than the output of RWCWRF, and the District uses recycled water from the City of San Diego's SBWRP to supplement the recycled system.

The OWD's 2010 UWMP recognizes that the service area is still experiencing growth and development in the geographic area where recycled water is approved for use. The OWD further recognizes that the expansion of OWD's recycled water system is critical to reducing demands on imported water. Areas identified as having the greatest potential for expansion include the existing Central Area, the Otay Mesa area, and the North District area. In addition, the East Otay Mesa Alternative site is located within East Otay Recycled Water Boundary. In this regard, the OWD is planning the Otay Mesa Recycled Water System Link, which is intended to plan, design, and construct the conveyance, distribution, and storage facilities to link the District's two recycled water supply sources to the existing and future customers on Otay Mesa. Projected annual average demand for recycled water on Otay Mesa is 1,658 AFY and the existing demand (FY 2008) for recycled water is about 300 AFY. The 300 AFY is currently being supplied with imported treated water. The District anticipates maximizing the use of recycled water by converting large potable irrigation users to recycled water and continuing to require new developments within the District to use recycled water, wherever feasible. Ultimately, recycled water is expected to represent 11 to 15 percent of the OWD's total water supply.

[27] *Ogden Environmental and Energy Services. Site Feasibility Assessment: Southwest San Diego County. February 1993.*

### 4.16.1.8.2 Design Features

As with the Applicant's Proposed Alternative, the East Otay Mesa Alternative would be designed to meet regulatory requirements. The East Otay Mesa Alternative would implement water-saving measures similar to those proposed for the Applicant's Proposed Alternative, including utilizing a chemical soil sealant on unpaved internal access roadways and drought-tolerant landscaping. For purposes of this EIS, it is assumed that water for the East Otay Mesa Alternative would be supplied by the OWD, or from recycled water purchased from the SGVWC. To accommodate this water source, the East Otay Mesa Alternative would provide a water storage and delivery infrastructure in accordance with applicable regulations. The applicant would include design features relative to recycled water similar to the Applicant's Proposed Alternative, such as those to prevent the mixing of potable and recycled water.

### 4.16.1.8.3 Environmental Consequences and Mitigation

*Criterion: An alternative would have a significant adverse effect to water supply if an alternative would require or result in the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant adverse environmental effects.*

**Impact Statement East Otay WATER-1: The OWD has adequate water capacity to accommodate the East Otay Mesa Alternative. Minor infrastructure improvements required to deliver water to the site would not result in significant adverse effects.**

#### Comparison of Supply and Demand

The water infrastructure would require minor improvements to service the landfill site. These improvements would likely include the installation of appropriate piping, regulator valves, and water storage and delivery systems. The construction of these improvements would be temporary and be included in the initial construction phase of landfill development. As discussed throughout this EIS, the initial construction phase of the East Otay Mesa Alternative (including the installation of groundwater wells) would not result insubstantial adverse effects. Please refer to Section 4.3 (Air Quality and Greenhouse Gases) and Section 4.11 (Noise and Vibration) of this EIS for a detailed discussion of temporary air and noise impacts associated with the construction of infrastructure improvements.

With respect to long-term waster use, as discussed above, the OWD would likely be able to provide both potable and recycled water to the landfill site. To be conservative, this portion of the analysis of this alternative's potential impacts to water supply assumes that water demand would be accommodated through the provision of potable water.

Table 4.16.1-5, *Projected Water Supply and Demand Analysis for the East Otay Mesa Alternative*, presents the existing and projected water demand in the OWD. As concluded in the OWD's UWMP, water supplies would meet the projected water demand through various water sources. As previously discussed, the SDCWA is pursuing several projects to diversify its water supply to ensure adequate supply during multiple dry years. SDCWA's analysis showed that it would meet demands under single dry conditions through the year 2035. However, as shown in Tables 9-3 through 9-6 of the SDCWA's 2010 UWMP under multiple dry year conditions, these tables present potential water supply shortages of varying degrees over the 25-year planning horizon. If these shortfalls occur as projected, additional conservation measures would be necessary to balance supply against the regional demands in MWD's service area. Based on the information

**Table 4.16.1-5**

**Projected Water Supply and Demand Analysis for the East Otay Mesa Alternative**

| Supply & Demand (OWD) | Year | | | | | |
|---|---|---|---|---|---|---|
| | Existing (2012)[a] | 2015 | 2020 | 2025 | 2030 | 2035 |
| Demand (AFY) | 35,652 | 44,883 | 46,321 | 49,815 | 52,774 | 56,614 |
| Projected Supply (AFY) | 35,562 | 44,883 | 46,321 | 49,815 | 52,774 | 56,614 |
| ***Surplus (Deficit)*** | ***0*** | ***0*** | ***0*** | ***0*** | ***0*** | ***0*** |
| Increase Over Existing (2012) Conditions | | 9,231 | 10,669 | 14,163 | 17,122 | 20,692 |
| East Otay Mesa Alternative Demand (AFY) | | 75 | 75 | 75 | 75 | 75 |
| Percentage of Increase Over Existing Demand | | 0.81% | 0.70% | 0.53% | 0.44% | 0.36% |
| Percentage of Total Demand | | 0.17% | 0.16% | 0.15% | 0.14% | 0.13% |

[a] *2012 data extrapolated from 2010 and 2015 water demand data provided in the 2010 UWMP.*

*Source: Otay Water District, 2010 Urban Water Management Plan (Table 31, Supply and Demand Comparison – Normal Year). Includes SBX 7-7 mandatory per capita reductions in water use.*

provided by MWD and the SDCWA, the water supply available to the OWD is considered to be reliable for the 25-year horizon. Further, the 2010 UWMP concludes that if the OWD's future demands are slightly more or less than currently projected, it is anticipated that the supply portfolio maintained by the SDCWA and MWD will be flexible enough to continue to meet the OWD's water demands.

As shown in Table 4.16.1-5, in the event of a maximum water demand of 75 AFY, water demand of the landfill would only constitute a maximum of 0.81 percent of the projected increase in water demand and 0.17 percent of the overall water demand in the OWD by the Year 2015, and 0.36 percent of the projected increase in water demand and 0.13 percent of the overall water demand by the Year 2035. This figure is conservative in that water demand during much of the landfill's construction, operation, and closure would be less than 75 AFY. Thus, the Eat Otay Mesa Alternative would consume a small portion of the projected increase in water demand and the alternative would not require the construction of new water facilities or the expansion of existing water facilities, the construction of which would cause significant adverse effects.

## Mitigation Measures

As discussed above, the OWD has adequate supplies to meet the demand of the East Otay Mesa Alternative, and the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant adverse effects. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if on-site water use would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement East Otay WATER-2: The East Otay Mesa Alternative would not utilize groundwater and would occupy a small portion of the Water Tanks Hydrologic Subarea. Therefore, no significant**

**adverse effect would result to groundwater supplies or groundwater recharge as a result of the Aspen Road Alternative.**

As discussed above, previous investigations have revealed that underlying soils are considered "non-water bearing". As such, groundwater would not be used in the initial construction, operation, and closure of the East Otay Mesa Alternative. Therefore, the alternative would not withdraw groundwater for construction or operation, and the alternative would not result in an adverse effect with respect to groundwater supplies.

Similar to the Applicant's Proposed Alternative, development of the landfill would effectively create an impervious layer that would reduce the infiltration of precipitation through the soil layers. The approximately 146-acre landfill footprint would constitute a negligible portion (1.5 percent) of the recharge area of the 9,582 acre Water Tanks Hydrologic Subarea, and an even smaller portion of the larger overall Tijuana Hydrologic Unit. Therefore, any reduction in infiltration would not result in a significant adverse effect with respect to groundwater recharge.

With regard to groundwater movement, landfill construction would alter the existing groundwater setting. However, given the limited presence of groundwater underlying the site, in combination with the subdrain system that would be installed in accordance with applicable regulations, the natural flow of the limited underlying groundwater would be maintained. Therefore, the East Otay Mesa Alternative would not result in a significant adverse effect with respect to groundwater movement.

In summary, the East Otay Mesa Alternative would not utilize groundwater in the construction and operation of the landfill and would not substantially reduce infiltration rates in the groundwater basin. Therefore, the East Otay Mesa Alternative would not result in significant adverse effects with respect to the depletion of groundwater supplies or groundwater recharge.

Mitigation Measures

The East Otay Mesa Alternative would not result in significant adverse effects with respect to groundwater supplies and groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if water usage would significantly impact the supply of recycled water to other existing users of the recycled water.*

**Impact Statement East Otay WATER-3: The OWD has adequate recycled water capacity to accommodate the alternative without impacting the supply to existing recycled water users.**

As discussed above, the East Otay Mesa Alternative site is located within the OWD's Recycled Water Boundary. As such, in addition to the potable water provided by the OWD (discussed in detail above), it is probable that recycled water from the OWD would also be available for use on the site. As mentioned above, the OWD is planning the Otay Mesa Recycled Water System Link, which is intended to plan, design, and construct the conveyance, distribution, and storage facilities to link the District's two recycled water supply sources to the existing and future customers on Otay Mesa. Thus, it is likely that an extension pipeline could be installed to the East Otay Mesa Alternative site. To be conservative, this portion of the analysis assumes that non-potable water demand would be accommodated by recycled water.

The East Otay Mesa Alternative is anticipated to have a water demand of approximately 75 AFY. If the OWD were to only provide recycled water to the site, it would comprise a small portion of the capacity planned for the Otay Mesa Recycled Water System Link (i.e., 1,658 AFY). Specifically, the Link would be designed to accommodate 1,658 AFY, of which the landfill would constitute 4.5 percent of this capacity. With respect to the OWD's ability to provide adequate supplies, while the RWCWRF is currently operating at its recycled water capacity, the contract with the City of San Diego provides for 6 mgd (or 6,725 AFY). The East Otay Mesa Alternative would consume approximately 1 percent) of this supply. The OWD expects that during a normal year, recycled water demand would rise to 8,000 AFY. This quantity could be accommodated by the current capacities of the RWCWRF and SBWRP facilities. As the East Otay Mesa Alternative would constitute a small percentage of the projected capacity of infrastructure serving the area and the capacity of recycled water facilities, the alternative would not result in a significant adverse effect to the supply of recycled water to current users.

Mitigation Measures

The East Otay Mesa Alternative would not result in a significant adverse effect with regard to recycled water supplies and infrastructure capacity within the OWD to accommodate the landfill without compromising the ability to service existing recycled water users. No mitigation measures are proposed.

## 4.16.1.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

As described in subsection 4.9.2.2 above, this section summarizes the information and analysis contained in Section 10.7, Utilities/Service Systems, of the Sycamore Landfill Master Development Plan Revised Final EIR. An existing Class III landfill, which has been the subject of background technical study, is currently operating at the Sycamore Canyon Expansion Alternative site.

### 4.16.1.9.1 Affected Environment

Groundwater is not utilized at the Sycamore Canyon Expansion Alternative site. Rather, the Sycamore Canyon Landfill uses recycled water provided by the Padre Dam Municipal Water District (PDMWD) through a valve located in the landfill's entry area near Mast Boulevard. This valve is connected to an above-ground pipeline adjacent to the landfill access road, which transports water to the aggregate processing area. Potable water is provided to the entry area landfill offices from PDMWD potable water lines. Bottled water is provided for drinking at the scalehouse and administration buildings. Currently the landfill utilizes on average of 32,000 gpd (35.9 AFY) and up to approximately 78,000 gpd (87.4 AFY) (during peak summer months) of reclaimed water and 250 gpd (0.3 AFY) of potable water.

### 4.16.1.9.2 Design Features

The Sycamore Canyon Expansion Alternative includes sustainable landscaping practices and techniques promoting water conservation and energy efficiency. The proposed landscape plans include the use of plants native to southern California as well as naturalized plants compatible in water demand, exposure requirements, fire resistance, and slope (or non-slope) conditions. Trees would be located to maximize shade around the buildings and parking lots.

### 4.16.1.9.3 Environmental Consequences and Mitigation

*Criterion: An alternative would have a significant adverse effect to water supply if an alternative would require or result in the construction of new water facilities or the expansion of existing facilities, the construction of which would cause significant environmental effects.*

**Impact Statement Sycamore WATER-1: The Sycamore Canyon Expansion Alternative would rely on recycled water from the PDMWD in quantities that would not require the construction of new water facilities, or the expansion of existing facilities to accommodate these needs.**

The new ancillary facilities would use recycled water, not potable water, for toilet and urinal flushing. Sinks are estimated to compose approximately 30 percent of the water demand in the building, and the remaining 70 percent would be served by recycled water. The alternative would increase potable water demand at the landfill facilities to approximately 359 gpd – the proposed administration/operations facility is estimated to have a potable water demand of 112 gpd, the proposed scale facility would require an estimated 13 gpd, and the proposed maintenance facility would require an estimated 234 gpd.

With regard to non-potable water demands (i.e., landfill operation, landscape irrigation, irrigation for final cover), recycled water use is anticipated to increase from an average demand of 32,000 gpd (35.9 AFY) and peak of approximately 78,000 gpd (87.4 AFY) to an average of 37,000 gpd (41.5 AFY) and a similar peak demand during facility operations. This results in a 5,000 gpd (5.6 AFY) net increase in average water demand, with no anticipated net increase in peak recycled water demand. After landfill closure, the demand would be limited to cover irrigation and would decrease to approximately 23,000 gpd (25.8 AFY). The peak demand was used to size the recycled water system and evaluate the adequacy of the off-site recycled water delivery system to serve the landfill expansion. Specifically, a 600,000-gallon water storage tank is proposed near the ancillary facilities to store reclaimed water for on-site dust control and fire suppression. The existing 6-inch recycled water line would be upsized to an 8-inch line along the landfill access road to deliver additional water to the new tank.

The above increase in water demand could be accommodated by existing facilities without the need for a new facility, or expansion to an existing facility, the construction of which would cause significant environmental effects. Utility companies serving the site would continue to provide service levels necessary to ensure continued site operation. The existing potable and recycled water meters are sufficient to serve the on-site water demand. No disruption in service would occur to adjacent properties during construction of the alternative. Therefore, the Sycamore Canyon Expansion Alternative would not require the construction of new water facilities, or the expansion of existing water facilities, the construction of which would result in significant adverse effects.

<u>Mitigation Measures</u>

The Sycamore Canyon Expansion Alternative would not result in a significant adverse effect with respect to new or expanded water facilities. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if on-site water use would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the*

*production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Impact Statement Sycamore WATER-2: The Sycamore Canyon Expansion Alternative would not utilize groundwater in its operations. Thus, the Sycamore Canyon Expansion Alternative would not result in an adverse effect to groundwater supplies or groundwater recharge.**

The Sycamore Canyon Expansion Alternative would not use groundwater for its operations. As a result, the Sycamore Canyon Expansion Alternative would not result in an adverse effect with respect to groundwater supplies or groundwater recharge.

Mitigation Measures

As discussed above, the Sycamore Canyon Expansion Alternative would not result in an adverse effect with respect to groundwater supplies or groundwater recharge. No mitigation measures are proposed.

*Criterion: An alternative would have a significant adverse effect to water supply if water usage would significantly impact the supply of recycled water to other existing users of the recycled water.*

**Impact Statement Sycamore WATER-3: The quantities of water utilized by the Sycamore Canyon Expansion Alternative would not significantly impact the supply of recycled water to other PDMWD recycled water users.**

As discussed above, demand for reclaimed water use would increase from an average demand of 32,000 gpd (35.9 AFY) and peak of approximately 78,000 gpd (87.4 AFY) to an average of 37,000 gpd (41.5 AFY) and a similar peak demand during facility operations. This results in a 5,000 gpd (5.6 AFY) net increase in average water demand, with no anticipated net increase in peak recycled water demand After landfill closure, the demand would be limited to cover irrigation and decrease to approximately 23,000 gpd (25.8 AFY). The August 2012 Revised Final EIR concluded that this increase in the use of recycled water would not compromise the ability of the PDMWD to supply recycled water to other users, and no significant adverse effect would result. For instance, as discussed above, by 2035, the PDMWD projects having a verifiable recycled water supply of 2,015 AFY, with the potential total recycled water supply of 10,601 AFY. Although the UWMP does not identify the specific recycled water demand in 2035, or the surplus available, the PDMWD is seeking opportunities to utilize excess recycled water in the future. As the Sycamore Canyon Landfill Expansion Alternative would constitute less than 0.01 percent of the verifiable recycled water supply in 2035, even less of the potential total recycled water supply. Therefore, no significant adverse effect would result.

Mitigation Measures

The Sycamore Canyon Expansion Alternative would not limit the ability of the PDMWD to provide recycled water to other users. No mitigation measures are proposed.

## 4.16.1.10 GLOBAL CLIMATE CHANGE AND WATER SUPPLY

Potential impacts of climate change on California's water resources include changes in both water and air temperature, changes in precipitation patterns, and changes in sea levels that could increase pressure on the Sacramento-San Joaquin River Delta (Delta) levees. The impact of climate change on California's water supply has been the subject of study. In response to Governor's Executive Order S-3-05, California DWR prepared a report in May 2009, entitled "Using Future Climate Projections to Support Water Resources Decision Making in California," which presents an overview of the advances that DWR has made toward using future climate projection information to support decision making by quantifying possible impacts to water resources for a range of future climate scenarios. Advances have been made in using future climate projection information in water resources planning in California, including improved understanding of how well selected climate models represent historical climate conditions and refined methodologies for representing stream flows, outdoor urban and agricultural water demands, and sea level rise in planning tools. The range of impacts presented indicated the need for adaptation measures to improve the reliability of future water supplies in California.[28]

DWR has further addressed the issue of climate change and how it can affect California's water supply, by undertaking mitigation and adaptation measures. DWR is a member of the California Climate Action Registry and is listed as a "Climate Action Leader" for reporting its greenhouse gas emissions for three consecutive years (2007, 2008 and 2009), and having the data verified by third party audit.[29] In 2008, DWR adopted the "Climate Change Adaptation Strategy," which urges a new approach to California's water and other natural resources in the face of changing climate.[30] In 2009, DWR adopted its own Sustainability Policy, and in 2010, DWR established clear and measurable goals for sustainability implementations.[31]

In December 2010, DWR prepared a survey which presents summaries of 13 reports and studies prepared by DWR addressing climate change entitled "Climate Change Characterization and Analysis in California Water Resources Planning Studies - Final Report." Although DWR was one of the early leaders in including climate change analysis in its planning studies and reports, it does not currently have a standard framework or a set of recommended approaches for considering climate change in its planning studies. A variety of approaches to characterize and analyze future climate have been used in various DWR planning studies. The December 2010 paper summarizes the approaches and methodologies that have been used since 2006. It is the first comprehensive comparative look at the different approaches, their strengths and weaknesses, and how they have been used in past studies. This work is anticipated to lay the groundwork for a future DWR study aimed at developing a standard framework and a consistent set of approaches to be used for characterizing and analyzing climate change in future DWR planning studies that may provide guidance for DWR partners and grantees.

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[28] *"Using Future Climate Projections to Support Water Resources Decision Making in California," May 2009, California Department of Water Resources, page 2.*

[29] *California Climate Action Registry, Climate Action Leaders. http://www.climateregistry.org/about/members/climate-action-leaders.html. Accessed June 18, 2012.*

[30] *Climate Change Adaptation Strategies for California's Water: Managing an Uncertain Future, California Department of Water Resources, October 2008. http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf. Accessed June 18, 2012.*

[31] *Memorandum to All DWR Employees, "Sustainability Workgroup," California Department of Water Resources, April 22, 2009. http://www.water.ca.gov/climatechange/docs/Sustainability_Policy.pdf. Accessed June 18, 2012.*

In May 2012, DWR released its Climate Action Plan. The Climate Action Plan incorporates the findings of the DWR's Greenhouse Gas Emissions Reduction Plan to guide its project development and decision making with respect to energy use and GHG emissions. The Climate Action Plan identifies a number of actions aimed at reducing the level of GHGs emitted as a result of DWR activities. While DWR has already taken several steps to reduce GHG emissions and improve the efficiency of its activities, the Climate Action Plan, for the first time, lays out in one place DWR's commitment to achieve significant GHG emissions reductions across all of its activities.

While climate change is expected to continue through at least the end of this century, the magnitude and nature of future changes are uncertain. This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood.[32] In light of these conclusions, both governmental agencies and non-governmental organizations recommend that water decision-makers operate existing water systems to allow for increased flexibility. Other recommendations include incorporating climate change research into infrastructure design, conjunctively managing surface water and groundwater supplies, and integrating water and land use practices. In response to these recommendations, MWD updated its Integrated Resource Plan (IRP) on October 12, 2010.[33] Further, in response to climate change and uncertainty, MWD's 2010 Regional UWMP incorporates three basic elements to promote adaptability and flexibility, important in addressing impacts of climate change: conservation, groundwater recharge, and water recycling.[34]

The SDCWA, which currently imports the majority of its water from the MWD, addresses climate change in its 2010 UWMP. The UWMP identifies that there are still many uncertainties regarding the impact of climate change on supplies and demands. Thus, a qualitative assessment was completed that was based on the DWR October 2008 Report entitled "Managing an Uncertain Future; Climate Change Adaptation Strategies for California's Water." The qualitative assessment identifies potential areas that could influence long-term water supply, including: loss of natural snowpack storage, sea level rise, changes in average precipitation and runoff volume, change in frequency and intensity of droughts, and changes to demand level. In response to the uncertainty, the SDCWA includes a policy to encourage focused scientific research on climate change to identify the impacts on the San Diego region's imported and local water supplies. In addition, the SDCWA is in the processing of diversifying its water supplies to reduce the potential impacts from global climate change. In addition, the SDCWA is in the processing of diversifying its water supplies to reduce the potential impacts from global climate change.

In general, given the uncertainties surrounding climate change and its effect on water supply, it is considered premature to make an assessment of impacts under CEQA of how climate change will affect water availability for the alternatives. That being said, the SDCWA 2010 UWMP indicates that with the implementation of identified water conservation measures during drought conditions and a diversification of water sources, SDWCA would be able to accommodate the water demands of its associated districts. Further, the 2010 UWMP acknowledges that changes to climate will be gradual, providing water supply agencies the ability to

[32] *"Progress on Incorporating Climate Change into Management of California's Water Resources," July 2006, California Department of Water Resources, page 2-54.*

[33] *Integrated Water Resources Plan, Report No. 1373, Updated October 12, 2010. The Metropolitan Water District of Southern California. http://www.mwdh2o.com/mwdh2o/pages/yourwater/irp/IRP2010Report.pdf. Accessed June 18, 2012.*

[34] *The Regional Urban Water Management Plan, November 2010. The Metropolitan Water District of Southern California. http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf. Accessed June 18, 2012.*

adapt planning strategies to manage for the supply uncertainties. As a result, global climate change would not result in a significant adverse effect with respect to water supplies available to the alternatives relying on municipal water supplies.

# 4.16 UTILITY AND SERVICE SYSTEMS
# 4.16.2 WASTEWATER

## INTRODUCTION

This section provides an analysis of the adequacy of wastewater conveyance and treatment systems to serve the landfill alternatives, including wastewater from residual materials associated with environmental control systems. This section is based on correspondence with the Fallbrook Public Utility District (FPUD) and Vallecitos Water District (VWD) and information provided in the County of San Diego Final EIR for the County's General Plan Update, the County of San Diego Sewer System Management Plan (June 2010), the East Otay Mesa Business Park Specific Plan (September 2010), the City of San Diego General Plan Update Final Program EIR, and the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012).

## 4.16.2.1 REGULATORY FRAMEWORK

The plans and regulations described below apply to areas within the County and City of San Diego. Sycamore Canyon Landfill is the only alternative located within the City of San Diego, therefore, the local plans discussed are only relevant to the Sycamore Canyon Expansion Alternative.

### 4.16.2.1.1 State

#### Porter-Cologne Water Quality Control Act

The 1969 Porter-Cologne Water Quality Control Act, codified in the California Water Code, authorizes the State Water Resources Control Board (SWRCB) to implement programs to control polluted discharges into state waters. The law essentially implements the requirements of the Clean Water Act (CWA). Pursuant to this law, the local regional water quality control board (RWQCB) is required to establish the wastewater concentrations of a number of specific hazardous substances in treated wastewater discharge.

### 4.16.2.1.2 Regional

#### County of San Diego Department of Environmental Health

The County of San Diego Department of Environmental Health (DEH) is the primary agency charged with regulating the design, construction, and maintenance of septic tanks, leach lines, seepage pits, and alternative on-site wastewater treatment systems throughout the County through a delegation from the RWQCB.

#### County of San Diego Department of Public Works Wastewater Management Section

The County of San Diego Department of Public Works Wastewater Management Section is responsible for maintaining sewer lines, pump stations, force mains and several treatment plants for the unincorporated areas of the County. The agency office is also responsible for issuing sewer permits, plan checks for sewers, providing management and engineering services for capital and maintenance projects, sewer maps, billing, and general record keeping associated with sanitation districts managed and operated by the County.

### County of San Diego Sewer System Management Plan

The County of San Diego Sewer System Management Plan (June 2010) is a part of the County's long range plan to comply with all applicable requirements including those of the San Diego Regional Water Quality Control Board (RWQCB), State Waste Discharge Requirement (WDRs), and the CWA relative to wastewater. The Sewer System Management Plan provides information regarding the County's wastewater system and a summary of the action plan to comply with the sanitary sewer system requirements imposed by the WDRs and other governing agencies. The plan provides for the efficient management, operation, and maintenance its sanitary sewer system. The plan includes a Capital Improvement Plan for the completion of future improvements for the system.

### County of San Diego Uniform Sewer Ordinance

The County sanitation and sewer maintenance districts operate under the County of San Diego Uniform Sewer Ordinance. The ordinance sets forth rules and regulations for operation and maintenance of sewage collection and treatment systems. Provisions for annexation are addressed, along with procedures for obtaining new or modified sewer service.

## 4.16.2.1.3 Local

### City of San Diego Public Utilities Department Wastewater Branch

The City of San Diego Public Utilities Department is the primary division charged with regulating the design, construction, maintenance, and connection of wastewater facilities and systems. The department collects, treats, and disposes of approximately 180 million gallons of sewage per day. The department provides the public with a safe and efficient regional sewer system that protects the ocean water quality, supplements the limited water supply, and meets federal standards. The department conserves water and energy as part of the wastewater treatment process through water reclamation, biosolids production, and cogeneration.

### City of San Diego Municipal Code, Chapter 6: Public Works and Property, Article 4: Sewers, Division 4: Construction, Maintenance, Funding and Use of Wastewater Facilities

The City's Municipal Code sets forth rules and regulations for the construction, operation and maintenance of sewage collection and treatment systems, connections to public sewers, and funding and connection fees and services charges.

## 4.16.2.2 METHODOLOGY FOR REVIEWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on wastewater services.

## 4.16.2.2.1 Criteria for Assessing Effects

In the absence of federal standards by which adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. Often a state criterion regarding wastewater impacts addresses whether a project would result in the need to extend a sewer trunk line with capacity to serve the new development, whose construction could lead to significant environmental effects. However, none of the alternatives evaluated includes a proposal to use public sewer systems for conveyance of

wastewater from the alternative sites. Therefore, the criterion is not applicable to any of the alternative sites and has not been evaluated in the wastewater analysis.

However, wastewater would be conveyed from the alternative sites via trucks to treatment plants for appropriate treatment and disposal of residual waste materials. Therefore, an alternative would have a significant adverse effect on wastewater services and facilities if the alternative would generate a demand for wastewater treatment capacity that is greater than the provider's treatment capacity.

#### 4.16.2.2.2 Methodology

The analysis of wastewater provides information on the public sewer systems in the vicinity of the alternative sites to identify the setting conditions for sites and the context that led to proposed site designs that exclude conveyance to public sewer systems. This information is based on service availability data provided by the FPUD and VWD and information provided in the County of San Diego Final EIR for the County's General Plan Update, the East Otay Mesa Business Park Specific Plan (September 2010), the City of San Diego General Plan Update Final Program EIR, and the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012). The analysis also describes wastewater generation associated with the alternatives (i.e. disposal of portable toilet waste and residual waste products generated by the environmental control systems), and the methods for conveying that waste for treatment and disposal. Based on the nature of the wastewater generated on site and the most efficient means of processing that wastewater, the analysis draws conclusions regarding the ability of the wastewater to be conveyed off-site and treated in a manner that is consistent with protection of the public safety, and appropriate treatment capacity.

### 4.16.2.3 APPLICANT'S PROPOSED ALTERNATIVE

#### 4.16.2.3.1 Affected Environment

**Regional Setting**

The unincorporated County of San Diego is within the jurisdiction of the RWQCB and the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB). The RWQCB regulates wastewater discharge in the majority of the eastern, central, and western unincorporated County, while the CRBRWQCB regulates wastewater discharge in a smaller portion of the eastern unincorporated County. Twenty-five wastewater districts service the unincorporated County. Wastewater districts are generally responsible for providing collection, transmission, and disposal of sewage. Unincorporated areas not serviced by wastewater districts typically utilize septic systems for wastewater disposal.[1]

The San Luis Rey Municipal Water District (SLRMWD) service area covers approximately 3,000 acres. The District largely exists to establish a boundary, with no general infrastructure, and primarily facilities cooperation between landowners on matters of water rights. The SLRMWD is not authorized as a sewer purveyor and has no infrastructure in place to do so.

[1] *County of San Diego. October 2010. Final EIR for the General Plan Update.*

The Rainbow Municipal Water District (RMWD) is an independent local governmental agency that provides water and sewer services to the unincorporated area of northern inland San Diego County. The RMWD provides service to a 49,800-acre service area, which includes the unincorporated communities of Rainbow, Bonsall, and a portion of Fallbrook. Sewer service is primarily concentrated along the eastern side of SR 76 and northeast of I-15. RMWD has its own contracted sewage treatment facility, the San Luis Rey Wastewater Treatment Plant, located in Oceanside, California. The plant has the capacity to treat 1.0 million gallons per day (mgd). Currently, the plant is being rehabilitated and expanded to provide an additional 500,000 gallons per day of treatment capacity and the RMWD is participating in its contracted obligation to fund a proportionate share of the rehabilitation costs. The RMWD maintains all pipelines and pumping equipment to the plant.[2]

### Local Setting

The Gregory Canyon site is located within the jurisdiction of the SLRMWD and RMWD. Approximately 1,420 acres of the Gregory Canyon site are located within the service area of SLRMWD. The SLRMWD is not authorized as a sewer purveyor and has no infrastructure in place to do so. The remaining 350 acres of the Gregory Canyon site, north of the San Luis Rey River, is located within the service area of the RMWD. There are no sewer collection facilities on the Gregory Canyon site. A 12-inch sewer line maintained by RMWD is located approximately 1.5 miles west of the site. There are no plans for future expansion of sewer services to the Gregory Canyon site.

## 4.16.2.3.2 Design Features from the Gregory Canyon EIR

No design features or mitigation measures from the EIR are associated with wastewater services.

## 4.16.2.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on wastewater services if the alternative would generate a demand for wastewater treatment capacity that is greater than the provider's treatment capacity.*

**Impact Statement Gregory WW-1: The Applicant's Proposed Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the Applicant's Proposed Alternative would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities and impacts to wastewater services. The alternative would not result in significant adverse effects relative to wastewater.**

Wastewater would be generated at the landfill site by site occupants and by the environmental control systems that would be operated at the Gregory Canyon site: the Leachate Collection and Removal System (LCRS), Landfill Gas Monitoring and Control System (LFG), and the Reverse Osmosis System (RO).

Wastewater generated by site occupants would be limited to that generated by a few number of site employees and site visitors that would use portable toilets that are serviced by the providers. Wastewater

[2] *The Rainbow Municipal Water District website, Info on our sewers,* http://www.rainbowmwd.com/aboutus.html*, accessed April 2, 2012.*

would be trucked to off-site locations for treatment. There would be approximately 35 site workers during initial construction and 22 employees during operations. Truck drivers to the site might also use the portable facilities. This small site population is similar to that for a fairly small construction project that might be served in a similar manner. Some vendors report transporting such wastewater to pump stations that ultimately feed into the Point Loma Wastewater Treatment Plant. This treatment plant is a City of San Diego facility that treats approximately 175 mgd of wastewater, with an overall treatment capacity of 240 mgd.

The proposed LCRS would collect and remove leachate passing through the landfill prism. Leachate is water which percolates through the landfill and becomes contaminated by contact with the various waste materials. Such leachate can affect the integrity of the landfill and/or cause environmental contamination and therefore, must be removed. The LCRS would collect the leachate in pipes and convey it to two 10,000-gallon, above ground leachate collection storage tanks located in the southwest corner of the ancillary facilities area. The estimated peak annual leachate generation from the Applicant's Proposed Alternative would be approximately 414,000 gallons (1,134 gallons per day), with a peak daily leachate volume of 5,700 gallons. The average daily leachate generation is the same amount of wastewater that would be generated by approximately five residential units.[3] The tanks would be periodically serviced by pump trucks that would empty the tanks and transport the leachate to off-site locations for treatment and disposal. Leachate is typically treated at municipal waste treatment plants, such as the San Luis Rey Wastewater Treatment Plant, located in Oceanside, California, which will have treatment capacity for 1.5 mgd, with the completion of currently contracted improvements. There are other facilities located in San Diego County as well as adjacent Counties to the north that could potentially receive the landfill generated leachate.

The purpose of the LFG system is to prevent LFG from migrating into the atmosphere or through the ground to adjacent properties. The system would consist of a landfill gas extraction well field; landfill gas conveyance lines; and a landfill gas treatment facility. A flare station would burn the collected landfill gases. A byproduct of the system is condensate which forms in the gas system piping and must be removed from the system. The condensate would gravity drain to sumps placed at low-points in the system around the landfill. The collected condensate would be removed from the sumps manually or would be pumped automatically to a 3,000 gallon, dual-wall tank that would be located near the flare station. The collected liquid condensate would be treated/burned within the flare when feasible, thus reducing the amount of condensate that would need to be transported for treatment. The treatment would occur at an industrial waste treatment plant, such as Southwest Treatment in Los Angeles.

The RO system would provide a groundwater treatment facility for use in the event that groundwater contamination is identified during groundwater testing that would be performed as a part of landfill operation. Impacted groundwater, if it were to be encountered, would be collected and supplied to the RO system influent tank in the southwestern portion of the ancillary facilities area. The RO treatment would separate the total dissolved solids (TDS) from water by applying pressure to a feed stream passing over a semi-permeable membrane, thereby inducing flow of water molecules through the membrane, leaving the dissolved solids on the influent side. The RO system would create two effluent streams, the reduced TDS water that passed through the membrane (clean water) and the elevated TDS solution (brine) that remains

[3] *This calculation assumes that residential units generate 220 gallons per day per residential unit, as described in the Water Agency Standards (WAS), Design Guidelines for Water, Recycled Water and Sewer Facilities. This report was prepared by seven signatory San Diego County water districts in September 2004. Available at:* www.sdwas.com*; and accessed on April 10, 2012.*

on the feed side of the membrane. The effluent (clean water) would be stored in a tank and used on site, or if standards are met to receive approved permits from the RWQCB, discharged to the San Luis Rey River. The brine, which would be the end waste product that contains the larger TDS particles in a concentrated liquid, would be collected in a tank and hauled off site for disposal. It is anticipated that the brine would be taken to the Hale Avenue Resource Recovery Facility in Escondido (which currently has treatment capacity of 18 million gallon per day and currently has an average flow of 15.6 mgd) or a similar facility.

As described above, the landfill operator would contract with appropriate sewage disposal service provider(s) to remove effluent from the portable chemical toilets, as well as treat residual leachate, brine and condensate collected and stored on-site for off-site treatment and disposal. The amount of wastewater generated would be relatively small and would be generated in a manner that is typical of wastewater treatment occurring with like uses within the regional treatment and disposal systems. Given the small amount of treatment demand generated by the alternative, and the availability of treatment facilities, the demand for wastewater treatment capacity generated by the Applicant's Proposed Alternative would not be greater than the providers' treatment capacity inclusive of the providers' existing commitments for treatment. Therefore, no significant adverse effects to wastewater services would occur.

Mitigation Measures

The Applicant's Proposed Alternative would not result in a significant adverse effect on wastewater services. No mitigation measures are proposed.

## 4.16.2.4 NO FEDERAL ACTION ALTERNATIVE

### 4.16.2.4.1 Affected Environment

The No Federal Action Alternative would provide a conservation bank at the Gregory Canyon site. As such, the affected environment for the No Federal Action Alternative is the same as described above for the Applicant's Proposed Alternative.

### 4.16.2.4.2 Design Features

No design features for the No Federal Action Alternative are associated with wastewater services.

### 4.16.2.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on wastewater services if the alternative would generate a demand for wastewater treatment capacity that is greater than the provider's treatment capacity.*

**Impact Statement No Action WW-1: The No Federal Action Alternative would generate virtually no wastewater and therefore would not require notable treatment of wastewater. Therefore, the demand for wastewater treatment would not exceed treatment capacity of treatment providers and impacts to wastewater services and adverse effects would not occur.**

The construction of the conservation bank would not generate a demand for wastewater treatment capacity. Thus, adverse effects to wastewater services would not occur.

Mitigation Measures

No adverse effects to wastewater services would occur under the No Federal Action Alternative. No mitigation measures are proposed.

## 4.16.2.5 ASPEN ROAD ALTERNATIVE

### 4.16.2.5.1 Affected Environment

#### Regional Setting

The Aspen Road Alternative is located within the same regional setting as the Gregory Canyon site, as described in more detail above. It lies within San Diego County and the jurisdiction of the RWQCB and CRBRWQCB. It also falls within the boundaries of two water/sewer service agencies: the RMWD; and the FPUD.

The RMWD also includes within its boundaries the site of the Applicants Proposed Alternative and is described above in the analysis of that alternative, above. The FPUD is a provider of both water and wastewater service. The FPUD is an independent sanitation district that provides sewer service to an area of 4,200 acres and operates over 75 miles of sewer pipelines, six pump stations, and conveys wastewater locally to the FPUD Water Treatment Plant. Effluent from this plant is discharged into a land outfall pipeline that joins with the City of Oceanside's outfall line for release into the Pacific Ocean. The FPUD pass-through capacity is 2.7 mgd with an average flow of 1.9 mgd. The wastewater treatment plant has a capacity of 3.1 mgd and an average flow of 1.9 mgd. Effluent is used for landscape irrigation, freeway landscape irrigation, nurseries, golf courses, and treatment plant reuse. The FPUD has 8,400 equivalent dwelling units (EDUs) allocated and 2,600 EDUs available.

#### Local Setting

While the Aspen Road site is located within the larger jurisdiction of the FPUD and RMWD, it lies outside of the current sewer service areas of both. The FPUD sewer service area only covers the downtown portion of Fallbrook; far outside of the boundaries of the Aspen Road site, and no FPUD facilities could serve the site.[4] The same is true for RMWD. No sewer collection facilities currently exist on the Aspen Road site.

### 4.16.2.5.2 Design Features

No design features for the Aspen Road Alternative are associated with wastewater services.

### 4.16.2.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on wastewater services if the alternative would generate a demand for wastewater treatment capacity that is greater than the provider's treatment capacity.*

**Impact Statement Aspen WW-1: The Aspen Road Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities; and treated**

[4] *Jeff Marchand, Engineering Technician III, Fallbrook Public Utility District, letter correspondence, February 8, 2012.*

**as a small component of the routine handling of such wastewater. Therefore, the Aspen Road Alternative would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities and impacts to wastewater services. The alternative would not have a significant adverse effect relative to wastewater.**

As with the Applicant's Proposed Alternative, wastewater generated by site occupants would be limited to that generated by a few number of site employees and site visitors that would use portable toilets that are serviced by the providers. This small site population is similar to that for a fairly small construction project that might be served in a similar manner.

Further, as with the Applicant's Proposed Alternatives, the Aspen Road Alternative would generate wastewater from the LCRS and LFG, environmental control systems, which would collect liquid waste materials that would be transported off-site for treatment. No brine would be generated at the site as an RO system would not be developed at the Aspen Road Alternative site.

These wastewater materials would be collected on site and transported to sewage treatment facilities for treatment and disposal by the purveyors who provide such service. The amount of wastewater would be similar to that which would be generated by the Applicant's Proposed Alternative. As noted above, the portable toilet waste is similar to that generated by a small construction project; the average leachate volume is equivalent to the wastewater volume generated by approximately five residential units; and the LFG condensate would be mostly, if not completely treated on-site, without a need for off-site processing. The truck conveyance of the wastewater for treatment and disposal would be typical of that occurring with like uses within in the regional treatment and disposal systems. Potential treatment plants may include the FPUD Water Treatment Plant and the San Luis Rey Wastewater Treatment Plant, in whose jurisdiction the alternative site lies; and which have capacities to treat 3.1 mgd and 1.5 mgd respectively. Other treatment facilities that are relied upon for treatment of wastewater that would be generated at the alternative site include the Point Loma Wastewater Treatment Plant in San Diego, the Hale Avenue Resource Recovery Facility in Escondido, the Southwest Industrial Treatment Plant in Los Angeles County, and/or other facilities throughout the region. Given the small amount of treatment demand generated by the Aspen Road Alternative, and the availability of treatment facilities, the demand for wastewater treatment capacity generated by the alternative would not be greater than the providers' treatment capacity inclusive of the providers' existing commitments for treatment. Therefore, no significant adverse effects relative to wastewater would occur.

### Mitigation Measures

The Aspen Road Alternative would have no significant adverse effects on wastewater services. No mitigation measures are proposed.

## 4.16.2.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.16.2.6.1 Affected Environment

#### Regional Setting

The Gopher Canyon Road Alternative is located within the same regional setting as the Gregory Canyon site, as described in more detail above. It lies within San Diego County and the jurisdiction of the RWQCB and CRBRWQCB. It also falls within the boundaries of two water/sewer service agencies: RMWD and the VWD. The RMWD also includes within its boundaries the site of the Applicants Proposed Alternative and is described above in the analysis of that alternative, above. The VWD is an independent district that provides water and wastewater service to the City of San Marcos, portions of the Cities of Vista, Escondido, and Carlsbad, as well as portions of the North County Metro, Twin Oaks, Bonsall, and San Dieguito CPAs. The VWD provides wastewater service to approximately 18,700 accounts. VWD operates 235 miles of sewer pipelines, three pump stations, and conveys wastewater locally. There are two VWD treatment facilities utilized by VWD: Meadowlark Reclamation Facility and Encina Wastewater Authority Facility. The Meadowlark Reclamation Facility has a pass-through capacity of 2.25 mgd and an average flow of 1.95 mgd. The Encina Facility provides advanced secondary treatment and has a pass through capacity of 7.54 mgd. Effluent is sold to the Carlsbad Municipal Water District and used for irrigation. The VWD has allocated 3,713 EDUs and has 11,447 EDUs available.

#### Local Setting

While, while the Gopher Canyon Road site is located within the jurisdiction of the VWD and RMWD, it is not located within the sewer service area of either, and no sewer lines are located in the vicinity of the alternative site. No sewer collection facilities currently exist on the Gopher Canyon Road site.

### 4.16.2.6.2 Design Features

No design features for the Gopher Canyon Road Alternative are associated with wastewater services.

### 4.16.2.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on wastewater services if the alternative would generate a demand for wastewater treatment capacity that is greater than the provider's treatment capacity.*

**Impact Statement Gopher WW-1: The Gopher Canyon Road Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the landfill would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities and impacts to wastewater services. The alternative would not have a significant adverse effect relative to wastewater.**

As with the Applicant's Proposed Alternative, wastewater generated by site occupants would be limited to that generated by a few number of site employees and site visitors that would use portable toilets that are serviced by the providers. This small site population is similar to that for a fairly small construction project that might be served in a similar manner.

Further, as with the Applicant's Proposed Alternative, the Gopher Canyon Road Alternative would generate wastewater from the LCRS and LFG environmental control systems, which would collect liquid waste materials that would be transported off-site for treatment. No brine would be generated at the site as an RO system would not be developed at the Gopher Canyon Road Alternative site.

These wastewater materials would be collected on site and transported to sewage treatment facilities for treatment and disposal by the purveyors who provide such service. The amount of wastewater would be similar to that which would be generated by the Applicant's Proposed Alternative. As noted above, the portable toilet waste is similar to that generated by a small construction project; the average daily leachate volume is equivalent to the wastewater volume generated by approximately five residential units; and the LFG condensate would be mostly, if not completely treated on-site, without a need for off-site processing. The truck conveyance of the wastewater for treatment and disposal would be typical of that occurring with like uses within in the regional treatment and disposal systems.

Potential treatment plants may include the VWD treatment facilities and/or the San Luis Rey Wastewater Treatment Plant in whose jurisdictions, the alternative sites lie. VWD has allocated 3,713 EDUs and has 11,447 EDUs available for future use. The San Luis Rey Wastewater Treatment Plant, has capacity 1.5 mgd, inclusive of current up-grades to the system. Other treatment facilities that may be relied upon for treatment of wastewater that would be generated at the alternative site include the Point Loma Wastewater Treatment Plant in San Diego, the Hale Avenue Resource Recovery Facility in Escondido, the Southwest Industrial Treatment Plant in Los Angeles County, and/or other facilities throughout the region.

Given the small amount of treatment demand generated by the alternative, and the availability of treatment facilities, the demand for wastewater treatment capacity generated by the alternative would not be greater than the providers' treatment capacity inclusive of the providers' existing commitments for treatment. Therefore, no significant adverse effects would occur.

Mitigation Measures

The Gopher Canyon Road Alternative would have no significant adverse effects on wastewater services. No mitigation measures are proposed.

## 4.16.2.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.16.2.7.1 Affected Environment

#### Regional Setting

The Merriam Mountain Alternative is located within the same regional setting as the Gregory Canyon site, as described in more detail above. It lies within San Diego County and the jurisdiction of the RWQCB and CRBRWQCB. It also lies within the jurisdiction of the VWD, which is discussed under the setting section for the Gopher Canyon Road Alternative above. As indicated, therein, the VWD has allocated 3,713 EDUs and has 11,447 EDUs available for future use.

### Local Setting

The Merriam Mountain site is located within the jurisdiction of the VWD. The VWD owns an existing 8-inch public sewer main located approximately 0.25 miles south of the site in Saver Lane. No sewer collection facilities currently exist on the Merriam Mountain site.

## 4.16.2.7.2 Design Features

No design features for the Merriam Mountain Alternative are associated with wastewater services.

## 4.16.2.7.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on wastewater services if the alternative would generate a demand for wastewater treatment capacity that is greater than the provider's treatment capacity.*

**Impact Statement Merriam WW-1: The Merriam Mountain Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the landfill would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities and impacts to wastewater services. The alternative would not result in significant adverse effects relative to wastewater.**

As with the Applicant's Proposed Alternative, wastewater generated by site occupants would be limited to that generated by a few number of site employees and site visitors that would use portable toilets that are serviced by the providers. This small site population is similar to that for a fairly small construction project that might be served in a similar manner.

Further, as with the Applicant's Proposed Alternative, the Merriam Mountain Alternative would generate wastewater from the LCRS and LFG environmental control systems, which would collect liquid waste materials that would be transported off-site for treatment. No brine would be generated at the site as an RO system would not be developed at the Merriam Mountain Alternative site.

All of these wastewater materials would be collected on site and transported to sewage treatment facilities for treatment and disposal by the purveyors who provide such service. The amount of wastewater would be similar to that which would be generated by the Applicant's Proposed Alternative. As noted above, the portable toilet waste is similar to that generated by a small construction project; the average daily leachate volume is equivalent to the wastewater volume generated by approximately five residential units; and the LFG condensate would be mostly, if not completely treated on-site, without a need for off-site processing. The truck conveyance of the wastewater for treatment and disposal would be typical of that occurring with like uses within in the regional treatment and disposal systems.

Potential treatment may be provided by the VWD in whose jurisdiction the alternative site lies. The VWD has allocated 3,713 EDUs and has 11,447 EDUs available for future use. Other treatment facilities that may be relied upon for treatment of wastewater that would be generated at the alternative site, include the Point Loma Wastewater Treatment Plant in San Diego, the Hale Avenue Resource Recovery Facility in Escondido, the Southwest Industrial Treatment Plant in Los Angeles County, and/or other facilities throughout the

region. Given the small amount of treatment demand generated by the alternative, and the availability of treatment facilities, the demand for wastewater treatment capacity generated by the alternative would not be greater than the providers' treatment capacity inclusive of the providers' existing commitments for treatment. Therefore, no significant adverse effects relative to wastewater would occur.

Mitigation Measures

The Merriam Mountain Alternative would have no significant adverse effects on wastewater services. No mitigation measures are proposed.

## 4.16.2.8 EAST OTAY MESA ALTERNATIVE

### 4.16.2.8.1 Affected Environment

#### Regional Setting

The East Otay Mesa Alternative is located within the same regional setting as the Gregory Canyon site, as described in more detail above. It lies within San Diego County and the jurisdiction of the RWQCB and CRBRWQCB. The East Otay Mesa Alternative site also lies within the jurisdiction of the East Otay Mesa Sewer Maintenance District (EOMSMD) and the Otay Water District (OWD).

The EOMSMD has a service area of 2,619. The district has 1.0 mgd of the City of San Diego Metropolitan Wastewater Department (SDMWD) treatment/disposal capacity rights. The capacity was purchased from the Spring Valley Sanitation District. The district operates two miles of pipeline and conveys wastewater to the SDMWD system. The district has 398 allocated EDUs and has 3,768 EDUs available for future use.

The OWD is an independent water and sanitation district. The OWD service area is 80,320 acres and facilities serve the water and/or sewer service needs of people living in the communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, eastern Chula Vista, East Lake, and Otay Mesa along the U.S./Mexico international border. The OWD wastewater system operates 85 miles of sewer pipelines, five pump stations and conveys wastewater to SDMWD. OWD operates one wastewater treatment facility, the Ralph W. Chapman Water Reclamation Facility, which has a capacity of 1.3 mgd and an average flow of 0.8 mgd. The OWD has 6,053 allocated EDUs and has 10,000 EDUs available for future use.

#### Local Setting

The East Otay Mesa Alternative site is located within the jurisdiction of the EOMSMD and OWD. No sewer collection facilities currently exist on the East Otay Mesa Alternative site.

### 4.16.2.8.2 Design Features

No design features for the East Otay Mesa Alternative are associated with wastewater services.

### 4.16.2.8.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on wastewater services if the alternative would generate a demand for wastewater treatment capacity that is greater than the provider's treatment capacity.*

**Impact Statement East Otay WW-1: The East Otay Mesa Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the East Otay Mesa Alternative would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities. The alternative would not result in significant adverse effects relative to wastewater.**

As with the Applicant's Proposed Alternative, wastewater generated by site occupants would be limited to that generated by a few number of site employees and site visitors that would use portable toilets that are serviced by the providers. This small site population is similar to that for a fairly small construction project that might be served in a similar manner.

Further, as with the Applicant's Proposed Alternative, the East Otay Mesa Alternative would generate wastewater from the LCRS and LFG environmental control systems, which would collect liquid waste materials that would be transported off-site for treatment. No brine would be generated at the site as an RO system would not be developed at the East Otay Mesa Alternative site.

All of these wastewater materials would be collected on site and transported to sewage treatment facilities for treatment and disposal by the purveyors who provide such service. The amount of wastewater would be similar to that which would be generated by the Applicant's Proposed Alternative. As noted above, the portable toilet waste is similar to that generated by a small construction project; the average daily leachate volume is equivalent to the wastewater volume generated by approximately five residential units; and the LFG condensate would be mostly, if not completely treated on-site, without a need for off-site processing. The truck conveyance of the wastewater for treatment and disposal would be typical of that occurring with like uses within in the regional treatment and disposal systems.

Potential treatment may be provided by the EOMSMD and OWD in whose jurisdiction the alternative site lies. The EOMSMD has 398 allocated EDUs and has 3,768 EDUs available for future use. The OWD has 6,053 allocated EDUs and has 10,000 EDUs available for future use. The Ralph W. Chapman Water Reclamation Facility and/or other facilities throughout the region may be relied upon for treatment of wastewater that would be generated at the alternative site. Given the small amount of treatment demand generated by the alternative, and the availability of treatment facilities, the demand for wastewater treatment capacity generated by the alternative would not be greater than the providers' treatment capacity inclusive of the providers' existing commitments for treatment. Therefore, no significant adverse effects would occur.

#### Mitigation Measures

The East Otay Mesa Alternative would have no significant adverse effects on wastewater services. No mitigation measures are proposed.

## 4.16.2.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.16.2.9.1 Affected Environment

#### Regional Setting

The City of San Diego's metropolitan wastewater system treats the wastewater from the City and 15 other cities and districts (called Participating Agencies) from a 450-square-mile area with a population of over 2.2 million. The Participating Agencies are the cities of Chula Vista, Coronado, Del Mar, El Cajon, Imperial Beach, La Mesa, National City, Poway, the Lemon Grove Sanitation District, the OWD, the Padre Dam Municipal Water District, and the County of San Diego including the community planning areas of Lakeside, Alpine, Spring Valley, Wintergardens, and East Otay Mesa. The system treats an average of 180 mgd of wastewater. Wastewater is conveyed through 2,897 miles of collection pipeline, 83 pump stations, to the Point Loma Wastewater Treatment Plant (PLWTP), the North City Water Reclamation Plant, and the South Bay Water Reclamation Plant (SBWRP). The treatment plant and two reclamation plants provide a system capacity of 285 mgd, sufficient to meet the projected needs of the service area through at least 2020. The two water reclamation plants produce reclaimed water for appropriate uses including plant operation and irrigation, and support of the City's water service strategy of diversifying water supply sources to reduce future reliance on imported water. Reclaimed water is sold and distributed by the City. Treated effluent is discharged to the Pacific Ocean through two ocean outfalls. Solids from the wastewater treatment plants are processed at the Metro Biosolids Center located at the Miramar Marine Corps Air Station.

#### Local Setting

The Sycamore Canyon Expansion Alternative site is located within the jurisdiction of the City of San Diego's metropolitan wastewater system. Sanitary facilities of the existing landfill include a septic holding tank system and portable toilet facilities located near active areas of the landfill. The Sycamore Canyon Landfill generates wastewater from the existing LCRS and LFG environmental control systems, which is collected on site and transported to sewage treatment facilities for treatment and disposal by the purveyors who provide such service.

### 4.16.2.9.2 Design Features

No design features for the Sycamore Canyon Expansion Alternative are associated with wastewater services.

### 4.16.2.9.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on wastewater services if the alternative would generate a demand for wastewater treatment capacity that is greater than the provider's treatment capacity.*

**Impact Statement Sycamore WW-1: The Sycamore Canyon Expansion Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the Sycamore Canyon Expansion Alternative would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities and no significant adverse effects to wastewater services would occur.**

The Sycamore Canyon Expansion Alternative would not add population to the area that would contribute to a demand for wastewater treatment. The Sycamore Canyon Expansion Alternative would result in the expansion of capacity and increase in facility services, including 24-hour operation, seven days per week. The alternative would result in an increase of ten employees, and could result in some additional construction workers, all of which would likely be drawn from an existing work pool. Wastewater generated by site occupants would be limited to that generated by a few number of site employees and site visitors that would use portable toilets that are serviced by the providers. This small site population is similar to that for a fairly small construction project that might be served in a similar manner.

The proposed scale facilities would require a septic holding tank system of three tanks with regular collections of effluent, one for each scale house. New septic holding tanks would also be used for the proposed maintenance facility building and the new permanent administrative office building, as in the current operation. No sewer connection is being proposed, although a sewer connection hookup in Sycamore Landfill Road to Mast Boulevard would be possible if the City expands the system and sewer becomes available in the future.

In accordance with requirements of the County of San Diego DEH, the limited amount of wastewater generated at the scales, maintenance facility, and administrative offices would be disposed as it is currently, using regularly pumped septic holding tanks with contents disposed of at an authorized wastewater treatment plant.[5] Specific design details of any changes or relocations of the on-site system would be overseen by the County of San Diego DEH.[6] Treatment of the wastewater could be provided by the City of San Diego's metropolitan wastewater system. The PLWTP, North City Water Reclamation Plant, and the SBWRP provide a system capacity of 285 mgd, sufficient to meet the projected needs of the service area through at least 2020. Given the small increase of treatment demand generated by the alternative, and the availability of treatment facilities, the demand for wastewater treatment capacity generated by the alternative would not be greater than the providers' treatment capacity inclusive of the providers' existing commitments for treatment. Therefore, no significant adverse effects would occur.

## Mitigation Measures

The Sycamore Canyon Expansion Alternative would have no significant adverse effects on wastewater services. No mitigation measures are proposed.

[5] *As indicated in the Revised Final EIR for the Sycamore Canyon Master Development Plan, the Sycamore Canyon Landfill personnel have met with the County of San Diego DEH and obtained a conceptual agreement that a system of septic holding tanks is appropriate for the site.*

[6] *City of San Diego. August 2012. Sycamore Landfill Master Development Plan Revised Final EIR.*

# 4.16 UTILITY AND SERVICE SYSTEMS
# 4.16.3 GAS AND ELECTRICITY SERVICE

## INTRODUCTION

This section provides an analysis of the ability of San Diego Gas and Electric (SDG&E) to meet the demand for natural gas and electricity services for the alternatives. In addition, the section analyzes the relocation of electrical transmission towers located within the sites of the Applicant's Proposed Alternative and the Sycamore Canyon Expansion Alternative, relative to potential effects on the provision of services to those that receive power from the transmission lines. This section is based on correspondence with Sempra Utilities and information provided in the County of San Diego Final EIR for the County's General Plan Update, the City of San Diego General Plan Update Final Program EIR, and the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012).

## 4.16.3.1 REGULATORY FRAMEWORK

### 4.16.3.1.1 State

#### California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CPUC serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy. Its activities include approval/permitting of plans and facilities required for the provision of utility services under California Law.

#### California Independent System Operator

The California Independent System Operator manages the flow of electricity across the high-voltage, long-distance power lines that make up 80 percent of California's power grid. It acts as a traffic controller by routing electrons, maximizing the use of the transmission system and its generation resources, and supervising maintenance of the lines. It grants private utility providers equal access to power lines, forecasting demand on five minute intervals and dispatching the lowest cost power plant unit to meet demand while ensuring enough transmission capacity is available to deliver the power.

## 4.16.3.2 METHODOLOGY FOR REVEIWING EFFECTS UNDER NEPA

This subsection provides the evaluation criteria used to determine the effects of each of the alternatives. In addition, this subsection describes the methodology used to assess impacts on gas and electricity services.

### 4.16.3.2.1 Criteria for Assessing Effects

In the absence of federal standards by which significant adverse levels could be determined, criteria for assessing adverse effects rely on state and local thresholds for guidance. An alternative would have a significant adverse effect on gas and electricity services if the alternative would:

- Result in an increase in consumption of energy that is above the service provider's planned service capacity; or

- Use energy in a manner that is inconsistent with plans and policies for the conservation of energy.

### 4.16.3.2.2 Methodology

The analysis identifies the gas and electricity services that would be available at the alternative sites during their construction and operation; and the ability of those available services to meet the needs of the alternative sites. The analysis is based on service availability information provided by Sempra Utilities, the parent company of SDG&E and the local provider of the gas and electrical services. The analysis also addresses the potential of the Applicant's Proposed Alternative and the Sycamore Canyon Expansion Alternative to impact regional transmission lines that would be relocated within these sites. This analysis identifies whether there are sufficient mechanisms in place to relocate towers on the Gregory Canyon site and the Sycamore Canyon Expansion site without interruption of service.

## 4.16.3.3 APPLICANT'S PROPOSED ALTERNATIVE

### 4.16.1.3.1 Affected Environment

#### Regional Setting

##### Natural Gas

Natural gas in San Diego County is provided through storage services from the Southern California Gas Company (SoCalGas), subject to tariffs approved by the CPUC. SDG&E is the local distribution company for natural gas in the region providing energy service to 3.5 million people through 1.4 million electric meters and 850,000 natural gas meters in San Diego and southern Orange County. The service area spans 4,100 square miles. Sempra Energy is the parent company of both SDG&E and SoCalGas. Planning for the provision of natural gas by SoCalGas occurs through its Integrated Energy Policy Report, and the Final Natural Gas Market Assessment which supports the development of that plan. Planning is performed for 10 year horizons, ensuring the availability of necessary natural gas resources.

Two main pipelines carry natural gas into the San Diego region from the San Diego/Riverside County line at the Rainbow Meter Station. The larger 30-inch diameter pipeline carries gas to the Tecolote Regular Station in the Linda Vista area of the City of San Diego. The smaller 16-inch diameter line carries gas south to the Mission City Gate Station. An additional 12-inch diameter SoCalGas pipeline supplies natural gas to customers along the coast from San Clemente in Orange County to La Jolla in the City of San Diego.

##### Electricity

Electricity service in San Diego is provided by SDG&E. The San Diego region receives it electrical energy from a number of sources, including natural gas-fired and renewable source generation (sufficient to meet approximately 70 percent of the region's summer peak demand; photovoltaic installations, and fossil fuel-fired steam units. In addition, the region receives much of its energy from high-voltage electric transmission connection to other energy markets. There are two points of interconnection between the service area and the external electric grid which include the San Onofre Nuclear Generating Station switchyard in the

northwestern area of the County and the Miguel Substation in the southern area of the County. Traditionally, the San Diego region has relied upon imports of electric power to meet over half of its supply needs.[1]

### Local Setting

#### Natural Gas

SDG&E provides natural gas service to the Gregory Canyon site. The nearest gas source to the landfill site is an existing 16-inch transmission main, located west of the site, along Rice Canyon and crossing SR 76 to Couser Canyon Road. A gas line runs along the SR 76 frontage within a SDG&E maintained easement. An additional 36-inch gas main is proposed west of the 16-inch transmission main. Gas service to the existing customers residing at Lake Rancho Viejo (south of SR 76 and east of I-15), approximately 1.5 miles from the site, is provided by an eight-inch main that extends from the existing 16-inch transmission main.

#### Electricity

SDG&E provides electrical service to the Gregory Canyon site. Power to the site would be available from the Pala Road substation, located northwest of Sycamore and Pala Road. The Escondido and Talega electrical transmission network (Tie Line 23030), which contains a 230 kilovolt (kV) and Pala-Lilac 69 kV electrical transmission lines, is located on common structures within a 300-foot wide easement, which crosses the site in a north-south direction along the lower slopes of Gregory Mountain. The transmission lines are owned and maintained by SDG&E along unimproved dirt roads within the easement. SDG&E owns two parcels totaling approximately 13 acres within the transmission corridor on the site.

The Orange Grove Energy Power Plant is located on the north side of SR 76, to the east of the site. The plant is a 96 megawatt (MW) electric generating peaking facility, consisting of two natural gas-fired, simple cycle general electric combustion turbine generators with an electric transmission line interconnection between the plant and the existing SDG&E Pala substation boundary. The facility is used during times of maximum demand for electricity such as hot summer intervals.[2]

## 4.16.3.3.2 Design Features from the Gregory Canyon EIR

No design features or mitigation measures from the EIR are associated with gas and electricity services.

## 4.16.1.3.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on gas and electricity services if the alternative would result in an increase in consumption of energy that is above the service provider's planned service capacity; or use energy in a manner that is inconsistent with plans and policies for the conservation of energy.*

**Impact Statement Gregory GE-1: The Applicant's Proposed Alternative would require no consumption of natural gas and negligible consumption of electricity that could be provided under**

[1] *County of San Diego. October 2010. Final EIR for the General Plan Update.*

[2] *The California Energy Commission website, Orange Grove Power Plant Project, http://www.energy.ca.gov/sitingcases/orangegrove/index.html, accessed March 20, 2012.*

**the planned service capacity and infrastructure provided by SDG&E. Therefore, no significant adverse effects to gas and electricity services would occur.**

## Short-Term (Construction) Impacts

### Natural Gas

The use of natural gas service during construction is not anticipated. Grading and construction equipment generally operate on gasoline, diesel fuel, or electric power, not natural gas sources. No adverse effects to natural gas are anticipated to result from construction activities.

### Electricity

The use of electrical facilities for construction activities would primarily be limited to the temporary use of electrical equipment and temporary use of power tools necessary for structural assembly. Due to the limited need for electricity and electric facilities, electrical demand during the construction phase is not anticipated to be substantial and no adverse effects on electrical services would occur.

The Applicant's Proposed Alternative would include the relocation of a portion of the existing north-south SDG&E transmission lines, thus altering the electrical infrastructure passing through the Gregory Canyon site. The proposed relocation of the towers would result in the towers being moved to the east of their existing location as shown in Figure 3-15, *Applicant's Proposed Alternative - Relocation of SDG&E Towers*. The relocation of the towers is proposed because the location of the landfill fill area includes the area in which the two existing towers are located. The relocation of the transmission lines and towers would provide for the most effective use of the landfill footprint while ensuring continued reliability and operation of the electric transmission system.

Relocation of the transmission lines would include construction of the new transmission facilities (foundations, structures/towers and conductors), transference of power and demolition of the old/existing structures and conductors. The existing transmission lines would be de-energized briefly as needed to accomplish this work but the timing and availability to perform this work would be dependent upon the California Independent System Operator outage and environmental restrictions to avoid interruptions of service. The transmission lines are part of a redundant loop system; whereby electricity can be rerouted when energy is cut off in one location.[3] Relocation of the transmission lines would require continued coordination with SDG&E as final construction plans are prepared. CPUC approval may be required to relocate the existing transmission and power lines.[4] Thus, with no anticipated interruptions of service and agency review and approval of the relocation project, no significant adverse effects to electricity services are anticipated to result from construction activities.

[3] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, telephone correspondence, March 28, 2012.*

[4] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist and Bruce Nanninga, Team Lead-Electric Transmission Engineering, Sempra Utilities, telephone correspondence, November 3, 2011 and written correspondence, March 14, 2012.*

## Long-Term (Operational) Impacts

### Natural Gas

The use of natural gas during landfill operation is not anticipated. Operations equipment would generally use gasoline, diesel fuel, or electric power, not natural gas sources. The gas line along the SR 76 frontage within the SDG&E maintained easement would not be impacted. No adverse effects to natural gas are anticipated to result from operation of the landfill.

### Electricity

Sempra Utilities has indicated that service to the Gregory Canyon site would be accommodated from the Pala substation. Utility connections would be undergrounded in the access road from SR 76 to the facilities area to adequately meet the anticipated electric consumption demands of the landfill. The landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office, maintenance office buildings, truck scales and fee booths, and the flare station. Such uses would require minimal consumption of electricity. Upon approval, a service agreement would be initiated and the applicant would be responsible for the cost of electrical service. Although the Applicant's Proposed Alternative would incrementally increase demand for electricity supplies and distribution infrastructure, the increase in demand would be associated with a few small buildings and facilities and would be within the service capabilities of SDG&E.[5] Thus, no significant adverse long-term effects to electricity services are anticipated from operation of the landfill.

**Impact Statement Gregory GE-2: The Applicant's Proposed Alternative would not use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Therefore, no significant adverse effects to gas and electricity services would occur.**

### Natural Gas

The use of natural gas service during construction and landfill operation is not anticipated. Construction and operations equipment generally use gasoline, diesel fuel, or electric power, not natural gas sources. Thus, the construction and operations of the landfill would not impact the planning for the provision of natural gas through the Integrated Energy Policy Report or the Final Natural Gas Market Assessment. Therefore, no adverse effects to gas services would occur.

### Electricity

The landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office, maintenance office buildings, truck scales and fee booths. Such uses would require minimal consumption of electricity; and would be provided in a manner consistent SDG&E protocols for the conservation of energy. In accordance with the Smart Grid Deployment Plan 2011-2020, SDG&E must operate in a manner that is consistent with State law that requires utilities like SDG&E to have 33 percent of its electricity come from renewable energy by the year 2020. Thus, no significant adverse effects to electricity services relative to this criterion would occur.

[5] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, telephone correspondence, March 20, 2012.*

Mitigation Measures

The Applicant's Proposed Alternative would not result in significant adverse effects to gas and electricity services. No mitigation measures are proposed.

## 4.16.3.4 NO FEDERAL ACTION ALTERNATIVE

### 4.16.3.4.1 Affected Environment

The No Federal Action Alternative would provide a conservation bank at the Gregory Canyon site. Solid waste disposal would continue to occur generally as it does under existing conditions. As such, the affected environment for the No Federal Action Alternative is the same as described above for the Applicant's Proposed Alternative.

### 4.16.3.4.2 Design Features

No design features for the No Federal Action Alternative are associated with gas and electricity services.

### 4.16.3.4.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on gas and electricity services if the alternative would result in an increase in consumption of energy that is above the service provider's planned service capacity; or use energy in a manner that is inconsistent with plans and policies for the conservation of energy.*

**Impact Statement No Federal Action GE-1: The No Federal Action Alternative would not require the consumption of natural gas or electricity. Therefore, no adverse effects to gas and electricity services would occur.**

The construction and maintenance of a conservation bank would not require the use of natural gas or electricity resources. Grading and construction equipment if needed would operate on gasoline or diesel fuel. If limited use of electrical equipment was needed, the power would be provided by gas/diesel run generators. Thus, no adverse effects to gas and electricity services would occur.

**Impact Statement No Federal Action GE-2: The No Federal Action Alternative would not use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Therefore, no adverse effects to gas and electricity services would occur.**

The construction and maintenance of a conservation bank would not require the use of natural gas or electricity resources. Thus, no adverse effects to gas and electricity services would occur.

Mitigation Measures

No adverse effects to gas and electricity services would occur under the No Federal Action Alternative. No mitigation measures are proposed.

## 4.16.3.5 ASPEN ROAD ALTERNATIVE

### 4.16.3.5.1 Affected Environment

#### Regional Setting

The Aspen Road Alternative is located within the same regional setting as the Gregory Canyon site; within San Diego County, and with service for both natural gas and electrical services provided by SDG&E. As such the discussion of regional service for the Applicant's Proposed Alternative above is applicable to this alternative site as well.

#### Local Setting

##### Natural Gas

SDG&E provides natural gas service to the Aspen Road site. The nearest gas distribution line is located onsite and the nearest transmission main is located approximately three miles northeast of the site.[6] No known gas easements transect the site.

##### Electricity

SDG&E provides electricity service to the Aspen Road site. The nearest 12 kV, 69 kV, and 230 kV electrical transmission lines are located onsite, 2.5 miles southwest, and ½ mile north of the site, respectively.[7] No known electricity easements transect the site.

### 4.16.3.5.2 Design Features

No design features for the Aspen Road Alternative are associated with gas and electricity services.

### 4.16.3.5.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on gas and electricity services if the alternative would result in an increase in consumption of energy that is above the service provider's planned service capacity; or use energy in a manner that is inconsistent with plans and policies for the conservation of energy.*

**Impact Statement Aspen GE-1: The Aspen Road Alternative would require no consumption of natural gas and negligible consumption of electricity that could be provided under the planned service capacity and infrastructure provided by SDG&E. Therefore, no significant adverse effects to gas and electricity services would occur.**

#### Short-Term (Construction) Impacts

##### Natural Gas

As with the Applicant's Proposed Alternative, the use of natural gas service during construction is not anticipated. Grading and construction equipment generally operate on gasoline, diesel fuel, or electric

[6] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, email correspondence, March 22, 2012.*

[7] *Ibid.*

power, not natural gas sources. There are no active gas transmission lines within the alternative site that would require relocation. No adverse effects to natural gas are anticipated to result from construction activities.

#### Electricity

Similar to the Applicant's Proposed Alternative, the use of electrical facilities for construction activities under the Aspen Road Alternative would primarily be limited to the temporary use of electrical equipment and temporary use of power tools necessary for structural assembly. Due to the limited need for electricity and electric facilities, electrical demand during the construction phase is not anticipated to be substantial. There are no regional, high voltage lines located within the alternative site that would require relocation. Thus, no significant adverse effects to electricity services are anticipated to result from construction activities.

### Long-Term (Operational) Impacts

#### Natural Gas

The use of natural gas during landfill operation is not anticipated. Operations equipment would generally use gasoline, diesel fuel, or electric power, not natural gas sources. No adverse effects to natural gas are anticipated to result from operation of the landfill.

#### Electricity

The utility connections would be undergrounded in the access road from Rainbow Glen Road to the facilities area to adequately meet the anticipated electric consumption demands of the landfill. As with the Applicant's Proposed Alternative, under the Aspen Road Alternative the landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office, maintenance office buildings, truck scales and fee booths, and flare station. Upon approval, a service agreement would be initiated and the applicant would be responsible for the cost of electrical service. Although the Aspen Road Alternative would incrementally increase demand for electricity supplies and distribution infrastructure, the increase in demand would be associated with a few small buildings and facilities and would be within the service capabilities of SDG&E.[8] Thus, no significant adverse long-term effects to electricity services are anticipated from operation of the landfill.

**Impact Statement Aspen GE-2: The Aspen Road Alternative would not use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Therefore, no significant adverse effects to gas and electricity services would occur.**

#### Natural Gas

The use of natural gas service during construction and landfill operation is not anticipated. Construction and operations equipment generally use gasoline, diesel fuel, or electric power, not natural gas sources. Thus, the construction and operations of the landfill would not impact the planning for the provision of natural gas

[8] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, telephone correspondence, March 20, 2012.*

through the Integrated Energy Policy Report or the Final Natural Gas Market Assessment. Therefore, no adverse effects to gas services would occur.

#### Electricity

As with the Applicant's Proposed Alternative, under the Aspen Road Alternative the landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office, maintenance office buildings, truck scales and fee booths. Such uses would require minimal consumption of electricity; and would be provided in a manner consistent with the operational protocols of the SDG&E for the conservation of energy. In accordance with the Smart Grid Deployment Plan 2011-2020, SDG&E must operate in a manner that is consistent with State law that requires utilities like SDG&E to have 33 percent of its electricity come from renewable energy by the year 2020. Thus, no significant adverse effects to electricity services relative to this criterion would occur.

Mitigation Measures

The Aspen Road Alternative would have no significant adverse effects on gas and electricity services. No mitigation measures are proposed.

## 4.16.3.6 GOPHER CANYON ROAD ALTERNATIVE

### 4.16.3.6.1 Affected Environment

#### Regional Setting

The Gopher Canyon Road Alternative is located within the same regional setting as the Gregory Canyon site; within San Diego County, and with service for both natural gas and electrical services provided by SDG&E. As such the discussion of regional service for the Applicant's Proposed Alternative above is applicable to this alternative site, as well.

#### Local Setting

#### Natural Gas

SDG&E provides natural gas service to the Gopher Canyon Road site. The nearest gas distribution line and transmission main are located onsite and approximately 1.6 miles west of the site, respectively.[9] No known gas easements transect the site.

#### Electricity

SDG&E provides electricity service to the Gopher Canyon Road site. The nearest kV electrical transmission line is located onsite. The nearest 69 kV and 230 kV lines are located approximately 3.6 miles east of the site.[10] No known electricity easements transect the site.

[9] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, email correspondence, March 22, 2012.*

[10] *Ibid.*

## 4.16.3.6.2 Design Features

No design features for the Gopher Canyon Road Alternative are associated with the gas and electricity services.

## 4.16.3.6.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on gas and electricity services if the alternative would result in an increase in consumption of energy that is above the service provider's planned service capacity; or use energy in a manner that is inconsistent with plans and policies for the conservation of energy.*

**Impact Statement Gopher GE-1: The Gopher Canyon Road Alternative would require no consumption of natural gas and negligible consumption of electricity that could be provided under the planned service capacity and infrastructure provided by SDG&E. Therefore, no significant adverse effects to gas and electricity services would occur.**

### Short-Term (Construction) Impacts

#### Natural Gas

The use of natural gas service during construction is not anticipated. Grading and construction equipment generally operate on gasoline, diesel fuel, or electric power, not natural gas sources. There are no active gas transmission lines within the alternative site that would require relocation. No adverse effects to natural gas are anticipated to result from construction activities.

#### Electricity

Similar to the Applicants Proposed Alternative, under the Gopher Canyon Road Alternative the use of electrical facilities for construction activities would primarily be limited to the temporary use of electrical equipment and temporary use of power tools necessary for structural assembly. Due to the limited need for electricity and electric facilities, electrical demand during the construction phase is not anticipated to be substantial. There are no regional, high voltage lines located within the alternative site that would require relocation. Thus, no significant adverse effects to electricity services are anticipated to result from construction activities.

### Long-Term (Operational) Impacts

#### Natural Gas

The use of natural gas during landfill operation is not anticipated. Operations equipment would generally use gasoline, diesel fuel, or electric power, not natural gas sources. No adverse effects to natural gas are anticipated to result from operation of the landfill.

#### Electricity

The utility connections would be undergrounded in the access road from Gopher Canyon Road to the facilities area to adequately meet the anticipated electric consumption demands of the landfill. The landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office,

maintenance office buildings, truck scales and fee booths, and flare station. Upon approval, a service agreement would be initiated and the applicant would be responsible for the cost of electrical service. Although the Gopher Canyon Road Alternative would incrementally increase demand for electricity supplies and distribution infrastructure, the increase in demand would be associated with a few small buildings and facilities and would be within the service capabilities of SDG&E.[11] Thus, no significant adverse long-term effects to electricity services are anticipated from operation of the landfill.

**Impact Statement Gopher GE-2: The Gopher Canyon Road Alternative would not use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Therefore, no significant adverse effects to gas and electricity services would occur.**

#### Natural Gas

The use of natural gas service during construction and landfill operation is not anticipated. Construction and operations equipment generally use gasoline, diesel fuel, or electric power, not natural gas sources. Thus, the construction and operations of the landfill would not impact the planning for the provision of natural gas through the Integrated Energy Policy Report or the Final Natural Gas Market Assessment. Therefore, no adverse effects to natural gas services would occur.

#### Electricity

As with the Applicant's Proposed Alternative, under the Gopher Canyon Road Alternative the landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office, maintenance office buildings, truck scales and fee booths. Such uses would require minimal consumption of electricity; and would be provided in a manner consistent with the operational protocols of the SDG&E for the conservation of energy. In accordance with the Smart Grid Deployment Plan 2011-2020, SDG&E must operate in a manner that is consistent with State law that requires utilities like SDG&E to have 33 percent of its electricity come from renewable energy by the year 2020. Thus, no significant adverse effects to electricity services relative to this criterion would occur.

Mitigation Measures

The Gopher Canyon Road Alternative would have no significant adverse effects on gas and electricity services. No mitigation measures are proposed.

## 4.16.3.7 MERRIAM MOUNTAIN ALTERNATIVE

### 4.16.3.7.1 Affected Environment

#### Regional Setting

The Merriam Mountain Alternative is located within the same regional setting as the Gregory Canyon site; within San Diego County, and with service for both natural gas and electrical services provided by SDG&E. As such the discussion of regional service for the Applicant's Proposed Alternative above is applicable to this alternative site, as well.

[11] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, telephone correspondence, March 20, 2012.*

### Local Setting

#### Natural Gas

SDG&E provides natural gas service to the Merriam Mountain Road site. The nearest gas distribution line and transmission main are located approximately 0.1 miles northeast and 3.2 miles southwest of the site, respectively.[12] No known gas easements transect the site.

#### Electricity

SDG&E provides electricity service to the Merriam Mountain site. Overhead electric lines and an underground gas line located along Deer Springs Road and Mesa Rock Road serve the site. The nearest kV electrical transmission line is located 0.1 mile northeast of the site. The nearest 69 kV and 230 kV lines are located approximately 2.7 miles east of the site.[13] No known electricity easements transect the site.

## 4.16.3.7.2 Design Features

No design features for the Merriam Mountain Alternative are associated with gas and electricity services.

## 4.16.3.7.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on gas and electricity services if the alternative would result in an increase in consumption of energy that is above the service provider's planned service capacity; or use energy in a manner that is inconsistent with plans and policies for the conservation of energy.*

**Impact Statement Merriam GE-1: The Merriam Mountain Alternative would require no consumption of natural gas and negligible consumption of electricity that could be provided under the planned service capacity and infrastructure provided by SDG&E. Therefore, no significant adverse effects to gas and electricity services would occur.**

### Short-Term (Construction) Impacts

#### Natural Gas

The use of natural gas service during construction is not anticipated. Grading and construction equipment generally operate on gasoline, diesel fuel, or electric power, not natural gas sources. There are no active gas transmission lines within the alternative site that would require relocation. Therefore, no adverse effects to natural gas are anticipated to result from construction activities.

#### Electricity

Similar to the Applicants Proposed Alternative, under the Merriam Mountain Alternative the use of electrical facilities for construction activities would primarily be limited to the temporary use of electrical equipment and temporary use of power tools necessary for structural assembly. Due to the limited need for electricity and electric facilities, electrical demand during the construction phase is not anticipated to be substantial.

[12] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, email correspondence, March 22, 2012.*

[13] *Ibid.*

There are no regional, high voltage lines located within the alternative site that would require relocation. Thus, no significant adverse effects to electricity services are anticipated to result from construction activities.

### Long-Term (Operational) Impacts

#### Natural Gas

The use of natural gas during landfill operation is not anticipated. Operations equipment would generally use gasoline, diesel fuel, or electric power, not natural gas sources. No adverse effects to natural gas are anticipated to result from operation of the landfill.

#### Electricity

The utility connections would be undergrounded in the access road from Gopher Canyon Road to the facilities area to adequately meet the anticipated electric consumption demands of the landfill. The landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office, maintenance office buildings, truck scales and fee booths, and flare station. Upon approval, a service agreement would be initiated and the applicant would be responsible for the cost of electrical service. Although the Merriam Mountain Alternative would incrementally increase demand for electricity supplies and distribution infrastructure, the increase in demand would be associated with a few small buildings and facilities and would be within the service capabilities of SDG&E.[14] Thus, no significant adverse long-term effects to electricity services are anticipated from operation of the landfill.

**Impact Statement Merriam GE-2: The Merriam Mountain Alternative would not use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Therefore, no significant adverse effects to gas and electricity services would occur.**

#### Natural Gas

The use of natural gas service during construction and landfill operation is not anticipated. Construction and operations equipment generally use gasoline, diesel fuel, or electric power, not natural gas sources. Thus, the construction and operations of the landfill would not impact the planning for the provision of natural gas through the Integrated Energy Policy Report or the Final Natural Gas Market Assessment. Therefore, no adverse effects to natural gas services would occur.

#### Electricity

As with the Applicant's Proposed Alternative, under the Merriam Mountain Alternative the landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office, maintenance office buildings, truck scales and fee booths. Such uses would require minimal consumption of electricity; and would be provided in a manner consistent with the operational protocols of the SDG&E for the conservation of energy. In accordance with the Smart Grid Deployment Plan 2011-2020, SDG&E must operate in a manner that is consistent with State law that requires utilities like SDG&E to have 33 percent of

[14] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, telephone correspondence, March 20, 2012.*

its electricity come from renewable energy by the year 2020. Thus, no significant adverse effects to electricity services relative to this criterion would occur.

Mitigation Measures

The Merriam Mountain Alternative would have no significant adverse effects on gas and electricity services. No mitigation measures are proposed.

## 4.16.3.8 EAST OTAY MESA ALTERNATIVE

### 4.16.3.8.1 Affected Environment

#### Regional Setting

The East Otay Mesa Alternative site is located within the same regional setting as the Gregory Canyon site; within San Diego County, and with service for both natural gas and electrical services provided by SDG&E. As such the discussion of regional service for the Applicant's Proposed Alternative above is applicable to this alternative site, as well.

#### Local Setting

##### Natural Gas

SDG&E provides natural gas service to the East Otay Mesa site. The nearest gas distribution line and transmission main are located approximately 1.2 miles and 0.2 miles southwest of the site, respectively.[15] No known gas easements transect the site.

##### Electricity

SDG&E provides electricity service to the East Otay Mesa site. The nearest kV electrical transmission line is located 0.1 miles west of the site. The nearest 69 kV and 230 kV lines are located approximately 0.9 miles and 0.1 miles west of the site, respectively.[16] No known electricity easements transect the site.

### 4.16.3.8.2 Design Features

No design features for the East Otay Mesa Alternative are associated with gas and electricity services.

### 4.16.3.8.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on gas and electricity services if the alternative would result in an increase in consumption of energy that is above the service provider's planned service capacity; or use energy in a manner that is inconsistent with plans and policies for the conservation of energy.*

**Impact Statement East Otay GE-1: The East Otay Mesa Alternative would require no consumption of natural gas and negligible consumption of electricity that could be provided under the planned**

[15] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, email correspondence, June 7, 2012.*

[16] *Ibid.*

**service capacity and infrastructure provided by SDG&E. Therefore, no significant adverse effects to gas and electricity services would occur.**

### Short-Term (Construction) Impacts

#### Natural Gas

The use of natural gas service during construction is not anticipated. Grading and construction equipment generally operate on gasoline, diesel fuel, or electric power, not natural gas sources. There are no active gas transmission lines within the alternative site that would require relocation. No adverse effects to natural gas are anticipated to result from construction activities.

#### Electricity

Similar to the Applicant's Proposed Alternative, under the East Otay Mesa Alternative the use of electrical facilities for construction activities would primarily be limited to the temporary use of electrical equipment and temporary use of power tools necessary for structural assembly. Due to the limited need for electricity and electric facilities, electrical demand during the construction phase is not anticipated to be substantial. There are no regional, high voltage lines located within the alternative site that would require relocation. Thus, no significant adverse effects to electricity services are anticipated to result from construction activities.

### Long-Term (Operational) Impacts

#### Natural Gas

The use of natural gas during landfill operation is not anticipated. Operations equipment would generally use gasoline, diesel fuel, or electric power, not natural gas sources. No adverse effects to natural gas are anticipated to result from operation of the landfill.

#### Electricity

The utility connections would be undergrounded in the access road from Siempre Viva Road to the facilities area to adequately meet the anticipated electric consumption demands of the landfill. The landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office, maintenance office buildings, truck scales and fee booths, and flare station. Upon approval, a service agreement would be initiated and the applicant would be responsible for the cost of electrical service. Although the East Otay Mesa Alternative would incrementally increase demand for electricity supplies and distribution infrastructure, the increase in demand would be associated with a few small buildings and facilities and would be within the service capabilities of SDG&E.[17] Thus, no significant adverse long-term effects to electricity services are anticipated from operation of the landfill.

**Impact Statement East Otay GE-2: The East Otay Mesa Alternative would not use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Therefore, no significant adverse effects to gas and electricity services would occur.**

[17] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, email correspondence, June 7, 2012.*

#### Natural Gas

The use of natural gas service during construction and landfill operation is not anticipated. Construction and operations equipment generally use gasoline, diesel fuel, or electric power, not natural gas sources. Thus, the construction and operations of the landfill would not impact the planning for the provision of natural gas through the Integrated Energy Policy Report or the Final Natural Gas Market Assessment. Therefore, no adverse effects to gas services would occur.

#### Electricity

As with the Applicant's Proposed Alternative, under the East Otay Mesa Alternative the landfill facilities and operations requiring electricity would include the visitor center, shop office, plant office, maintenance office buildings, truck scales and fee booths. Such uses would require minimal consumption of electricity; and would be provided in a manner consistent with the operational protocols of the SDG&E for the conservation of energy. In accordance with the Smart Grid Deployment Plan 2011-2020, SDG&E must operate in a manner that is consistent with State law that requires utilities like SDG&E to have 33 percent of its electricity come from renewable energy by the year 2020. Thus, no significant adverse effects to electricity services relative to this criterion would occur.

Mitigation Measures

The East Otay Mesa Alternative would have no significant adverse effects on gas and electricity services. No mitigation measures are proposed.

## 4.16.3.9 SYCAMORE CANYON EXPANSION ALTERNATIVE

### 4.16.3.9.1 Affected Environment

#### Regional Setting

The Sycamore Canyon Expansion Alternative site is located within the same regional setting as the Applicant's Proposed Alternative. SDG&E provides electrical services for the Sycamore Canyon Landfill. As such the discussion of regional service within the County of San Diego for the Applicant's Proposed Alternative above is applicable to this alternative site as well.

#### Local Setting

#### Natural Gas

The landfill currently does not require natural gas for generating electricity, water heating, or heating of the administrative facilities.[18] The nearest gas distribution line and transmission main are located approximately 0.7 miles east and 0.8 miles south of the site, respectively.[19]

[18] *City of San Diego. August 2012. Sycamore Landfill Master Development Plan Revised Final EIR, page 5.8-26.*

[19] *Dashiell S. Meeks, PE, AICP, Senior Environmental Specialist, Sempra Utilities, email correspondence, June 7, 2012.*

### Electricity

SDG&E provides electricity service to the Sycamore Canyon site. Electric power is provided to the entry area landfill offices and to the cogeneration plant, when the cogeneration plant is not generating its own power, via a 12 kV wood-pole power line that passes through the landfill entry area off Mast Boulevard, and which follows the landfill access road to the power plant site. The cogeneration plant uses landfill gases, a by-product of solid waste decomposition composed of methane and carbon dioxide, to generate electrical power. A third-party company, Fortistar Methane Group, owns and operates the cogeneration facility under an agreement entered into by its predecessor and the previous owner of the Sycamore Landfill, the County of San Diego.[20] The cogeneration plant generates approximately 13,292 megawatt per hour (MWh) per year.[21]

The electric power transmission lines, towers, and poles are located within a 200-foot wide SDG&E easement that encompasses up to 25 acres of the Sycamore Canyon site and a 100-foot wide easement situated along the southerly portion of the landfill property. The SDG&E easement expired in January 2005. Relocation of these lines were previously analyzed, but relocation was never implemented. Sycamore Landfill Incorporated (SLI) and SDG&E agreed to extend the term of the existing easement, while committing SDG&E to relocate the easement if project approvals are obtained. Three parallel electric power transmission lines currently pass diagonally through the existing landfill site within the SDG&E easement. These lines do not power the landfill facilities and include two 230 kV transmission lines mounted on lattice steel towers approximately 135 feet in height and one 69 kV transmission line mounted on wood lattice poles approximately 60 to 70 feet in height. Both steel towers and wood poles are arranged in five groups containing two structures each. Two additional 138 kV transmission lines are located within the 100-foot wide easement. Access to these facilities is provided via a series of unpaved roads within the existing easements.[22]

## 4.16.3.9.2 Design Features

No design features for the Sycamore Canyon Expansion Alternative are associated with gas and electricity services.

## 4.16.3.9.3 Environmental Consequences and Mitigation Measures

*Criterion: An alternative would have a significant adverse effect on gas and electricity services if the alternative would result in an increase in consumption of energy that is above the service provider's planned service capacity; or use energy in a manner that is inconsistent with plans and policies for the conservation of energy.*

**Impact Statement Sycamore GE-1: The Sycamore Canyon Expansion Alternative would require no consumption of natural gas and negligible consumption of electricity that could be provided under the planned service capacity and infrastructure provided by SDG&E. Therefore, no significant adverse effects to gas and electricity services would occur.**

[20] *City of San Diego. August 2012. Sycamore Landfill Master Development Plan Revised Final EIR, page 2-7.*

[21] *Ibid, page 5.8-26.*

[22] *City of San Diego. August 2012. Sycamore Landfill Master Development Plan Revised Final EIR, page 2-14.*

### Natural Gas

The use of natural gas service during periodic construction activities, relocation of the electric power transmission lines, or landfill operation is not anticipated. Grading, construction, and operations equipment generally operate on gasoline, diesel fuel, or electric power, not natural gas sources. There are no active gas transmission lines within the alternative site that would require relocation. No adverse effects to natural gas are anticipated to result from construction activities or from operation of the landfill.

### Electricity

The use of electrical facilities for periodic construction activities would primarily be limited to the temporary use of electrical equipment and temporary use of power tools. Due to the limited need for electricity and electric facilities, electrical demand during periodic construction is not anticipated to be substantial. No significant adverse effects to electrical services are anticipated to result from periodic construction activities.

The Sycamore Canyon Expansion Alternative would include the relocation of two 230 kV transmission lines and one 69 kV transmission line, thus altering the electrical infrastructure passing through the Sycamore Canyon site. The relocation of the transmission lines is proposed in order for the landfill to expand its capacity horizontally and vertically while ensuring continued reliability and operation of the electric transmission system. Relocation of the transmission lines would include construction of the new transmission facilities (foundations, structures/towers and conductors), transference of power and demolition of the old/existing structures and conductors.

The proposed transmission power line route would diverge from the existing route at the west edge of the site and follow the proposed grading for the landfill along the western and northern boundaries, continuing north to just south of the MCAS Miramar property before turning east. East of the landfill, the relocated corridor would turn east-southeast, and intersect with the existing easement. The new towers would be arranged in groups, similar to the existing arrangement, while the relocated transmission lines on those towers would be tied in with the existing lines that traverse the southerly portion of the site. The existing northeastern-most tower grouping of three towers immediately off-site and the tower grouping near the southwest corner of the site would be retained and eight new groupings, each containing three towers, would be constructed within the new corridor.[23] Structures to be constructed, consisting of new steel poles or lattice steel towers, would appear substantially similar to the existing pools and towers. The relocated easement would be approximately 7,150 feet long and 200 feet wide, and would encompass 32.8 acres, compared to the existing easement crossing the landfill site which is approximately 5,500 feet long, and encompasses up to 25 acres. An additional easement containing no structures would be required to the northwest portion of the landfill property.[24]

The existing transmission lines would be de-energized briefly as needed to accomplish this work but the timing and availability to perform this work would be dependent upon the California Independent System Operator outage and environmental restrictions to avoid interruptions of service. Relocation of the transmission lines would require continued coordination with SDG&E as final construction plans are

[23] *Refer to Figure 3-15, Existing and Proposed Transmission Line Alignments, of the Sycamore Landfill Master Development Plan Revised Final EIR (August 2012), which shows the existing and proposed transmission power line routes, rights-of-way, and tower groupings.*

[24] *City of San Diego. August 2012. Sycamore Landfill Master Plan Revised Final EIR, page 3-23 through 3-26.*

prepared. Timing of the relocation would depend on the construction sequencing of the future waste disposal operations and would not require modification of the locations of the landfill support facilities (i.e., scales, maintenance facilities, and administrative offices).[25] Construction activities for the relocation of transmission lines are estimated to require approximately two years from the time of approval by jurisdictional agencies, including the CPUC.[26] Thus, with no anticipated interruptions of service and agency review and approval of the relocation project, no significant adverse effects to electricity services are anticipated to result from construction activities.

The expansion and continued operation of the existing facility would result in the ongoing use of electricity. Increases in electricity usage over the life of the landfill would be offset by the energy produced from the on-site cogeneration plant. As discussed above, the cogeneration plant generates approximately 13,292 MWh per year. Landfill gas not utilized for electric power production would be burned in a flare system located near the cogeneration plant.[27] Electricity usage for the flare station would also be offset by the energy produced from the on-site cogeneration plant. Thus, no significant adverse long-term effects to electricity services are anticipated from operation of the landfill.

**Impact Statement Sycamore GE-2: The Sycamore Canyon Expansion Alternative would not use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Therefore, no significant adverse effects to gas and electricity services would occur.**

### Natural Gas

The use of natural gas service during periodic construction and landfill operation is not anticipated. Construction and operations equipment generally use gasoline, diesel fuel, or electric power, not natural gas sources. Thus, the construction and operations of the landfill would not impact the planning for the provision of natural gas through the Integrated Energy Policy Report or the Final Natural Gas Market Assessment. Therefore, no adverse effects to gas services would occur.

### Electricity

The landfill facilities and operations requiring electricity would include the scale facility and administrative offices. Such uses would require minimal consumption of electricity; and would be provided in a manner consistent with the operational protocols of the SDG&E for the conservation of energy. In accordance with the Smart Grid Deployment Plan 2011-2020, SDG&E must operate in a manner that is consistent with State law that requires utilities like SDG&E to have 33 percent of its electricity come from renewable energy by the year 2020. Thus, no significant adverse effects to electricity services relative to this criterion would occur.

## Mitigation Measures

The Sycamore Canyon Expansion Alternative would have no significant adverse effects on gas and electricity services. No mitigation measures are proposed.

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[25] *Ibid, page 3-24.*

[26] *Ibid, page 3-26.*

[27] *City of San Diego. August 2012. Sycamore Landfill Master Plan Revised Final EIR, page 5.8-26.*

# 5.0 COMPARISON OF ALTERNATIVES

## INTRODUCTION

This chapter provides a comparison of the Applicant's Proposed Alternative to the six alternatives identified in Chapter3, Description of Alternatives, in this EIS. As discussed in Chapter 1, subsection 1.7.6, of this EIS, NEPA (40 CFR 1502.14(a)) requires that an EIS describe a range of reasonable alternatives to a proposed action, or to the location of a proposed action that could feasibly meet the statement of purpose of the proposed action while also avoiding or substantially lessening any significant environmental effects. In addition, the Clean Water Act (CWA) section 404(b)(1) guidelines (40 CFR 230) require that the USACE only select the least environmentally damaging practicable alternative (LEDPA).

Since a purpose of evaluating alternatives is to foster the USACE's ability to make a reasoned choice among alternatives this chapter provides a comparison of the alternatives based on the detailed evaluations of each alternative provided in Chapters 4 and 6 of this EIR. The alternatives analyzed in this EIS are:[1]

- Applicant's Proposed Alternative (Alternative 1);
- No Federal Action Alternative (Alternative 2);
- Aspen Road Alternative (Alternative 3);
- Gopher Canyon Road Alternative (Alternative 4);
- Merriam Mountain Alternative (Alternative 5);
- East Otay Mesa Alternative (Alternative 6); and
- Sycamore Canyon Expansion Alternative (Alternative 7).

## 5.1 NEPA ALTERNATIVES COMPARISON

Table 5-1 summarizes the conclusions of the analyses for each alternative by resource area. The significant adverse effects that would result from each of the alternatives are discussed below. In addition, Table 5-2 provides a summary of significant adverse cumulative effects to which an alternative would contribute by resource area.

[1] *This Draft EIS evaluates five alternatives to the Applicant's Proposed Alternative as well as a No Federal Action Alternative. In this EIS, the USACE's federal action is whether to issue a permit, issue with modification or conditions, or deny the permit as requested by Gregory Canyon, Ltd. The permit evaluation considers only the Applicant's Proposed Action within the proposed Gregory Canyon site. The analysis of the five off-site alternatives in this EIS is solely provided to support compliance with NEPA; this EIS does not consider any federal action for any of the five alternative sites.*

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| **Aesthetics** | | | | | | | |
| *Landform Character* | Significant Adverse | Not Adverse | Significant Adverse | Adverse (not significant adverse) | Significant Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Visual Quality* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Significant Adverse |
| *Visual Resources* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *View Quality* | Adverse (not significant adverse) | Not Adverse | Significant Adverse | Adverse (not significant adverse) | Significant Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Neighborhood Character* | Adverse (not significant adverse) | Not Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse |
| *Dark Skies* | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse |
| **Agricultural Resources** | | | | | | | |
| *Conversion of Farmlands* | Not Adverse | Not Adverse | Significant Adverse | Not Adverse | Not Adverse | Significant Adverse | Not Adverse |
| *Compatibility with Existing Farmlands* | Adverse (not significant adverse) | Not Adverse | Significant Adverse | Not Adverse | Not Adverse | Adverse (not significant adverse) | Not Adverse |
| **Air Quality and Greenhouse Gases** | | | | | | | |
| *Conflict with the San Diego Regional Air Quality Strategy Plan (RAQS) or the State Implementation Plan (SIP)* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| *Violate any air quality standard (NAAQS and AQIA) or contribute substantially to an existing or projected air quality violation* | Significant Adverse | Not Adverse [San Diego Air Basin]<br><br>Significant Adverse [South Coast Air Basin] | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse |
| *Cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment* | Significant Adverse | Not Adverse [San Diego Air Basin]<br><br>Significant Adverse [South Coast Air Basin] | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse |
| *Health risks and microclimate* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Objectionable odors* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Visibility* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| **Biological Resources** | | | | | | | |
| *Substantial loss of functions and services of jurisdictional waters of the U.S; and/or substantial adverse construction effects within jurisdictional waters of the U.S. through temporary removal, filling, hydrological interruption, loss of functions or services, or other means* | Adverse (not significant adverse) | N/A | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Substantial loss of native vegetation and/or plant populations and/or impact sensitive habitat which is regionally limited* | Adverse (not significant adverse) | N/A | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Significant Adverse | Adverse (not significant adverse) |
| *Substantial loss of designated critical habitat that leads to an adverse modification of its habitat* | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | N/A |
| *Wildlife movement* | Adverse (not significant adverse) | N/A | Significant adverse | Significant Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Direct or Indirect effect on state- or federal-listed species leading to a jeopardy opinion for one or more species* | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| *Golden eagle* | Adverse (not significant adverse) | N/A | N/A | N/A | N/A | Adverse (not significant adverse) | N/A |
| *Conflict with long-term regional or sub-regional conservation goals* | Adverse (not significant adverse) | N/A | Adverse (not significant adverse) | Adverse (not significant adverse) | Significant Adverse | Significant Adverse | Adverse (not significant adverse) |
| **Historical and Archaeological** | | | | | | | |
| *Historic property pursuant to Section 106* | Adverse (not significant adverse) | Adverse (not significant adverse) | Not Adverse | Not Adverse | Not Adverse | Adverse (not significant adverse) | Not Adverse |
| *Unknown historic property pursuant to Section 106* | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Traditional Cultural Properties** | | | | | | | |
| *Alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity* | Significant adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Geology and Soils** | | | | | | | |
| *Alquist-Priolo fault or County Special Study Zone fault* | Adverse (not significant adverse) | Not adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| *Strong seismic ground shaking; seismic-related ground failure, including liquefaction; landslides/rockfall; or mudflow/debris flows; or landslide, lateral spreading, subsidence, liquefaction, or collapse; or expansive soil* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Rockfalls* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Debris flows* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Settlement* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Threat to public safety (Structures)* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Mineral resources* | Not Adverse | Not Adverse | Adverse (not significant adverse) | Significant Adverse | Significant Adverse | Adverse (not significant adverse) | Not Adverse |
| *Soil resources* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| **Human Health and Safety** | | | | | | | |
| *Release, transport, use, production, disposal or exposure to hazardous materials* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Existing hazardous materials on site* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Accident conditions* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Emergency response plans or emergency evacuation plans* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Hydrogeology** | | | | | | | |
| *Groundwater supplies/ groundwater recharge* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Federal, state, or local groundwater quality standard or waste discharge requirements* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Land Use and Planning** | | | | | | | |
| *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project* | Adverse (not significant adverse) | Not Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse |

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| *Conflict with any applicable habitat conservation plan or natural community conservation plan* | Adverse (not significant adverse) | Not Adverse | Significant Adverse | Adverse (not significant adverse) | Significant Adverse | Significant Adverse | Not Adverse |
| **Noise and Vibration** | | | | | | | |
| *Noise - Initial Construction* | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Noise – Operation + Periodic Construction* | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse)/ Blasting – Significant Adverse | Adverse (not significant adverse)/ Blasting – Significant Adverse | Adverse (not significant adverse)/ Blasting – Significant Adverse | Adverse (not significant adverse)/ Blasting – Significant Adverse | Significant Adverse |
| *Traffic noise* | Significant Adverse | Adverse (not significant adverse) | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Adverse (not significant adverse) |
| *Vibration levels* | Adverse (not significant adverse) | N/A | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Law Enforcement** | | | | | | | |
| *Create the need for new or physically altered governmental facilities* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| **Fire Protection and Emergency Medical Services** | | | | | | | |
| *Create the need for new or physically altered facilities* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Schools** | | | | | | | |
| *Create student enrollments that exceed available capacities* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Recreation** | | | | | | | |
| *Substantial deterioration or acceleration of deterioration of recreational facilities or resources* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Socioeconomics** | | | | | | | |
| *Substantially alter the location, distribution, density, or growth rate of the human population* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Substantial physical environmental effects on surrounding uses* | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse |
| **Surface Hydrology** | | | | | | | |
| *Discharges that create pollution, contamination or nuisance* | Adverse (not significant adverse) | Not adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Place structures within a 100-year flood hazard zone or other special flood hazard area* | Adverse (not significant adverse) | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse |

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| *Alter the floodway in a manner that would redirect or impede flow* | Adverse (not significant adverse) | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse |
| *Alter the floodway* | Adverse (not significant adverse) | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse |
| *Alter the floodway in a manner that would redirect or impede flow resulting in substantial changes in channel morphology (scour)* | Adverse (not significant adverse) | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse | Not Adverse |
| **Transportation** | | | | | | | |
| *Existing Baseline*<br>*(Intersections; Roadway Segments –Total Daily Trips; Freeways)* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| *Near Term*<br>*(Intersections; Roadway Segments –Total Daily Trips; Freeways)* | Significant Adverse | Adverse (not significant adverse) | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse |
| *Buildout*<br>*(Intersections; Roadway Segments –Total Daily Trips; Freeways)* | Significant Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Significant Adverse | Significant Adverse |
| **Water Supply** | | | | | | | |
| *Require construction of new water facilities or the expansion of existing facilities* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |

**Table 5-1**

**Comparison of Alternatives**

| Criterion | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| *Groundwater supplies/groundwater recharge* | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Not Adverse |
| *Recycled water usage* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Wastewater** | | | | | | | |
| *Wastewater treatment capacity* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |
| **Gas and Electric** | | | | | | | |
| *Consumption of energy above the capacity; or*<br>*use energy in a manner inconsistent with plans and policies for the conservation of energy* | Adverse (not significant adverse) | Not Adverse | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) | Adverse (not significant adverse) |

## 5.1.1 APPLICANT'S PROPOSED ALTERNATIVE

The Applicant's Proposed Alternative is described in detail subsections 3.1 through 3.4 of this EIS. As described, the Applicant's Proposed Alternative would be located along SR 76 approximately three miles east of Interstate 15 (I-15) and two miles southwest of the community of Pala. Currently, the site contains abandoned farm buildings and a temporary storage yard, which are located on the eastern portion of the site south of SR 76. The remainder of the site contains is undeveloped and contains no other structures. unoccupied.

The Applicant's Proposed Alternative would include the construction, operation, and closure of a Class III landfill with an approximately 30-million ton capacity. The proposed landfill would have a maximum daily intake of 5,000 tons and an annual intake of up to 1.0 million tons of solid waste. The landfill would have a life expectancy of about 30 years. The landfill components would occupy approximately 308 acres of an approximately 1,770-acre site. The components would include an access road and bridge, the landfill footprint, two borrow/stockpile areas, ancillary facilities area, internal haul road, and two desilting basins. The alternative includes the implementation of a Habitat Restoration and Resource Management Plan (HRRMP) and the dedication of a minimum of 1,313 acres of permanent open space for long-term preservation of sensitive habitat and species.

### Resources with Significant Adverse Effects

The Applicant's Proposed Alternative would result in significant adverse effects in the following areas: Aesthetic Resources (landform character), Air Quality, Traditional Cultural Properties, Traffic Noise, and Transportation (Near-Term and Buildout). Each of these significant adverse effects associated with the Applicant's Proposed Alternative is discussed below.

### Aesthetic Resources

#### Landform Character

The landfill face would be the most visible component of the alternative and, at its highest elevation, would rise to 1,100 feet. The landfill top would be approximately 740 feet below the peak of Gregory Mountain, which is at 1,844 feet. Although the adjacent Gregory Mountain landform would still be a dominant feature of the landscape, the landfill would be located on or next to landscape units that have high or moderate visual quality, and high to moderate sensitivity to change. The landfill components would be visible from residential properties in Rice and Couser Canyons, from the west rim of Gregory Mountain, from Medicine Rock and from SR 76. A significant adverse aesthetics effect would result to the more than 1,000 viewers a day on SR 76 with respect to natural landform character. Although design features, including graded benches and lifts to blend, contour, and manipulate the landfill to resemble or meld with its surroundings; landscape screening on the perimeter of the property to block views of the landfill; major tree groupings; re-planting to resemble patterns within the adjacent vegetation matrix and its colors; and incorporating boulders to create the rocky texture of the surrounding hillsides, would reduce landform character impacts, environmental effects would still be considered a significant adverse effect. The significant adverse effect related to landform character applies only to the landfill prism. Other components of the project, including, Borrow/Stockpile Areas A and B, ancillary facilities, bridge and road, the western desilting basin, and relocation of the SDG&E towers, would not result in a significant adverse effect with respect to natural landform character.

## Air Quality

### Air Quality Standard (NAAQS and AQIA) or Contribute Substantially to any Criteria Pollutant in Non-Attainment Area

The Applicant's Proposed Alternative would potentially result in violations of air quality standards or potentially contribute to existing or projected violations. Implementation of this alternative would result in emissions of CO, $NO_x$, $PM_{10}$, and $PM_{2.5}$ that would exceed the SDAPCD AQIA trigger levels. However, dispersion modeling using the USEPA-approved AERMOD model demonstrates that this alternative would not result in concentrations of emissions that would exceed the ambient air quality standards for CO, $NO_2$, $PM_{10}$, and $PM_{2.5}$. Although $NO_x$ emissions would not cause an exceedance of the NAAQS for $NO_2$, it is a precursor to regional ozone as are VOCs; therefore, because ozone precursor (VOC and $NO_x$) emissions exceeds the SDAPCD Rule 20 offset requirement, and because the SDAB is non-attainment for the federal ozone standard, it is conservatively assumed that significant adverse effects would occur. However, implementation of this alternative would reduce future emissions from waste hauling trucks within the South Coast Air Basin (because waste would not be exported out of San Diego County) and would thus not exceed the SCAQMD trigger levels or be considered adverse in the South Coast Air Basin. As a result, this alternative would result in no adverse effects in the South Coast Air Basin.

### Cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment

The Applicant's Proposed Alternative would result in a cumulatively considerable net increase of criteria pollutants for which the region is in non-attainment. Implementation of this alternative would result in emissions of VOCs and $NO_x$ that would exceed the SDAPCD thresholds for ozone precursors ($NO_x$ and VOCs). Therefore, the alternative would result in significant adverse effects. However, implementation of this alternative would reduce emissions from waste hauling trucks within the South Coast Air Basin and would thus not exceed the SCAQMD trigger levels. Therefore, impacts would be considered not adverse in the South Coast Air Basin.

## Cultural Resources

### Traditional Cultural Properties

The Applicant's Proposed Alternative would introduce visual elements, audible elements, and atmospheric elements that are out of character with the setting of Traditional Cultural Properties (TCP's), including *Chokla* (Gregory Mountain) and Medicine Rock, which qualifies the TCPs for inclusion in the NRHP. The alternative would diminish the integrity of the property's setting, feeling, and association. Although most of the known physical features that are essential physical features that enable *Chokla* to convey its historic identity would be unaffected, following closure of the landfill, the remaining landfill prism would continue to alter the character of the TCP's setting. Therefore, the alternative would have a significant adverse effect. The USACE has concluded that *Chokla* would be both directly and indirectly affected by construction and operation of the landfill, that Medicine Rock is within the indirect APE, and that CA-SDI-745 would be directly affected by construction and operation of the landfill (Castanon 2012). The California SHPO has not commented on specific effects to specific cultural resources, but has commented that the Applicant's Proposed Alternative will result in adverse effects to NRHP-eligible cultural resources within the direct APE, but that adverse effects to NRHP-eligible properties within the indirect APE are yet to be determined (Donaldson 2012).

## Noise

### Traffic Noise

Operation of the proposed landfill would generate additional traffic on public roadways. Although the majority of the noise on most of the roads would come from other traffic sources, the Applicant's Proposed Alternative would contribute to the future noise levels along all the roadways that serve the site. In the vicinity of the Applicant's Proposed Alternative site, a residence to the west and four residences to the east of the site on SR 76 and residences on the north side of SR 76 between I-15 and Rice Canyon Road would be located within the 60 CNEL along SR 76. Since the SR 76 corridor is an existing degraded noise environment with noise levels exceeding 60 CNEL, any increase in the noise levels, even by a small margin, would have a significant adverse noise effect to the existing residences. The applicant could implement design feature to reduce landfill traffic noise impacts to these existing residences, which includes the installation of a barrier (e.g., fence, masonry wall, earth berm, or vegetation) along SR 76. Given the orientation of the residences and proximity to SR 76, a five-foot masonry wall (assuming installation in the right-of-way) would reduce the alternative's increase in noise levels at the cluster of residences. A total of approximately 730 linear feet of sound wall would be required, with a break in the wall to maintain the common driveway for the cluster of residences. The installation of this sound wall would reduce alternative-generated traffic noise to the impacted residences. However, since the applicant does not own the property and the property owner objects to a sound wall, implementation of this design feature is not considered feasible. Therefore, because the alternative-generated traffic would increase the noise levels in an already degraded environment, and construction of a soundwall may not be feasible, the alternative would result in a significant adverse noise effect on the cluster of residences on SR 76.

## Transportation

### Near-Term Conditions

The Applicant's Proposed Alternative would add traffic to the roadway network. The trips would have the greatest impacts along SR 76 between the landfill access road and the I-15 ramps. Under the Near Term Conditions scenario, the alternative would result in cumulative traffic contributions which are below the evaluation criteria with implementation of the alternative's design features, which include payment of TIF fees. However, as the payment of TIF fees would not necessarily result in construction of recommended roadway improvements to address the alternative's significant adverse cumulative effects, or result in their implementation prior to the significant adverse effect occurring, it is conservatively concluded that the alternative could result in exceedance of the evaluation criteria at six intersections and six roadway segments in the Near-Term scenario.

### Buildout Conditions

The Applicant's Proposed Alternative would add traffic to the roadway network. As indicated above, the trips would have the greatest impacts along SR 76 between the landfill access road and the I-15 ramps. The trip distribution through traffic facilities analyzed, when measured against the Buildout Conditions Baseline, would operate at levels below the evaluation criteria with implementation of the design features. However, although TIF fees would be paid to support construction of recommended roadway improvements to address the alternative's contribution to significant adverse cumulative effects, construction of the roadway improvements is uncertain. Therefore, it is concluded that the alternative could result in significant adverse

effects at the intersection of SR 76/Access Road (LOS E in the P.M. peak hour) and the segment of SR 76 between Couser Canyon Road and the Landfill Access (LOS F).

### 5.1.2 NO FEDERAL ACTION ALTERNATIVE

Under the No Federal Action Alternative a USACE permit would not be issued and the Applicant's Proposed Alternative would not be implemented. The existing unoccupied dairy structures and residences on the site would remain and an approximately 1,752-acre biological resources conservation area, including a conservation bank on 1,534 acres, and a habitat restoration area on approximately 218 acres would be established on the site. The conservation bank would support designated critical habitat for four federally listed species, with no restoration activities. The restoration area would restore habitat in applicable areas of the site: coastal sage scrub, chaparral, and native grassland habitat; oak woodland with an alluvial scrub and native grassland understory and mesic alluvial scrub/coastal sage scrub.

Without provision of added landfill capacity within San Diego County, waste generated in North San Diego County would continue to be disposed of at landfills within the County or outside of the County as is currently the case. Under the No Federal Action Alternative waste generated in or near North County would continue to be disposed of at Sycamore Canyon, Otay, Miramar, Prima Deshecha, and El Sobrante Landfills. However, the in-County capacity would be exhausted by 2024, absent the development of a new landfill. Based on information and analysis provided in the Needs Assessment included as Appendix B, of this EIS, it is assumed that by 2025, and as in-County capacity is exceeded, solid waste generated in San Diego County would be exported. The No Federal Action assumes that after 2025 waste would be collected as it is currently, taken to transfer stations and then trucked via transfer trucks to El Sobrante Landfill.

#### Resources with Significant Adverse Effects

Under the No Federal Action Alternative significant adverse effects related to air quality would occur as a result of the transport of waste generated in or near North County to Riverside County. With regard to biological resources, it is important to note that while a conservation bank would be established and habitat restoration would occur outside waters of the U.S., under the No Federal Action Alternative no establishment of riparian habitat would occur as would be implemented under the Applicant's Proposed Alternative.

#### Air Quality

##### Air Quality Standard (NAAQS and AQIA) or Contribute Substantially to any Criteria Pollutant in Non-Attainment Area

The No Federal Action Alternative would not cause any new violations of air quality standards, nor would it contribute to existing or projected violations in the SDAB. However, under the No Federal Action Alternative, emissions of $NO_X$, $PM_{10}$, and $PM_{2.5}$ would potentially increase in the South Coast Air Basin in excess of the SCAQMD daily thresholds for operational emissions. The South Coast Air Basin is in non-attainment of the federal and state standards for ozone ($NO_X$ is an ozone precursor), $PM_{10}$, and $PM_{2.5}$ and the South Coast Air Basin is designated as "extreme" non-attainment for ozone, which is a worse designation than the SDAB, which is designated as "marginal" non-attainment for ozone. Thus, under the No Federal Action Alternative, emissions of $NO_X$, $PM_{10}$, and $PM_{2.5}$ would increase in an air basin that already experiences

ozone and particulate matter concentrations well in excess of the federal and state standards and in excess of the concentrations found in the SDAB.

**Cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment**

Under the No Federal Action Alternative, emissions of $NO_X$, $PM_{10}$, and $PM_{2.5}$ would potentially increase in the South Coast Air Basin in excess of the SCAQMD daily thresholds for operational emissions. It should be noted that the South Coast Air Basin is in non-attainment of the federal and state standards for ozone ($NO_X$ is an ozone precursor), $PM_{10}$, and $PM_{2.5}$ and that the South Coast Air Basin is designated as "extreme" non-attainment for ozone, which is a worse designation than the SDAB, which is designated as "marginal" non-attainment for ozone. Thus, under the No Federal Action Alternative, emissions of $NO_X$, $PM_{10}$, and $PM_{2.5}$ would increase in an air basin that already experiences ozone and particulate matter concentrations well in excess of the federal and state standards and in excess of the concentrations found in the SDAB.

## 5.1.3 ASPEN ROAD ALTERNATIVE

The Aspen Road Alternative is described in detail in subsection 3.7.3 of this EIS. As described, the Aspen Road Alternative site is located east of the Santa Margarita River, west of the community of Rainbow, and northeast of the City of Fallbrook. Regional access to the Aspen Road Alternative site would be from I-15. Site access would require the construction of an approximately 1.7 mile road from Rainbow Glen Road to the site. The Aspen Road Alternative site approximately seven miles northwest of the Applicant's Proposed Alternative site.

The Aspen Road Alternative site would be approximately 456 acres in size and would be comprised of numerous parcels held in private ownership. An unnamed, northern tributary of Rainbow Creek is located at the south edge of the site. The landscape comprises rugged hills and modern disturbance is limited to several unpaved roads, a few rural residences, buildings, and trailers are located on the site. The western portion of the alternative site is developed with a majority of the rural residences. Agricultural uses are also located on the eastern and western portions of site. Lands to the north of the site are undeveloped. Lands to the east, west, and south are generally rural residential, with agricultural uses including nurseries and avocado and citrus groves, and vacant, undeveloped land. The Roadrunner Ridge Winery is located north of the site.

The Aspen Road Alternative would include the construction, operation, and closure of a Class III landfill with an approximately 25.1 million ton capacity. The waste prism would be located in the canyon and would occupy approximately 165 acres in the central portion of the site. Assuming a refuse inflow rate of up to 1.0 million tons per year and a start year of 2015, the projected closure year would be 2040.

### Resources with Significant Adverse Effects

The Aspen Road Alternative would result in significant adverse effects in the following areas: Aesthetics (landform character, view quality, and neighborhood character), Agricultural Resources (conversion of farmlands and farmland compatibility), Air Quality, Biological Resources (wildlife movement), Land Use and Planning (land Use plans and conservation plans), Noise (blasting and traffic), and Transportation (near term). Each of these significant adverse effects is discussed below.

## Aesthetic Resources

### Landform Character

The landfill prism would rise above the elevation of the existing, surrounding ridgeline and would be prominently visible from several candidate view locations. Viewer groups would be primarily residents, estimated to be approximately 5,040 viewers, who have high sensitivity to change. The alternative's visually prominent elements would introduce man-made geometry into an area of undeveloped and rounded slopes, peaks, and valleys and, thus, would contrast with the existing natural landform character of the area. The landfill mass would create a new ridgeline in the middle ground of the view. Because the landfill is situated in a shallow canyon and the final elevation of the landfill mass would be higher than the surrounding topography, more of the landfill mass would be visible. While mitigation measures, which include landscape screening, landform screening placed at the perimeter of the site to block views of the landfill to the maximum extent possible, landform grading and contouring, rock outcrop replacement, and major tree groupings, would more closely relate the landfill to some of the hilltops surrounding the site, it would not mitigate the high visibility and bulk of the landfill. Therefore, given the mass of the landfill and its overall contrast with the current landforms of the adjacent area, and its effect on a large number of viewers, this alternative would have a significant adverse effect on landform character.

### View Quality

The landfill would result in a high, engineered ridgeline that would dramatically change the character of the viewing scene. In addition, the landfill would block views of the background landforms or enclose an existing view corridor. While the proposed visual quality mitigation measures to vary the topography of the landfill ridgeline would decrease visual quality impacts, they would not reduce the landfill mass below the ridgeline. Therefore, a significant adverse effect with respect to view quality would occur.

### Neighborhood Character

The Aspen Road property is located in unincorporated San Diego County entirely within the Fallbrook Community Plan area. The Fallbrook Community Plan has specific objectives to protect rural charm that would also apply to the aesthetic character of the alternative. The visible landfill mass and activities associated with the construction and operation of the landfill, such as truck traffic through the area's local streets, would not be consistent with these rural character objectives. The General Plan also contains several aesthetic goals and policies that would be applicable to the Aspen Road Alternative site, including the protection of ridgelines. The alternative would not be consistent with the goal to preserve ridgelines because it would create a new, artificial ridgeline for viewers from most viewing locations. Therefore, the alternative would have a significant adverse effect with respect to the neighborhood character goals and policies of the Community Plan and County General Plan.

## Agricultural Resources

### Conversion of Farmland

The Aspen Road Alternative would convert California Farmland Mapping and Monitoring Program (FMMP) designated Unique Farmland and Farmland of Local Importance to a permanent non-agricultural use. The landfill and ancillary facilities and stockpiles would be located in an area designated for farmlands, which are located along the east and west slopes facing the landfill footprint. With development, these designated

areas would not be available for future agricultural use. Thus, the alternative would have a significant adverse effect with respect to agricultural resources.

### Impair or Inhibit Use of Off-Site or Land Conservation Act (Williamson) Lands

A Land Conservation Contract tract is located within the Aspen Road Alternative site. The development of the site with a landfill, stockpiles, and ancillary facilities and roads would impair the Contract land within the site and the agricultural use of the land, which is considered an important agricultural resource based on the analysis of the site according to the County of San Diego Local Agricultural Resource Assessment (LARA) model. Therefore, significant adverse direct and indirect effects to agricultural resources would occur.

## Air Quality

### Air Quality Standard (NAAQS and AQIA) or Contribute Substantially to any Criteria Pollutant in Non-Attainment Area

The Aspen Road Alternative would potentially result in violations of air quality standards or potentially contribute to existing or projected violations. The emissions of ozone precursors (VOC and $NO_x$) from construction and operation would exceed the SDAPCD Rule 20 offset requirement, and because the SDAB is non-attainment for the federal ozone standard, it is conservatively assumed that significant adverse effects would occur. However, implementation of this alternative would reduce emissions from waste hauling trucks within the South Coast Air Basin and would thus not exceed the SCAQMD trigger levels. Therefore, no adverse effects would occur in the South Coast Air Basin because waste would not be exported out of San Diego County.

### Cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment

Initial construction emissions from the Aspen Road Alternative are predicted to exceed the regional threshold for VOCs and $NO_x$. Since $NO_x$ and VOCs are both ozone precursors, the Aspen Road Alternative would contribute incrementally to regional ozone and would therefore result in a significant adverse air quality effect. Operation of the Aspen Road Alternative would result in maximum emissions of VOCs and $NO_x$ that would exceed the corresponding AQIA threshold levels. Emissions of $NO_x$ from both stationary and mobile sources would also exceed the SDAPCD offset threshold, and are therefore considered adverse. Since $NO_x$ and VOCs are both ozone precursors, the Aspen Road Alternative would contribute incrementally to regional ozone and would therefore result in a significant adverse air quality effect.

## Biological Resources

### Wildlife Movement

Based on the South Coast Missing Linkages study, the Aspen Road Alternative is within a regional linkage identified as the Santa Ana – Palomar Linkage. Based on aerial imagery, the Aspen Road Alternative site appears to be somewhat constrained for north-south local and subregional wildlife movement by existing off site development to the east and west that creates an existing corridor for wildlife movement across the property. However, wildlife movement may currently occur between undeveloped areas in the north and undeveloped areas to the south within existing coastal sage scrub habitat and along the tributary supporting riparian habitat and at least an intermittent stream extending from the central portion of the site to the

southern boundary. Wildlife movement may also occur along the tributary in the northeast portion of the site traversing from the northeast to the southwest. The site provides a connection from habitat areas to the south to the Santa Margarita River, which is a regionally significant movement corridor. As there is no feasible mitigation, the Aspen Road Alternative would result in a significant adverse effect to a wildlife corridor.

## Land Use and Planning

### Applicable Land Use Plans

The Aspen Road Alternative would not be consistent with the Rural Lands (RL20), Rural Lands (RL-40) and Semi-Rural Lands (SR-2) designations on the Aspen Road Alternative site. Therefore, the alternative would not be consistent General Plan Policy LU-1, which establishes the land use designator for the site. A General Plan Amendment from rural and semi-rural uses to Public/Semi-Public Facilities (SWF) would be required. The alternative would not be consistent with General Plan Goal LU-2 to maintain the County's rural character and anticipation of a low level of activity. The alternative would not be consistent with Policy LU-5.3 to ensure the preservation of existing open space and rural areas within the site's Rural and Semi-Rural Land Use Designations. The Aspen Road Alternative would introduce elements that are not rural in character, including truck traffic, noise, and activity that would not be consistent with the local roadways and rural character of the site and the surrounding area and, thus, not consistent with policies of the Community Plan to perpetuate the existing rural charm and village atmosphere of the community. The alternative would not be consistent Goal CM 6.1, to provide a system of trails and pathways for non-motorized travel because the landfill footprint would conflict with the location of the proposed public trails throughout the site. Because inconsistencies would lead to potentially adverse impacts with respect to the character of the surrounding community, it would be considered to impede goals and policies of the Fallbrook Community Plan and, as such, would be significant adverse effect with respect to land use plans.

### Habitat Conservation Plan

A large area comprising the central, south and east portion of the Aspen Road site are located within the Santa Margarita River Resource Conservation Area (RCA) #3. The purpose of the RCA is to protect wildlife and native vegetation and scenic mountainous backdrop to development within the community. Since the Aspen Road Alternative is determined to have a significant adverse effect with respect to visual quality because it would block or reduce view corridors of high value mountains, it would not be consistent with the objective of the RCA. While effects to most biological resources would be reduced through the implementation of mitigation measures, the alternative would have a significant adverse effect on north-south wildlife movement. Therefore, the Aspen Road Alternative would not be consistent with the conservation policies of the Fallbrook Community Plan, as expressed in the RCA and would have a significant adverse effect with respect to the RCA.

## Noise

### Blasting

Blasting would be required during the landfill construction phases to fracture the underlying rock structure and ease the removal of and access final footprint elevations. The nearest residential property line is estimated to be located approximately 500 feet from the landfill and potential blasting areas. The anticipated maximum noise level associated with landfill-related blasting activities at 500 feet is 67.3 dBA

($L_{max}$), which would exceed the 62.5 dBA $L_{eq}$ standard at the nearest residential property line. Although the blasting noise would result in a relatively infrequent impulsive noise, the blasting would exceed the County Noise Ordinance standard and may cause temporary annoyance. With periodic construction, the blasting noise level of 67.3 dBA combined with the highest measured operational and periodic construction noise level of 67.5 dBA would be 70.4 dBA. No feasible mitigation measures are available to reduce noise from blasting combined with operational and periodic construction noise to below 62.5 dBA. Therefore, significant adverse noise effects associated with blasting would occur.

#### Traffic Noise

Operation of the proposed landfill would generate additional traffic on public roadways serving the landfill, and could, therefore, increase noise levels along these roadways. Residences located along Mission Road on the west and east of Live Oak Park Road and Old Highway 395 north of Mission Road would be impacted by future traffic noise and noise from landfill-generated traffic. Future traffic noise levels along Mission Road and Old Highway 395 would be in excess of 60 CNEL. Although the majority of the noise on most of the roads would come from other traffic sources, the Aspen Road Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. Since the Mission Road and Old Highway 395 corridors are existing degraded noise environments with noise levels exceeding 60 CNEL at existing residences, the alternative's increase of noise levels, even by a small margin, would have a significant adverse noise impact at the existing residences.

### Transportation

#### Near Term Conditions

The Aspen Road Alternative would add traffic to the roadway network. The trips would have the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Rainbow Glen Road and Old Highway 395. The trip distribution through traffic facilities analyzed under the Near-Term Conditions scenario would result in new cumulative traffic contributions that could result in a direct significant adverse effect at one intersection and adverse cumulative effects at two intersections and two roadway segments. Mitigation measures could reduce adverse effects to below the evaluation criteria; however, such measures would need to be implemented via the TIF program at the discretion of the County. Since, implementation of the improvements is not certain, and they may not be implemented prior to the significant adverse effect occurring, it is concluded that the cumulatively significant adverse effects could remain.

## 5.1.4 GOPHER CANYON ROAD ALTERNATIVE

The Gopher Canyon Alternative is described in detail subsection 3.7.4 of this EIS. The site is located southwest of South Fork Gopher Canyon, northeast of the City of Fallbrook. The Gopher Canyon Road Alternative site is located in North County approximately nine miles southwest of the Applicant's Proposed Alternative. The Gopher Canyon Road Alternative site would be approximately 474 acres in size and would be comprised of numerous parcels held in private ownership. The site is developed with some existing residences and the Panoramic Estates, a gated residential subdivision with 35, four-acre lots, has been approved on the remainder of the site. Although residences have not been constructed in the subdivision, infrastructure, including roads, has been constructed. A water tank is also located on the site and a small portion at the eastern edge of the site contains National Quarries, a granite quarry and a processing plant.

The landscape is rugged hills with small, unnamed canyons draining northeast into South Fork Gopher Canyon. Chaparral vegetation predominates on the hills with riparian taxa in the canyon bottoms. The area is surrounded by substantial residential development and recreational uses, including a spa and golf course.

The Gopher Canyon Road Alternative would include the construction, operation, and closure of a Class III landfill with an approximately 23 million ton capacity. The waste prism would occupy approximately 180 acres in the central portion of the site. Assuming a refuse inflow rate of up to 1.0 million tons per year and a start year of 2015, the projected closure year would be 2038.

## Resources with Significant Adverse Effects

The Gopher Mountain Road Alternative would result in significant adverse effects in the following areas: Aesthetics (neighborhood character,) Air Quality, Biological Resources (wildlife movement), Geology and Soils (Mineral Resources), Land Use and Planning (land use plans), Noise (blasting and traffic), and Transportation (near-term). Each of these significant adverse effects is discussed below.

## Aesthetic Resources

### Neighborhood Character

The Gopher Canyon Road Alternative site is located within the Bonsall Community Plan area which has specific policies requiring development to be sensitive to the topography, physical context, and community character of Bonsall. The visible landfill mass and activities associated with the construction and operation of the landfill, such as truck traffic through the area's local streets, would not be consistent with these objectives. The General Plan also contains several aesthetic goals and policies that would be applicable to the Gopher Canyon Road Alternative site. The alternative would not be consistent with goals related to the preservation of rural character. Mitigation measures would lessen visual quality and visual resources impacts with respect the preservation of scenic resources. However, because the alternative would not be consistent with the community character objectives of the Bonsall Community Plan or with the General Plan's designations, which are intended to encourage residential and agricultural uses in the area, significant adverse effects with respect to neighborhood character expressed in the Community and General Plans would occur.

## Air Quality

### Air Quality Standard (NAAQS and AQIA) or Contribute Substantially to any Criteria Pollutant in Non-Attainment Area

The Gopher Canyon Road Alternative would potentially result in violations of air quality standards or potentially contribute to existing or projected violations. The emissions of ozone precursors (VOC and $NO_x$) from the construction and operation of the Gopher Canyon Road Alternative would exceed the SDAPCD Rule 20 offset requirement, and because the SDAB is non-attainment for the federal ozone standard, it is conservatively assumed that significant adverse effects would occur. However, implementation of this alternative would reduce future emissions from waste hauling trucks within the South Coast Air Basin, because waste would not be exported out of San Diego County, and would thus not exceed the SCAQMD trigger levels. Therefore, impacts would be considered not adverse in the South Coast Air Basin.

### Cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment

The Gopher Canyon Road Alternative would result in the emission of criteria pollutants for which the area is in non-attainment during both construction and operation. The SDAB is currently in non-attainment for the federal 8-hour ozone standard. Construction emissions from the Gopher Canyon Road Alternative are predicted to exceed the regional threshold for VOCs and $NO_x$. Since $NO_x$ and VOCs are both ozone precursors, the Gopher Canyon Road Alternative would contribute incrementally to regional ozone and would therefore result in an adverse air quality effect. Operation of the Gopher Canyon Road Alternative would result in maximum emissions of VOCs and $NO_x$ that would exceed the corresponding AQIA threshold levels. Emissions of $NO_x$ from both stationary and mobile sources would also exceed the SDAPCD offset threshold, and are therefore considered adverse. Since $NO_x$ and VOCs are both ozone precursors, the Gopher Canyon Alternative would contribute incrementally to regional ozone and would therefore result in a significant adverse air quality effect.

## Biological Resources

### Wildlife Movement

Based on aerial imagery, the Gopher Canyon Road Alternative site appears to be constrained for local and subregional wildlife movement by existing development to the east and west. However, local wildlife movement may currently occur from less developed areas to the north to less developed areas to the south. The drainages on site are smaller tributaries and are not expected to support wildlife movement on a large scale, but may be used on a local scale. The Gopher Canyon Road Alternative would develop the central portion of the site for the landfill, and include ancillary facilities and potential stockpile areas surrounding the landfill, in addition to impacting the majority of the on-site tributaries. Therefore, any potential wildlife movement would be impeded and a significant adverse effect would occur.

## Geology and Soils

### Mineral Resources

The Gopher Canyon Road Alternative site lies adjacent to an existing quarry designated as MRZ-2. Conversion of the area to landfill activities could affect access to the currently mined granitic resources, which would limit the availability of mineral resources. However, use of the site for a landfill might provide an avenue to excavate, process and market mineral resources in conjunction with the excavation that is needed for landfill construction. However, if such benefit were not pursued, landfill activities would substantially reduce the potential mining value of the site, and since the site is designated MRZ-2,a significant adverse effect could occur.

## Land Use and Planning

### Applicable Land Use Plans

The Gopher Canyon Road Alternative site is designated as Specific Plan Area, Rural Lands (RL-20), Semi-Rural Residential, (SR-4), Public Service (Transportation/Communication/Utilities), and Public Agency Lands (Extractive/Industry). Development of a landfill use would not be permitted under the existing General Plan or zoning designation and the Gopher Canyon Road Alternative would require a General Plan

Amendment. Because the use would not be consistent with the existing zoning and land use designations of the site, it would not be consistent with General Plan Goal LU-2 to maintain rural character. The alternative would introduce elements that are not consistent with Specific Plan, rural, and semi-rural residential zoning of the site and the surrounding area and would not be consistent with Chapter 1 (Land Use – Community Character) Goal LU-1.1 of the Bonsall Community Plan to create a balance of rural agriculture, estate lots, equestrian uses, and open space land uses and new development that conserves natural resources and topography. The alternative would not be consistent with Goal 1.2 in that it would introduce elements adjacent to residential, recreational, and spa uses that may include truck traffic and other elements that would not be consistent with the rural character and rural and semi-rural uses that make up the majority of the surrounding area. Because the alternative would not be consistent with the underlying land use designation and the intended residential use of the land and would result in a significant adverse aesthetic effect on neighborhood character, the Gopher Canyon Road Alternative would impede the land use objectives of the Community Plan and would result in a significant adverse effect with respect to land use plans.

## Noise

### Blasting

Blasting would be required during the landfill construction phases to fracture the underlying rock structure and ease the removal of and access final footprint elevations. The nearest residences are located to the east, west, and southwest of the site. The nearest residences are estimated to be located approximately 500 feet from the landfill and potential blasting areas. The anticipated maximum noise level associated with landfill-related blasting activities at 500 feet is 67.3 dBA ($L_{max}$), which would exceed the 62.5 dBA $L_{eq}$ standard at the nearest residential property line. Although the blasting noise would result in a relatively infrequent impulsive noise, the blasting would exceed the County Noise Ordinance standard and may cause temporary annoyance. With periodic construction, the blasting noise level of 67.3 dBA combined with the highest measured operational and periodic construction noise level of 67.5 dBA would be 70.4 dBA. No feasible mitigation measures are available to reduce noise from blasting combined with operational and periodic construction noise to below 62.5 dBA. Therefore, significant adverse noise effects associated with blasting would occur.

### Traffic Noise

Operation of the proposed landfill would generate traffic on public roadways serving the landfill, and could, therefore, increase noise levels along these roadways. Residences located along Gopher Canyon Road would be impacted by noise from alternative-generated traffic. Although the majority of the noise on most of the roads would come from other traffic sources, the Gopher Canyon Road Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. Since the Gopher Canyon Road corridor is an existing degraded noise environment with noise levels exceeding 60 CNEL at existing residences on Gopher Canyon Road, the alternative's increase to noise levels, even by a small margin, would have a significant adverse effect on the existing residences.

## Transportation

### Near Term Conditions

The Gopher Canyon Road Alternative would add traffic to the roadway network. The trips would have the greatest impacts along Gopher Canyon Road, linking to I-15, and to a lesser extent, East Vista Way. The trip

distribution through traffic facilities analyzed under the Near-Term Conditions scenario would result in cumulative traffic contributions that could result in adverse cumulative effects at six intersections and four roadway segments. Mitigation measures could reduce levels below the evaluation criteria; however, such measures would need to be implemented via the TIF program at the discretion of the County. Since, the implementation of the improvements is not certain, and improvements may not be implemented prior to the significant adverse effects occurring, it is concluded that the alternative would contribute to cumulatively significant adverse effects.

## 5.1.5 MERRIAM MOUNTAIN ALTERNATIVE

The Merriam Mountain Alternative is described in detail subsection 3.7.5 of this EIS. The Merriam Mountain Alternative site is located in the Merriam Mountains, north of the city of San Marcos, southwest of the Lawrence Welk Resort, and immediately west of I-15. The site is approximately five miles northeast of the City of Vista and eight miles south of the Applicant's Proposed Alternative site. The Merriam Mountain site is located generally in a rural area. Land uses that abut the mountain range include rural residential, extractive, communications/utilities, freeway, mobile home park, golf course, resort, and orchard/vineyard. The Lawrence Welk Village is located to the east of the site across I-15. The Golden Door resort/spa is located south of the site west of the I-15.

The Merriam Mountain Alternative site would be approximately 553 acres in size and would be comprised of numerous parcels held in private ownership. The landscape is steep hills above a branching valley that drains to the east, into north-south running South Fork Moosa Canyon. Chaparral vegetation predominates at higher elevations with riparian vegetation on the valley floor. Modern disturbance is limited to unpaved roads and a landing strip.

The Merriam Mountain Alternative would include the construction, operation, and closure of a Class III landfill with an approximately 27 million ton capacity. The waste prism would occupy approximately 199 acres in the central portion of the site. Assuming a refuse inflow rate of up to 1.0 million tons per year and a start year of 2015, the projected closure year would be 2042.

### Resources with Significant Adverse Effects

The Merriam Mountain Alternative would result in significant adverse effects in the following areas: Aesthetics (landform character, view quality, and neighborhood character), Air Quality, Biological Resources (conflict with conservation goals), Geology and Soils (mineral resources), Land Use and Planning (land use plans and conservation plan), Noise (blasting and traffic), and Transportation (near-term). Each of these significant adverse impacts is discussed below.

### Aesthetic Resources

#### Landform Character

The Merriam Mountain Alternative would adversely affect natural landform character because of the dominance of the landfill with respect to natural landforms in the area. The primary impression of the landfill from most viewing locations would be its massive scale compared to the existing condition. The scale of the landfill would be apparent from I-15 and a large number of daily viewers. The landfill would

also be highly visible to residential uses, including a mobile home park, to the east of I-15. From the east, the landfill would change the character of the ridgeline by obstructing one of the saddles between ridges. Mitigation measures, such as landscape screening, landform screening placed at the perimeter of the site to block views of the landfill to the maximum extent possible, landform grading and contouring, rock outcrop replacement, and major tree groupings, would decrease the visual impact from all viewing locations below and above the landfill. However, because of the mass of the landfill and its overall contrast with the area's existing natural landforms, and the large number of views affected, even with mitigation, a significant adverse effect to landform character would occur.

### View Quality

The primary view from the northbound lanes of I-15 would be of the landfill's massive scale. When compared to the existing condition, the viewing corridor provided by the existing canyon to the upper reaches of the ridgeline would be lost. The effect of filling the canyon would be twofold. It would result in the loss of views to the ridgeline of the Merriam Mountains as well as the loss of a portion of the sky, which interfaces with the mountain ridgeline. The alternative's adverse effect on the view quality would result from the filling of the existing view corridor into the Merriam Mountains, which would block views to the ridgeline from some viewing locations. Thus, a significant adverse view quality effect would occur since the alternative would not only block the view corridor but would also change the quality of the viewing scene.

### Neighborhood Character

The Merriam Mountain Alternative would result in a landfill that while not extending to the top of the existing ridgelines would have the effect of obstructing views of the ridgeline. The alternative would also create a new, artificial ridgeline for viewers. In addition, the landfill contouring would not match the existing landscape forms. Because the alternative would not preserve ridgelines and would not be consistent with the underlying Rural Lands designation, the alternative would have a significant adverse effect with respect to the goals of the North County Metropolitan Subregional Plan, County General Plan and other subregional plans. Thus, the alternative would result in a significant adverse effect with regard to neighborhood character.

## Air Quality

### Air Quality Standard (NAAQS and AQIA) or Contribute Substantially to any Criteria Pollutant in Non-Attainment Area

The Merriam Mountain Alternative would potentially result in violations of air quality standards or potentially contribute to existing or projected violations. The emissions of ozone precursors (VOC and $NO_x$) from the construction and operation of Merriam Mountain Alternative would exceed the SDAPCD Rule 20 offset requirement, and because the SDAB is non-attainment for the federal ozone standard, it is conservatively assumed that significant adverse effects would occur. However, implementation of this alternative would reduce future emissions from waste hauling trucks within the South Coast Air Basin, because waste would not be exported out of San Diego County, and would thus not exceed the SCAQMD trigger levels. Therefore, impacts would be considered not adverse in the South Coast Air Basin.

### Cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment

The Merriam Mountain Alternative would result in a cumulatively considerable net increase of criteria pollutants for which the region is in non-attainment. Implementation of this alternative would result in emissions of VOC and $NO_x$ that would exceed the SDAPCD thresholds of significance for ozone precursors (VOC and $NO_x$). Therefore, the alternative would result in significant adverse effects.

## Biological Resources

### Conservation Goals

The Merriam Mountain Alternative site is identified primarily as a preserve area pursuant to the Draft North County Plan, and the area is contiguous with other mapped preserve areas off site to the north. The development of the site would thus conflict with the long-term regional or sub-regional conservation goals.

## Geology and Soils

### Mineral Resources

The Merriam Mountain Alternative site lies within mining areas designated MRZ-2. Conversion of the area to landfill activities could affect access to mineral resources. However, use of the site for a landfill might provide an avenue to excavate, process and market mineral resources in conjunction with the excavation that is needed for landfill construction. However, if such benefit were not pursued, landfill activities would substantially reduce the potential mining value of the site, and because of the MRZ-2 designation, a significant adverse effect could occur.

## Land Use and Planning

### Applicable Land Use Plans

The Merriam Mountain Alternative would conflict with several policies and goals of the General Plan and North County Metropolitan Subregional Plan, regarding land use designation, rural character, and protection of the I-15 scenic corridor. The Merriam Mountain Alternative site is designated as Rural Lands (RL-20). This designation and zoning is intended to allow low density residential and agricultural uses and, as such, development of a landfill would not be permitted under the current General Plan designation. The Merriam Mountain Alternative would require a General Plan Amendment. The Merriam Mountain Alternative would not be consistent with Policy LU-5.3 to ensure the preservation of existing open space and rural areas within the site's Rural and Semi-Rural Land Use Designations (as specified under Policy LU-5.3). The landfill would be located in the center of an approximately 533-acre alternative site, and the area around the landfill would not be adequate to allow the preservation of substantive areas of open space. The alternative would not be consistent with the North County Metropolitan Subregional Plan, which describes the site as predominantly hillside residential single-family homes on large lots in the Rural Lands (RL-20) zone. The area is also designated as MRZ-2, indicating the presence of mineral resources, which would be impacted by the landfill development. The alternative would not be consistent with Appendix C – I-15 Corridor Subregional Plan for the preservation of the scenic attributes of the I-15 corridor. Therefore, because the Merriam Mountain Alternative would not be consistent with the underlying land use designation and objectives to protect the I-

15 scenic corridor, it would conflict the land use objectives of the North County Metropolitan Subregional Plan. Thus, the alternative would result in a significant adverse effect with regard to land use plans.

### Conservation Plan

The Merriam Mountains are designated as RCA #23 in the North County Metropolitan Subregional Plan. The RCA designation is applied to protect sensitive biological, archaeological, aesthetic, mineral, and water resources. The landfill would adversely affect aesthetic resources with respect to contrast with the surrounding mountains, blockage of a view corridor and sky, and domination of the ridgeline as viewed from I-15 (a designated scenic highway). In addition, a section within the northwest area of the Merriam Mountain Alternative site is designated as MRZ-2, indicating the presence of mineral resources. Conversion of the Merriam Mountain Alternative site to landfill activities could impede access to on-site mineral resources. Because the alternative would not be consistent with the RCA designation, which requires protection of aesthetic and mineral resources, the alternative would result in significant adverse effects with respect to this conservation plan.

## Noise

### Blasting

Blasting would be required during the landfill construction phases to fracture the underlying rock structure and ease the removal of and access final footprint elevations. The nearest residences located near the Merriam Mountain Alternative are scattered to the east, west, and southwest of the site. The nearest residential property lines are located approximately 1,600 feet from the landfill footprint and 1,700 feet from the Borrow/Stockpile areas. The nearest residential property line is estimated to be located approximately 1,600 feet from the potential blasting operation. The anticipated maximum noise level associated with landfill-related blasting activities at 1,600 feet is 57.2 dBA ($L_{max}$). However, with periodic construction, the blasting noise level of 57.2 dBA combined with the highest measured operational and periodic construction noise level of 63.5 dBA would be 64.4 dBA. No feasible mitigation measures are available to reduce noise from blasting combined with operational and periodic construction noise to below 62.5 dBA. Therefore, significant adverse noise effects associated with blasting would occur.

### Traffic Noise

Operation of the proposed landfill would generate additional traffic on public roadways serving the landfill. Although the majority of the noise on most of the roads would come from other traffic sources, the Merriam Mountain Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. The residences that are located along Lawrence Welk Drive would be impacted by future traffic noise and noise from alternative-generated traffic. Also, because the Deer Spring Road, Mountain Meadow Road, and Champagne Boulevard corridors are existing degraded noise environments with noise levels exceeding 60 CNEL at existing residences, the noise increase generated by the alternative, even though small, would be a significant adverse effect. There are no feasible mitigation measures to reduce traffic noise to below the criterion.

## Transportation

### Near Term Conditions

The Merriam Mountain Alternative would add traffic to the roadway network. The trips would have the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Lawrence Welk Drive and Champagne Boulevard. The trip distribution through traffic facilities analyzed under the Near-Term Conditions scenario would result in cumulative traffic contributions that could result in a direct significant adverse effect at one intersection and adverse cumulative effects at three intersections and one roadway segment. Mitigation measures could reduce significant adverse effects to levels below the evaluation criteria; however, such measures would need to be implemented via the TIF program at the discretion of the County. Since, the implementation of the improvements is not certain and the improvements may not be implemented prior to the significant adverse effect occurring, it is concluded that the alternative would contribute to cumulatively significant adverse traffic effects.

## 5.1.6 EAST OTAY MESA ALTERNATIVE

The East Otay Mesa Alternative is described in detail subsection 3.7.6 of this EIS. The East Otay Mesa Alternative site is located in southern San Diego County approximately 0.25 miles north of the U.S.-Mexico international border. More specifically, the East Otay Mesa Alternative site is located approximately two miles east of the Siempre Viva Road exit from SR 905, east of the terminus of Otay Mesa Road. The site is located approximately one quarter mile east of Loop Road and west of planned SR 11. The site is approximately two miles east of the community of Otay Mesa, and is approximately 55 miles south of the Applicant's Proposed Alternative.

The East Otay Mesa Alternative site is located generally in a rural area and is currently undeveloped. There is industrial/commercial development located to the northwest of the site. The area south of the U.S.-Mexico international border is developed with a mix of uses, including residential and commercial uses, at a fairly high density of development.

The East Otay Mesa Alternative would include the construction, operation, and closure of a Class III landfill within the approximately 344-acre boundary. The landfill would have an approximately 25.3 million ton capacity. The waste prism would occupy approximately 146 acres and, assuming a refuse inflow rate of up to 1.0 million tons per year and a start year of 2015, the projected closure year would be 2040.

## Resources with Significant Adverse Effects

The East Otay Mesa Alternative would result in significant adverse effects in the following areas: Aesthetics (neighborhood character), Agriculture (conversion of farmlands), Air Quality, Biological Resources (regionally limited sensitive habitat and conservation goals), Land Use and Planning (land use plans and conservation plan), Noise (blasting and traffic), and Transportation (near-term and buildout). Each of these significant adverse impacts is discussed below.

## Aesthetic Resources

### Neighborhood Character

The East Otay Mesa Alternative is located within the Otay Subregional Plan area. This local plan does not have goals specific to aesthetics; however, the Subregional Plan provides a goal to discourage industries that display pollution or other nuisance characteristics from locating near the Mexican border. Because of the southwesterly orientation of the canyon that would serve as the disposal site, and the proximity of the landfill site to the international border, the landfill prism and associated long-term grading and hauling activities would be visible from residential neighborhoods in Mexico. Much of the residential area is located within 0.5 mile of the landfill site. Therefore, the visual impact (as viewed from south of the border) may be considered a "nuisance characteristic." This nuisance factor would be considered an impact on an aesthetic value and would be inconsistent with the objective of the plan to avoid nuisance to residents in the vicinity of the international border. The alternative would, thus, not be consistent with the goal of the Subregional Plan to discourage industries with nuisance characteristics along the border. The alternative would have a significant adverse effect with respect to this plan policy.

## Agricultural Resources

### Conversion of Farmland

FMMP-designated Farmland of Local Importance is located in the southwest segment of the site and comprises approximately 20 percent of the landfill footprint. Therefore, the FMMP-designated farmland would be permanently unavailable for agricultural purposes and the alternative would have a significant adverse with respect to FMMP-designated farmland.

## Air Quality

### Air Quality Standard (NAAQS and AQIA) or Contribute Substantially to any Criteria Pollutant in Non-Attainment Area

The East Otay Mesa Alternative would potentially result in violations of air quality standards or potentially contribute to existing or projected violations. The emissions of ozone precursors (VOC and $NO_x$) from the construction and operation of East Otay Mesa Alternative would exceed the SDAPCD Rule 20 offset requirement, and because the SDAB is non-attainment for the federal ozone standard, it is conservatively assumed that significant adverse effects would occur. However, implementation of this alternative would reduce emissions from waste hauling trucks within the South Coast Air Basin, because waste would not be exported out of San Diego County, and would thus not exceed the SCAQMD trigger levels. Therefore, impacts would be considered not adverse in the South Coast Air Basin.

### Cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment

The East Otay Mesa Alternative would result in the emission of criteria pollutants for which the area is in non-attainment during both construction and operation. The SDAB is currently in non-attainment for the federal 8-hour ozone standard. Construction emissions from the East Otay Mesa Alternative are predicted to exceed the regional threshold for VOCs and $NO_x$. Since $NO_x$ and VOCs are both ozone precursors, the East Otay Mesa Alternative would contribute incrementally to regional ozone. Operation of the East Otay Mesa

Alternative would result in maximum emissions of VOCs and $NO_x$ that would exceed the corresponding AQIA threshold levels. Emissions of $NO_x$ from both stationary and mobile sources would also exceed the SDAPCD offset threshold, and are therefore considered adverse. Since $NO_x$ and VOCs are both ozone precursors, the East Otay Mesa Alternative's construction and operation activities would contribute incrementally to regional ozone and would therefore result in a significant adverse air quality effect.

## Biological Resources

### Regionally Limited Sensitive Habitat

The East Otay Mesa Alternative site supports a potential mima mound-vernal pool complex totaling 29.7 acres, of which 6.6 acres (or 22 percent) of impacts would be proposed as a result of the landfill footprint. In addition to direct impacts, potential indirect impacts to portions of the potential mima mound-vernal pool complex not proposed for impacts could occur based on alterations to surface and sub-surface hydrology supporting the vernal pools. Both mima mounds and vernal pools have regionally limited distribution based on unique requirements for their existence, specifically an impermeable substrate within a depressional area that ponds during rain events for the establishment of vernal pools. With implementation of the proposed mitigation, impacts to the potential mima mound-vernal pool complex would not result in significant adverse effects. However, if the mitigation is not feasible, impacts could result in potentially significant adverse effects to a regionally limited sensitive habitat.

### Long-Term Regional and Sub-Regional Conservation Goals

the East Otay Mesa Alternative would be required to comply with conservation requirements pursuant to the County of San Diego biological resource guidelines such as the Biological Mitigation Ordinance. If ESA authorization is sought through the South County Plan an amendment process to incorporate the site into the plan area would be required. Otherwise, ESA consultation would be through the Corps. Mitigation measures are proposed by the alternative to address impacts to species and habitats. However, as outlined above, impacts to the potential mima mound-vernal pool complex may not be mitigatable.

## Land Use and Planning

### Applicable Land Use Plans

The alternative would permanently convert FMMP Farmland of Local Importance to a non-agricultural use and, as such, would not protect agricultural resources in accordance with General Plan GOAL LU-7 or Chapter 1.A (4) of the Otay Subregional Plan, to encourage the protection of the area's valuable agricultural land. The alternative, which would adversely impact sensitive biotic resources, would not be consistent with the conservation goals of Chapter 1.D.1 (Conservation Goal) to protect environmental resources within a designated RCA or with Chapter 1.D.2, to develop adequate preservation methods to protect high priority vernal pools on Otay Mesa. The alternative would also not be consistent with Land Use Policy A.4, of the Subregional Plan to discourage industries that display pollution or other nuisance characteristics from locating near the U.S.-Mexico international border. In addition, the alternative would not be ideally located to reduce vehicle emissions associated with hauling waste generated in the North County compared to alternative sites located in the North County. Therefore, the alternative would have the potential to generate greater vehicle emissions and cause greater use of fossil fuels than other alternatives. As such, this alternative would not be consistent with SANDAG's Growth Management Strategy and the Regional Air

Quality Plan, the purposes of which are to reduce vehicle and air emissions. Because the alternative would impede objectives of applicable land use plans, it would result in a significant adverse effect with respect to these plans.

### Habitat Conservation Plan

Otay Mountain is designated as RCA #127, which comprises the mountain area surrounding the East Otay Mesa Alternative site and the east section of the site within the higher elevations of the canyon. As described in the San Diego County General Plan Update EIR, the area is also located within the South County MSCP Core Habitat Area. Contiguous areas in the Otay Business Park Specific Plan, are shown as Areas Subject to "G" Sensitive Resource Special Area Designator, and relate to a Conservation/Limited Use designation. Construction and development of the East Otay Mesa Alternative would adversely affect sensitive biotic resources in RCA #127 and the MSCP area. Mitigation measures would not eliminate significant adverse effects on limited biotic resources and some state and federal listed species. Any unmitigated loss of sensitive biotical resources would conflict with the intention of the RCA and MSCP to conserve such resources. Therefore, this alternative would not be consistent with the conservation policies of the RCA and MSCP and would result in a significant adverse effect with respect to this criterion.

## Noise

### Blasting

Blasting would be required during the landfill construction phases to fracture the underlying rock structure and ease the removal of and access final footprint elevations. The nearest future potential residences located near the East Otay Mesa Alternative would be scattered to the west and north of the site. These locations, which are representative of the nearest residential property lines, would be approximately 1,000 feet from the landfill footprint and be approximately 1,500 feet from the potential borrow/stockpile areas. The anticipated maximum noise level associated with landfill-related blasting activities at 1,000 feet is 61.3 dBA ($L_{max}$). However, with periodic construction, the blasting noise combined with the highest measured operational noise level of 64.8 dBA would be 66.4 dBA. No feasible mitigation measures are available to reduce noise from blasting combined with operational and periodic construction noise to below 62.5 dBA. Therefore, significant adverse noise effects associated with blasting would occur.

### Traffic Noise

Operation of the proposed landfill would generate additional traffic on public roadways serving the landfill, and could, therefore, increase noise levels along these roadways. Future residences that may be located along Siempre Viva Road would be impacted by future traffic noise and by noise from landfill-generated traffic. Although the majority of the noise on most of the roads would come from other traffic sources, the East Otay Mesa Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. Since the Siempre Viva Road corridor is an existing degraded noise environments with noise levels exceeding 60 CNEL at areas zoned for future residential use, the alternative would result in a significant adverse noise effect to future residences.

## Transportation

### Near-Term Conditions

The East Otay Mesa Alternative would add traffic to the roadway network. The trips generated by the East Otay Mesa Alternative would follow a route along Siempre Viva Road and SR 905 linking to northward destinations via the I-805. The trip distribution through traffic roadway segments analyzed, when measured against the Near-Term Conditions would have no significant adverse effects on intersections and road segments analyzed, but would result in a significant adverse effect along segments of I-805 and I-15. Significant adverse cumulative effects would occur along six freeway segments during the A.M. and/or P.M. peak hours. While the payment of traffic impact fees to Caltrans would meet the applicant's obligation to mitigate its traffic impacts, the payment of such fees would be general, and it is not certain that physical improvements specifically tied to the alternative would be implemented commensurate with the timing of the added traffic growth. Therefore, it is concluded that the alternative would contribute to a significant adverse cumulative effect.

### Buildout Conditions

The trips generated by the East Otay Mesa Alternative would follow a route along Siempre Viva Road and SR 905 linking to northward destinations via the I-805. The trip distribution through traffic roadway segments analyzed, when measured against the Buildout Conditions Baseline would have no significant adverse effects on road segments analyzed, but would result in a significant adverse effect along segments of I-805 and I-15. Mitigation measures could reduce significant adverse effects to levels below the evaluation criteria; however, such measures would need to be implemented via the TIF program at the discretion of the County. The payment of such fees would be general, and it is not certain that physical improvements specifically tied to the alternative would be implemented commensurate with implementation of the particular alternative and even if so implemented would be constructed commensurate with the timing of the added traffic growth. Therefore, it is concluded that a significant adverse cumulative traffic effect could remain.

## 5.1.7 SYCAMORE CANYON EXPANSION ALTERNATIVE

The Sycamore Canyon Expansion Alternative is described in detail in subsection 3.7.7 of this EIS. The Sycamore Canyon Landfill is an existing 491-acre Class III landfill site located in the City of San Diego. The landfill is currently owned and operated by Sycamore Landfill, Inc. (SLI), a subsidiary of Allied Waste Industries, pursuant to a Franchise Agreement with the City of San Diego. SLI is currently in the process of obtaining approvals for a vertical and horizontal expansion of the existing landfill facility to allow the Sycamore Canyon Expansion. The horizontal expansion, which would be located adjacent to the existing landfill on the eastern and western sides, would increase the landfill footprint by approximately 28.6 acres. The vertical expansion would increase the maximum height of the landfill by 167 feet, from 883 feet AMSL to 1,050 feet AMSL. The proposed expansion would result in a remaining lifespan of 31.8 years from February 2011 or until December 2042.

The Sycamore Canyon Expansion Alternative site is located in west-central San Diego County. The site is located off SR 52 near Mast Boulevard approximately 13 miles northeast of downtown San Diego within the City of San Diego. It is approximately 0.75 mile west of the boundary of the City of Santee. The Naval Air Station Miramar is located immediately to the north of the site and Mission Trails Regional Park and the San Diego River are located approximately one mile to the south. The site straddles Little Sycamore Canyon. The

landscape is made up of steep, north-south trending ridges and drainages which feed into the San Diego River system.

Undeveloped private land lies immediately to the west and east. In addition, West Hills Park and West Hills High School are located approximately 0.75 mile southeast of the landfill area. The Santee Lakes and Recreation Area are located approximately 0.75 mile to the east. Existing residential areas are located approximately 0.7 mile from the landfill to the east, 0.75 mile to the southeast, and one mile to the south.

## Resources with Significant Adverse Effects

The Sycamore Canyon Expansion Alternative would result in significant adverse effects in the following areas: Aesthetic Resources (visual quality and neighborhood character), Air Quality, Land Use and Planning (land use plans), Noise (operational), and Transportation (near-term and buildout). Each of these significant adverse impacts is discussed below.

## Aesthetic Resources

### Visual Quality

The Sycamore Canyon Expansion Alternative would contrast with its existing character to the extent that during landfill life, increased height would equate to increased visibility. As the landfill reaches its ultimate height, it would contrast with the natural topography due to its increased height and lack of consistent vegetative cover. Given the long-term nature of these effects, and the presence of disturbed landforms where other grading is not currently visible, the alternative would contrast with the natural setting. With regard to contrast with surrounding neighborhood character in a highly visible setting, the expansion of the landfill is found to be adverse based on long-term contrast with surrounding landforms which becomes more visible as landfilling activities exceed the existing ridgeline and the currently approved elevation of 883 feet amsl. In effect, the landfill would create a new ridgeline that would become the focal point of the background, rather than the existing hillsides. The interim landscape plan proposed as an alternative design feature would reduce the overall effect on visual quality, but due to periods when some manufactured slopes would be devoid of vegetation, the alternative would not reduce those impacts to a level that would not be considered significant adverse. Therefore, this alternative would result in a significant adverse effect with regard to view quality.

### Neighborhood Character

City of San Diego and City of Santee Conservation Elements contain policies that call for the protection of landforms and preservation of significant natural features, such as ridgelines and canyons. The alternative would affect Sycamore Canyon and public views/vistas, thereby conflicting with City of San Diego Policy CE-B-1. In addition, the alternative would create a ridge that would replace an existing ridge and would fill a canyon, thus conflicting with City of Santee Policy 10.2. Because the alternative would not meet the goal to preserve ridgelines and would result in a significant adverse effect with respect to visual quality, the inconsistency with these plan policies would be considered a significant adverse effect.

## Air Quality

### Air Quality Standard (NAAQS and AQIA) or Contribute Substantially to any Criteria Pollutant in Non-Attainment Area

The Sycamore Canyon Expansion Alternative would potentially result in violations of air quality standards or contribute to existing or projected violations. Impacts during construction would be considered not adverse. However, impacts during operation of the Sycamore Canyon Expansion Alternative would result in significant adverse effects.

### Cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment

Operation of the Sycamore Canyon Expansion Alternative would result in adverse effects to air quality. Dispersion modeling, which was used to estimate off-site ambient concentrations of operational criteria pollutants and toxic air pollutants, determined the alternative's effect on local air quality. Incremental emission concentrations from all sources are estimated to be in excess of the 1-hour $NO_2$ NAAQS. All other pollutant concentrations are estimated to be in compliance with the CAAQS and NAAQS. As a result, dispersion modeling indicates that modeled ambient $NO_2$ concentration at the closest current residents, future residents, and nearest sensitive receptor would exceed the allowable one-hour $NO_2$ NAAQS standards. This is considered a significant adverse effect. In addition, the alternative would expose sensitive receptors to ambient one-hour $NO_2$ concentrations from all sources, in excess of the one-hour $NO_2$ NAAQS, which is also considered a cumulatively significant adverse direct effect.

## Land Use and Planning

### Applicable Land Use Plans

A City of San Diego General Plan amendment would be required on approximately 43 acres of land designated as Park, Open Space and Recreation and five acres of land designated as Commercial Employment, Retail and Services. The alternative would result in a loss of open space, which is discouraged by Open Space and Land Preservation Policy CE-B.1. Although the alternative would preserve approximately 52 acres of additional open space within the MHPA surrounding the landfill property to compensate for biological resources impacts, the alternative would be inconsistent with this policy due to the loss of natural open space prior to facility closure. In addition, the loss of open space would not be consistent with Urban Design Element, Natural Features Policy UD-A-1, to protect the integrity of designated open spaces. The alternative would also be inconsistent with the General Plan with respect to impacts on approximately 0.62 acres of City-defined wetlands habitat. This loss of wetlands habitat would be considered adverse. The alternative would also conflict East Elliott Community Plan open space policies. Although the alternative site would ultimately be converted to open space as part of the closure plans, there are no measures available in the interim to compensate for the loss of naturally occurring open space. The alternative would not be consistent with the Open Space Management Guidelines of the East Elliott Community Plan (Guideline 1), which states that natural open space areas should remain undeveloped with disturbance limited to trails and passive recreational uses such as walking, hiking and nature study that are consistent with preservation of natural resources. Because the proposed amendment would result in significant adverse effects on open space and wetlands, the Sycamore Canyon Expansion Alternative is considered to have a significant adverse effect with respect to land use plans.

## Noise

### Operational Noise

Long-term operational noise associated with the Sycamore Canyon Expansion Alternative would expose nearby residential uses to noise levels in excess of applicable standards at the nearest property line. The maximum operational noise levels at the nearest residential property line from waste disposal, accessory operations, and truck movements would be 76.1 dBA Leq with implementation of the design features, which would exceed the City of San Diego noise standard of 65 dBA. No significant adverse noise effects would occur at noise sensitive property lines in the City of Santee. To reduce this effect, mitigation would be required to limit construction activity near residential property lines and increase the height of a berm or sound barrier, as necessary to reduce noise levels. However, because it may not be feasible to implement an effective noise barrier which would reduce truck noise exposure to below the criteria, significant adverse effects would occur.

## Transportation

### Near Term Conditions

The Sycamore Canyon Expansion Alternative would add traffic to the roadway network. The trips would be mostly added to Mast Boulevard heading west to SR 52 and then along SR 52 for regional distribution, particularly along I-15. The trip distribution through traffic facilities analyzed under the Near-Term 2015 Cumulative Conditions scenario would result in direct significant adverse effects at two intersections, one roadway segment and three freeway segments. Mitigation measures would reduce the effects to levels below the evaluation criteria at the intersection and roadway segment locations, but would not be sufficient to fully mitigate the effects at the freeway segments, and would result in significant adverse effects.

### Buildout

The Sycamore Canyon Expansion Alternative would add traffic to the roadway network. The trips would be mostly added to Mast Boulevard heading west to SR 52 and then along SR 52 for regional distribution, particularly along I-15. The trip distribution through traffic roadway segments analyzed, when measured against the Buildout Conditions Baseline would have cumulatively significant adverse effects at two intersections, one roadway segment and three freeway segments. The mitigation measures proposed for those scenarios would fully mitigate these cumulatively significant adverse effects at the intersection and roadway locations but only partially mitigate the cumulatively significant adverse effects at the freeway segment locations.

# SUMMARY COMPARISON

In many areas, such as air quality and traffic noise, the alternatives would have similar levels of significant adverse impact. Other impacts vary over a range of subject. Significant adverse effects for the seven alternatives are summarized below.

## Applicant's Proposed Alternative

In all, the Applicant's Proposed Alternative would result in seven significant adverse effects including the following impacts to environmental resources: (1) Aesthetic Resources - landform character, (2) Air Quality

– criteria pollutants, (3) Air Quality – cumulative considerable increase, (4) Cultural Resources - TCPs, (5) Noise - traffic noise, (6) Transportation – near term conditions, and (7) Transportation – buildout conditions.

## No Federal Action Alternative

The No Federal Action Alternative is expected to result in two significant adverse effects: (1) Air Quality – criteria pollutants (South Coast Air Basin), (2) Air Quality – cumulatively considerable increase (South Coast Air Basin).

## Aspen Road Alternative

By comparison, the Aspen Road Alternative is expected to result in thirteen significant adverse effects, including: (1) Aesthetic Resources - landform character, (2) Aesthetic Resources – view quality (3) Aesthetic Resources - neighborhood character, (4) Agricultural Resources – conversion of FMMP farmlands; (5) Agricultural Resources – impeding use of a Williamson Act Contract, (6) Air Quality – criteria pollutants, (7) Air Quality – cumulative considerable increase, (8) Biological Resources – wildlife movement, (9) Land Use – applicable land use plans, (10) Land Use –habitat conservation plan, (11) Noise – blasting, (12) Noise - traffic noise, and (13) Transportation – near term conditions.

## Gopher Canyon Road Alternative

The Gopher Canyon Road Alternative is expected to result in nine significant adverse impacts, including: (1) Aesthetic Resources - neighborhood character, (2) Air Quality – criteria pollutants, (3) Air Quality – cumulative considerable increase, (4) Biological Resources – wildlife movement, (5) Geology and Soils – Mineral Resources, (6) Land Use – applicable land use plans (7) Noise – blasting, (8) Noise - traffic noise, and (9) Transportation – near term conditions.

## Merriam Mountain Alternative

The Merriam Mountain Alternative is expected to result in twelve significant adverse impacts, including: (1) Aesthetic Resources - landform character, (2) Aesthetic Resources – view quality, (3) Aesthetic Resources – neighborhood character (4) Air Quality – criteria pollutants, (5) Air Quality – cumulative considerable increase, (6) Biological Resources – conflict with conservation plans, (7) Geology and Soils – Mineral Resources, (8) Land Use – applicable land use plans, (9) Land Use –habitat conservation plan, (10) Noise – blasting, (11) Noise - traffic noise, and (12) Transportation – near term conditions.

## East Otay Mesa Alternative

The East Otay Mesa Alternative is expected to result in twelve significant adverse impacts, including: (1) Aesthetic Resources - neighborhood character, (2) Agricultural Resources – conversion of FMMP farmlands, (3) Air Quality – criteria pollutants, (4) Air Quality – cumulative considerable increase, (5) Biological Resources – regionally limited sensitive habitat, (6) Biological Resources – Long-Term Regional and Sub-Regional Conservation Goals (7) Land Use – applicable land use plans, (8) Land Use –habitat conservation plan , (9) Noise – blasting, (10) Noise - traffic noise, (11) Transportation – near-term conditions, and (12) Transportation – buildout conditions.

## Sycamore Canyon Expansion Alternative

The Sycamore Canyon Expansion Alternative is expected to result in eight significant adverse impacts, including: (1) Aesthetic Resources – visual quality, (2) Aesthetic Resources – neighborhood character, (3) Air Quality – criteria pollutants, (4) Air Quality – cumulative considerable increase, (5) Land Use – land use plans (6) Noise –operational noise, and (7) Transportation – buildout conditions, and (8) Transportation – buildout conditions.

### Cumulative Effects

In addition to direct and indirect effects that would occur as a result of the implementation of the alternatives, Chapter 6 of this EIS contains an analysis of the cumulative effects that would result from the alternatives. Table 5-2 provides a summary of the alternatives that would contribute to cumulatively significant adverse effects by resource area. The summary table includes only issue areas in which one or more of the alternatives would contribute to a cumulatively significant adverse effect. In other words, if none of the alternatives would contribute to a significant adverse effect the issue area is not included in Table 5-2 (i.e., law enforcement, fire protection and emergency medical service, schools, recreation, water supply, and wastewater, etc.).

**Table 5-2**

**Summary Comparison of Alternatives – Significant Adverse Cumulative Effects**

| Environmental Issue | Applicant's Proposed | No Federal Action | Aspen Road | Gopher Canyon Road | Merriam Mountain | East Otay Mesa | Sycamore Canyon Expansion |
|---|---|---|---|---|---|---|---|
| **Agricultural Resources** | | | Significant Adverse | | | Significant Adverse | |
| **Air Quality and Greenhouse Gases** | Significant Adverse | Significant Adverse (South Coast Air Basin) | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse |
| **Biological Resources** | | | Significant adverse (wildlife corridor) | Significant adverse (wildlife corridor) | Significant adverse (conflict with plans) | Significant adverse (loss of habitat; conflict with plans) | Significant adverse (loss of vegetation) |
| **Traditional Cultural Properties** | Significant Adverse | | | | | | |
| **Geology and Soils** | | | | Significant Adverse | Significant Adverse | | |
| **Noise and Vibration** | Significant Adverse (traffic noise) | | Significant Adverse (traffic noise) | Significant Adverse (traffic noise) | Significant Adverse (traffic noise) | Significant Adverse (traffic noise) | |
| **Transportation** | Significant Adverse | | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse | Significant Adverse |

*Source: PCR Services Corporation, 2012*

## 5.3 ENVIRONMENTALLY PREFERRED ALTERNATIVE

The Council of Environmental Quality (CEQ) regulations for implementing NEPA [40 CFR 1502.14(e)] require that a draft EIS: "Identify the lead agency's preferred alternative or alternatives, if one or more exists in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference." The USACE has not yet identified a preferred alternative among the alternatives evaluated and therefore, no preferred alternative is identified in this draft EIS. A preferred alternative will be identified following receipt and consideration of public comments on this EIS. Therefore, a preferred alternative will be identified in the Final EIS as required by CEQ regulations.

# 6.0 CUMULATIVE ANALYSIS

## INTRODUCTION

This chapter provides an analysis of the cumulative effects of the alternatives evaluated in this EIS. NEPA regulations define "cumulative impact" as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7). NEPA considers that "[c]umulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). "Determining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources, ecosystems, and human communities of concern." (Council on Environmental Quality), Considering Cumulative Effects Under the National Environmental Policy Act (January 1997).

This chapter is organized by alternative, and then by environmental topic area. The discussion of potential cumulative effects for each environmental topic area begins with a brief summary of the alternative's effects, as concluded in this EIS. The discussion then focuses on the potential cumulative effects of each of the alternatives when considered in combination with past, present, and reasonably foreseeable projects.

## 6.1 METHODOLOGY FOR ASSESSING ADVERSE CUMULATIVE EFFECTS

The extent of the NEPA cumulative effects analysis varies depending on the nature of the resources affected and the duration of the potential impacts, and is guided by the overarching principle of reasonableness. In its handbook on cumulative effects, the CEQ states that "it is not practical to analyze the cumulative effects of an action on the universe;" and that in order to be useful to decision makers and the public, the analysis must be limited to effects that can be meaningfully evaluated. (CEQ Cumulative Handbook, supra, p. 8.) The CEQ Cumulative Handbook suggests that the geographic boundaries for the cumulative effects analysis are ordinarily on the scale of human communities, landscapes, watersheds, or airsheds, but that the appropriate boundary depends on the accumulation characteristics of the effects being analyzed as well as an evaluation of the management and regulatory interests of the involved agencies. (CEQ Cumulative Handbook, supra, pp. 12, 16.)

The evaluations of potential long-term cumulative impacts relies in part on the August 2011 San Diego General Plan Update Final EIR. The General Plan Update EIR evaluates the potential environmental impacts from full buildout of land uses identified in the General Plan, which the County adopted in 2011. The EIR contains an analysis of full buildout that could occur under the General Plan and that is anticipated to occur in 2030.The General Plan Update EIR provides a reliable source on which to compare potential long-term cumulative effects because the analysis provided therein is supported by regional level technical assessments, including SANDAG projections for future development, and evaluations of impacts on environmental resources associated with those projections.

With regard to biological resources, both the Draft North County Plan[1] and the County of San Diego General Plan Update and associated EIR define biological resources of regional importance and conservation policies and goals for these resources. The Draft North County Plan document was utilized to identify conservation goals, policies, and mitigation measures proposed within the North County Plan area that would require compliance if the plan is adopted prior to a project approval. The document was also used to identify areas mapped as planned development footprints within the North County Plan area that were negotiated as Take-Authorized areas, open space easements, preserve areas, and PAMA areas proposed for assembly as part of the North County Preserve. Subsequent to the Draft North County Plan document, the County of San Diego released the General Plan Update and associated EIR which address the cumulative impacts of projects within the entire County, including the North County Plan area. These documents assess current and foreseeable future actions or projects and their associated impacts to the identified resources, and a build-out scenario based on a population forecast model which correlates with the SANDAG 2030 forecast for unincorporated areas of the County.

Further, the cumulative analyses take into account the effects of the alternatives in conjunction with past, present and reasonably foreseeable projects that can contribute to cumulative effects that are geographically localized in nature and/or that might occur in the earlier stages of development, prior to build out of the General Plan. Thus, a list of cumulative projects was compiled for each of the alternative sites. The lists were compiled using known development projects as reflected in San Diego County records including the KIVA system, research located at nearby jurisdictions, information in SANDAG transportation programs and/or the development included in a SANDAG Year 2030 Series 10 development model. A cumulative project list and figure showing the locations of the projects is provided below at the beginning of each alternative. The evaluation of potential cumulative effects of the Sycamore Canyon Expansion Alternative is based on the Sycamore Landfill Master Development Plan Revised Draft EIR (May 2012).

## 6.2 APPLICANT'S PROPOSED ALTERNATIVE

Table 6-1, *Applicants Proposed Alternative – Cumulative Projects,* provides the list of projects in the vicinity of the Applicant's Proposed Alternative. Figure 6-1, *Applicant's Proposed Project – Locations of Cumulative Projects* shows the locations of these projects.

### 6.2.1 Aesthetics

#### Natural Landform Character

As concluded in Section 4.1, Aesthetics, of this EIS, the overall size, elevation, and form of the components of the Applicant's Proposed Alternative would contrast with the natural landform character in a scenic area. With the incorporation of design features, effects on the natural landform character from the Borrow/Stockpile Areas A and B, the western desilting basin, and relocation of the SDG&E towers would not be adverse. However, the impacts on landform character associated with the landfill footprint, even though reduced with the implementation of design features, would result in a significant adverse effect.

[1] *The Draft North County Plan has not yet been adopted and is currently being revised based on public comments received.*

**Table 6-1**

**Applicant's Proposed Alternative – Cumulative Projects**

| No. | Project Name | Project No. | Project Description |
|---|---|---|---|
| 1 | Meadowood | TM 5354,<br>GPA 04-02 | Mixed Use Development, 355 SF units, 503 MF units, an elementary school and small neighborhood park |
| 2 | Campus Park | TM 5338,<br>GPA 03-004 | Mixed Use Development, 521 SF units, 555 MF units, a town center (retail).an office building 157,000 SF, a sports complex of 5.2 acres and small neighborhood park |
| 3 | Campus Park West | TM 5424,<br>RPL,<br>GPA 05-003 | Maximum of 355 MFR. Density of 20 DU/acre. Retail space of 349.3 KSF, 50 KSF of Commercial space, and two Light Industrial units. |
| 4 | Pala Mesa Highlands | TM 5187,<br>RPL,<br>SP 99-005,<br>MUP 99-020<br>REZ 99-020<br>MUP/REZ 04-024 | Maximum of 130 SFR. Density of 1.6 DU/acre. Lot sizes vary from 5500 SF to 23,500 SF, two parks totaling 4.3 acres, trails, 36.5 acres of open space. SPA to allow clustering. |
| 5 | Tedder TM | TM 4729<br>RPL TE | Split lot into 13 SFR lots, ranging in size from 1 to 6.43 acres net |
| 6 | Hukari Subdivision | TPM 20830 | Minor residential subdivision with road improvements. 4 SFR lots plus one remainder lot (3.4 to 7.7 net acres each) |
| 7 | Fallbrook Ranch | TM 5532<br>S 07-012 | 11 SFR lots |
| 8 | Los Willows Inn and Spa | MUP 03-127 | Add additional units to a bed and breakfast |
| 9 | Reeve TPM | TPM 20411 | Minor residential subdivision 3 SFR lots (2 acres minimum) |
| 10 | Evans TPM | TPM 20491 | Minor subdivision into 2 residential agricultural parcels (2 and 2.10 acres). Private septic system. |
| 11 | Bridge PAC West I TPM | TPM 20841 | Minor residential subdivision. 4 SFR lots plus one remainder lot (2.04, 2.08, 2.12, 2.14 and remainder 7.08 net acres each). |
| 12 | Pala Mesa Resort | SPA 03-005<br>R 00-000<br>MUO 00-000<br>P 74-120W<br>P 74-121M<br>MUP 03-006<br>MUP 04-005 | Specific Plan Amendment for modification and construction of new recreation and resort related facilities. Addition of 186 resort rooms and wedding facility. Expansion of resort by 6 acres. |
| 13 | Lung TPM | TPM 20431<br>S 98-006 | Minor residential subdivision 2 SFR lots (6.7 and 4.0 acres) |
| 14 | Chipman TPM | TPM 20440 | Minor residential subdivision. 4 SFR lots plus one remainder lot, 2.13 to 2.85 net acres each and remainder 4.00 net acres. Septic System |
| 15 | Bierman TPM | TPM 20484 | Minor residential subdivision. 4 SFR lots ranging from 2.01 to 2.19 net acres each. Septic System |
| 16 | Cooke Residence | S 04-026 | 4,723 square feet SFR |
| 17 | Tresiter TPM | TPM 20581 | Minor residential subdivision. 4 SFR lots plus one remainder lot. |

**Table 6-1 (Continued)**

**Applicant's Proposed Alternative – Cumulative Projects**

| No. | Project Name | Project No. | Project Description |
|---|---|---|---|
| 18 | Mission Ridge Road TPM | TPM 20793 03-02-068 | Minor residential subdivision. 4 SFR lots. |
| 19 | Rancho Alegre TPM | TM 5413 | Part of 115- acre subdivision (33 lots). This project consists of 20 lots in the eastern portion of the property and proposes a different street alignment. |
| 20 | Rarick TPM | TPM 20853 | Minor residential subdivision. 4 SFR lots (ranging from 2.02 to 2.25 acres each). Septic system. |
| 21 | Fernandez TPM | TPM 20936 | Minor residential subdivision. 4 SFR lots. Minimum lot size 2 acres. 2 existing SFR on site. |
| 22 | Rabuchin TPM | TPM 20944 | Subdivision of 2 lots into 4 SFR lots. Existing SFR on site |
| 23 | Pala Casino Expansion (completed)* | NA | 187,300 s.f. casino, spa, hotel, theater. |
| 24 | Rosemary's Mountain/ Palomar Aggregates Quarry (completed)* | MUP 87-021 RPL2 REZ P87-001 RPL2 | Aggregate rock quarry and processing plants for concrete and asphalt. Approximately 22 million tons of rock would be mined over 20 years. Realignment of SR 76 from Project site west to I-15. Reclamation Plan to designate lower portion of site as water storage reservoir after completion of mining activities. |
| 25 | Patapoff Minor Residential Subdivision | TPM 20542 | Subdivide property into four parcels of 4.3 acres, 4.2 acres, 9.6 acres, 8acres, and a 33-acre parcel |
| 26 | Prominence at Pala | TM 5321 | Subdivide the property into 30 SFR and two open space lots ranging in size from 4 to 96 acres |
| 27 | Palomar College North Education Center District Master Plan | NA | New Community College campus to serve approximately 12,000 students, to include classroom and administration buildings, parking, open space, athletic fields, and off-site road, water and sewer improvements. |
| 28 | N/A | TM 5231 | 39 condo units |
| 29 | N/A | TM 5276 | 8 SFR lots |
| 30 | N/A | TM 5346 | 9 SFR lots |
| 31 | Marquart Ranch | TM 5410 | 9 SFR lots. Includes improvements to West Lilac Road and Mesa Lilac Road, and drainage improvements. |
| 32 | Fallbrook Oaks | TM 5449 | 19 SFR lots |
| 33 | Ridge Creek Drive | TM 5469 | 14 SFR lots |
| 34 | Club Estates | TM 5499 | 31 SFR lots |
| 35 | Oak Tree Ranch TM | TM 5540; MUP 07-007 | 24 SFR |
| 36 | Turnbull TM | TM 5545 | 17 lots |
| 37 | Wexler TPM | TPM 20913 | 4 lots |
| 38 | Shadow Run Ranch | TM 5223 MUP 00-030 | 54 SFR lots and 2 open space lots. MUP filed concurrently for Planned Residential Development that would cluster residential development on minimum 2-acre lots. |
| 39 | Diana Acres | TPM 20896 | 3 lots |
| 40 | Hunter Subdivsion | TPM 20804 | 3 lots |

**Table 6-1 (Continued)**

**Applicant's Proposed Alternative – Cumulative Projects**

| No. | Project Name | Project No. | Project Description |
|---|---|---|---|
| 41 | Burge TPM | TPM 20538 | 4 lots plus remainder |
| 42 | Pauma Valley Packing Company | MUP 99-001 | Packing and processing |
| 43 | Shadow Run Ranch/Schoepe-Pauma TM | TM 5223; MUP 00-030 | 13 lots |
| 44 | Warner Ranch | TM 5508 | 732 SFR lots, 168 condo units, community park, fire station lot |
| 45 | Pauma Casino and Hotel | CASINO | 400 room hotel and 171 ksf casino - |
| 46 | De Jong/Pala Minor Subdivision | TPM 20451 | Minor residential subdivision.3 SFR lots (1.03, 2.06 and 2.31 net acres each). |
| 47 | Crossroads Investors Minor Subdivision | TPM 20800 | Minor residential subdivision. 4 SFR lots plus one remainder lot. Existing SFR and grove on site |
| 48 | Chaffin/Red Mountain Ranch Subdivisions | TM 5217/5225/5 2 27/5228 MUP 00-027 | TM 5217: Residential development with 29 SFR lots (2.28 to 18.33acres) and 2 biological open space zones. TM 5225: 55 acres divided into 6 SFR lots (8.1 to 13.9 acres). TM 5227: 44.5 acres divided into 4 SFR lots (8.08 to 13.71 acres each).TM 5228: 19.1 acres |
| 49 | John Collins TPM | TPM 20505 | 2 lots |
| 50 | Brannon Trust TPM Remai | TPM 21085 | 4+ lots |
| 51 | Dien N Do TPM | TPM 20976 | 4+ lots |
| 52 | Tim Rosa TPM | TPM 20373 | 4 lots plus remainder |
| 53 | Leising TPM | TPM 20427 | 4 lots |
| 54 | Atteberry TPM | TPM 20434 | 3 lots |
| 55 | Johnson TPM | TPM 20980 | 2 lots |
| 56 | Chipman TPM | TPM 20381 | 4 lots plus remainder |
| 57 | American Lotus Buddhist Association TPM | TPM 21047 | -4 lots plus remainder lot |
| 58 | Reche Road TM | TM 5547 | 12 SFR lots |
| 59 | Palisades Estates | TM 5158; RPL3 | 51 lots |
| 60 | Dion TPM and time extension | TPM 19742 | 2 lots |
| 61 | Patricia Daniels TPM | TPM 20476 | 4 lots plus remainder |
| 62 | Cameron Subdivision | TPM 20443 | Minor residential subdivision. 3 SFR lots (2.22, 2.44 and 6.37 acres each). Septic system. |
| 63 | Tesla Gray TPM | TPM 20473 | Minor residential subdivision. 4 SFR lots plus one remainder lot. Future development of 5 SFR |
| 64 | Aspel TPM | TPM 20592 | Minor residential subdivision. 2 SFR lots (2.09 and 5.20 acres each). |
| 65 | James Patapoff TPM | TPM 20317 | Subdivision of 16.8 acres into 4 lots plus a remainder lot |
| 66 | Yew Tree Spring Water Corporation | TPM 20503 | 3 residential lots |
| 67 | Haugh, Granger TPM | TPM 20610 | 4 lots |
| 68 | Brown, Lee & Karen, TPM | TPM 20614; RPL1 | 3 lots |
| 69 | Pepper Drive TPM | TPM 20648 | 4 residential lots |

**Table 6-1 (Continued)**

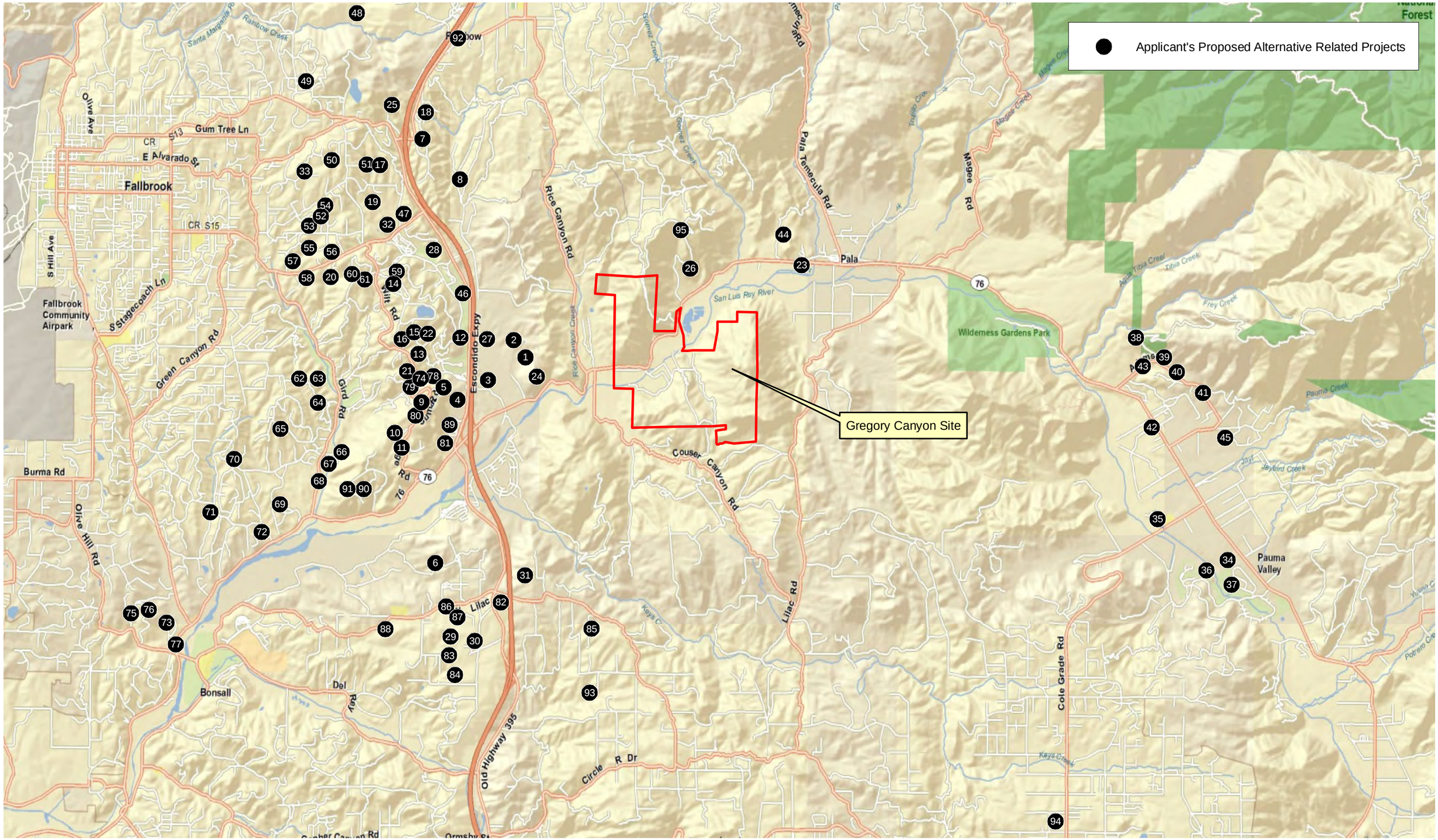
**Applicant's Proposed Alternative – Cumulative Projects**

| No. | Project Name | Project No. | Project Description |
|---|---|---|---|
| 70 | Surf Properties TM | TM 4971 | 15 lots |
| 71 | Brook Hills TM | TM 4908 | 35 lots |
| 72 | Latter-Day Saints/Via Monserate | MUP 02-011 | 17,000 sq. ft. church and meeting rooms |
| 73 | Leeds and Strausss TM | TM 4976; RPL4 | 17 SFR lots – TM time extension until 09/13/2009 |
| 74 | Murray Davidson | TM 5398 | 7 lots |
| 75 | Shamrock Partners TPM | TPM 20173 | 3 lots |
| 76 | Crook TPM | TPM 20851 | 5 lots |
| 77 | Tabata Bonsall TPM RPL1 | TPM 20729 | 33.75 |
| 78 | Berezousky TPM (311 Same as one in original latch) | TPM 20874 | Subdivision of 3.11 acre into 4 residential lots. Existing SFR on site |
| 79 | Murray Davidson TPM | TPM 20932 | Subdivision of 1 lot into 4 SFR lots plus a remainder lot |
| 80 | Sumac TPM | TPM 21076 | 4 lots |
| 81 | Janikowski SFR | S 03-024 | 3,200 s.f. SFR |
| 82 | Kratochvid TPM; expired map | TPM 19827 | 4 lots |
| 83 | Kohl TPM | TPM 20319 | 4 lots plus remainder |
| 84 | Woodhead TPM | TPM 20541 | 4 lots plus remainder |
| 85 | Rockefeller TPM | TPM 20596 | 2 lots |
| 86 | McNulty TPM | TPM 20763 | 2 lots |
| 87 | Stehly Caminito Quieto TPM | TPM 20799 | 4 lots |
| 88 | Sanders TPM | TPM 20845 | 4 lots plus remainder lot |
| 89 | Pala Shopping Center | S 02-061 | Addition of 5 commercial buildings to an existing commercial site with grocery store. |
| 90 | Monserate TPM | TPM 21156 | 4 lots plus remainder |
| 91 | Dimitri Diffendale and Kirk TPM | TPM 21075 | 4 lots |
| 92 | Madrigal TPM | TPM 20994 | 3 lots |
| 93 | Accretive | PAA 09-007 | 1,746 DU, two schools, a neighborhood shopping center, active park, and transit center |
| 94 | Segal Ranch | TM 5173 | 165 SFR, corner market, fire station, active park, community center |
| 95 | Singh Power Plant (completed)* | MUP 07-009 | Power Generation facility |

*NA=Not Available*

* *These projects have been completed and are part of the existing conditions baseline. Notwithstanding, they have been included in the traffic impacts analysis (Section 4.15 of this EIS) as cumulative projects. They are included as adjustments to the traffic model. For further discussion refer to Traffic Impact Analysis – Gregory Canyon Landfill, (Appendix M of this EIS.)*

*Source: Linscott, Law and Greenspan, 2012*




**Applicant's Proposed Alternative - Locations of Cumulative Projects**

**Gregory Canyon**

Source: ESRI, 2009; PCR Services Corporation, 2012.

FIGURE

**6-1**

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There are no proposed developments in the area that would share a common view field with the Applicant's Proposed Alternative or, the construction and operation of which could contribute to a cumulative landform impact. Rosemary's Mountain Quarry to the west of Rice Canyon Road would affect landform character; however, this project is sufficiently distant from the Gregory Canyon property to not occupy the same view field. Because of the large lot size and access along the existing Pala del Norte Road, mass grading would not be implemented, nor would substantive changes in the area's landform character occur. A cumulative project (the Prominence at Pala), a low-density residential subdivision of large 4- to 96-acre lots on Pala del Norte Road, was denied by the County Planning Commission in 2010. Although this decision has not been appealed, if this cumulative project were to go forward at a future time, residences would be only partially visible from SR 76 and the surrounding area. Because of the large lot size and access along the existing Pala del Norte Road, mass grading would not be implemented, nor would substantive changes in the area's landform character occur. Because cumulative projects would not cause substantial changes in the area's landform character, the incremental landform changes under the Applicant's Proposed Alternative would not result in significant adverse cumulative effects with respect to the area's natural landform character.

### Visual Quality

As concluded in Section 4.1, Aesthetics, of this EIS, components of the Applicant's Proposed Alternative, including the landfill footprint, Borrow/Stockpile Areas A and B, access road and bridge, and ancillary facilities would contrast with the surrounding natural environment in an area visible to a large number of viewers. However, with the incorporation of design features, there would be no significant adverse visual quality effects.

Newer developments that are built or under operation and that contribute to the existing visual character of the area include a privately-operated power plant on Pala del Norte Road to the north of the site, Rosemary's Mountain Quarry to the west of Rice Canyon Road, and the Pala Casino to the east of Gregory Mountain. Rosemary's Mountain Quarry and the Pala Casino are sufficiently distant from the site to not occupy the same view field. However, both contribute to an existing community character that is more industrial or commercial in character. The power plant is located near the site; however, its location to the north of SR 76 removes it from a common view field as seen from the highway. As with the quarry and casino, the power plant contributes to the mixed-use aspect of the area. No new cumulative projects are in the San Luis Rey Valley that would affect the quality of visual resources in combination with the Applicant's Proposed Alternative.

As discussed above, the Prominence at Pala Project was disapproved by the County Planning Commission in 2010. If the Prominence of Pala goes forward, residences would be only partially visible from SR 76 and the surrounding area. Because of the large lot size and access along the existing Pala del Norte Road, this cumulative project would not constitute a strong visual change in visual character of the area, or cumulatively contribute to adverse changes in combination with the Applicant's Proposed Alternative. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the Applicant's Proposed Alternative and cumulative projects would not cause significant adverse cumulative effects in the area's visual quality.

### Visual Resources

As concluded in Section 4.1, Aesthetics, of this EIS, components of the Applicant's Proposed Alternative, particularly the landfill footprint and the bridge would require the removal of natural vegetation, boulders, and other natural features that make up local visual character. This would be considered an incremental change in the visual resources of the area. However, the incorporation of design features would ensure that the alternative would not result in significant adverse effects with respect to visual resources.

No new cumulative projects are located in the San Luis Rey Valley that would affect the quality of visual resources in combination with the Applicant's Proposed Alternative. As discussed above, the Prominence at Pala del Norte Road was disapproved by the County Planning Commission in 2010. However, if this project were to move forward, residences would be only partially visible from SR 76 and the surrounding area. Because cumulative projects would not cause substantial changes in the visual resources of the San Luis Rey Valley, the incremental changes under the Applicant's Proposed Alternative would not cumulatively contribute to adverse changes the area. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the alternative and cumulative projects would not have significant adverse cumulative effects on the area's visual resources.

### View Quality

As concluded in Section 4.1, Aesthetics, of this EIS, portions of the landfill face would be visible within broad vistas of the San Luis Rey Valley under the Applicant's Proposed Alternative. However, the face of the landfill would not be large enough to dominate the entire valley, block horizon views, or block views of the crest of Gregory Mountain. Other components of the alternative would not block or dominate broad vistas or view corridors of the San Luis Rey Valley. Therefore, the landfill would not have a significant adverse effect on view quality. There are no cumulative projects in the area that would share a common view field with the Applicant's Proposed Alternative or, the construction and operation of which, in combination with the proposed

Applicant's Proposed Alternative, would affect the quality of views in the area. No cumulative projects would extend into alternative site's view corridors or would cause view blockage across the site or immediate area. Thus, the Applicant's Proposed Alternative and cumulative projects would not result in significant adverse cumulative effects on view quality.

### Neighborhood Character

As concluded in Section 4.1, Aesthetics, of this EIS, although the Applicant's Proposed Alternative would not be fully consistent with goals of the Pala-Pauma Community Plan, Fallbrook Community Plan, and County General Plan to preserve the character of the neighborhood, design features would address impacts on neighborhood character. The alternative would be consistent with the mixed-use character of the Community Plan area, and impacts with respect to community character would not be adverse.

Cumulative projects would be consistent with the policies and objectives of the respective community and subregional plans, particularly with respect to the non-urbanized character of much of the San Luis Rey Valley. Because the Applicant's Proposed Alternative and cumulative projects would be substantially

consistent with the designations and visual character policies of the community plans, the alternative and cumulative projects would not result in significant adverse cumulative effects with respect to community plans and neighborhood character.

### Dark Skies

As concluded in Section 4.1, Aesthetics, of this EIS, with primary operations during daytime hours, lighting would be limited to security lighting within the ancillary facilities area. No illuminated signage, building, or landscape lighting would be implemented. In addition, the alternative would be consistent with County's Light Pollution Ordinance (Code Section 59.101), which requires shielding and downward direction of exterior lighting. Therefore, the Applicant's Proposed Alternative would not result in adverse effects with respect to dark skies.

As with the Applicant's Proposed Alternative, cumulative projects in the area would be required to comply with the County's Light Pollution Ordinance and would not adversely affect night lighting conditions. Therefore, the Applicant's Proposed Alternative and cumulative projects would not cause adverse cumulative effects with respect to dark skies.

## 6.2.2 Agricultural Resources

As concluded in Section 4.2, Agricultural Resources, of this EIS, the Applicant's Proposed Alternative would not impair agricultural activities on adjacent farmlands or cause such farmland to convert to non-agricultural uses. In addition, the Applicant's Proposed Alternative would not impair the productivity of off-site agricultural resources, or be incompatible with surrounding Land Conservation Act contracted lands or other agricultural lands in a manner that would inhibit agricultural activities.

As such, the Applicant's Proposed Alternative would not cumulatively contribute to a loss of Prime Farmland, Unique Farmland, Farmland of Statewide or Local Importance, grazing land, or farmland of local importance. The San Diego County General Plan would change prior A-70 (Limited Agricultural) and A-72 (General Agricultural) land use designations, which apply to surrounding agricultural lands, to "rural"" and semi-rural" designations. This would eliminate the existing land use designations for agriculture, while allowing agricultural operations to occur under any land use designation. Although the General Plan's new land use designations have the potential to result in a loss of agricultural resources, some land uses have less potential to directly convert to non-agricultural uses.

All parcels that are subject to a Williamson Act contract and lands within agricultural preserves, as are the majority of farmlands surrounding the Applicant's Proposed Alternative site, are processed by the County under the requirements and restrictions of the established contract. These restrictions prohibit conversion to non-agricultural uses during a prescribed period of time. In addition, subdivision development is reviewed in light of the Subdivision Map Act which contains specific mention of Williamson Act contract lands, as well as lands not under contract but within an adopted agricultural preserve. Because of the restrictions placed on surrounding lands by Williamson Act contracts and agricultural preserve status, it is unlikely that surrounding, active farmlands would convert to non-agricultural uses because of the changes in the General Plan. Therefore, the Applicant's Proposed Alternative and cumulative projects would not result in a significant adverse cumulative effect with respect to agricultural resources.

## 6.2.3 Air Quality

### Air Quality Plans

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Applicant's Proposed Alternative would not conflict with implementation of the RAQS or the applicable portions of the SIP. Therefore, no significant adverse effects would occur.

Cumulative projects identified in the area would have the potential to result in a cumulative impact to air quality plans if, in combination, they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Projects that are not consistent with the regional planning documents that the RAQS and SIP are based on would have the potential to result in cumulative impacts if they would include development beyond regional projections. The nearest cumulative projects are located along the SR 76 corridor and include residential and commercial development and a community college campus. These related cumulative projects would generally be consistent with the SIP and the RAQS because the projects would be required to be consistent with adopted general plans or other planning documents accounted for in the RAQS growth projections. Therefore, the Applicant's Proposed Alternative, in combination with the cumulative projects in the area, would have no cumulative significant adverse effects relative to air quality plans.

### Air Quality Standards

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction specific air dispersion modeling was conducted and demonstrates that $NO_x$, $PM_{10}$, and $PM_{2.5}$ emissions do not result in ambient concentrations which exceed applicable NAAQS. With respect to operations, operational specific air dispersion modeling was conducted which demonstrates that impacts from $NO_x$, CO, $PM_{10}$, and $PM_{2.5}$ would not cause any exceedances of any of the applicable ambient air quality standards. Although $NO_x$ emissions would not cause an exceedance of the NAAQS for $NO_2$, it is a precursor to regional ozone as are VOCs; therefore, because VOC and $NO_x$ emissions exceeds the SDAPCD Rule 20 offset requirement, and because the SDAB is non-attainment for the federal ozone standard, it is conservatively assumed to have a significant adverse effect.

The Applicant's Proposed Alternative and cumulative projects located in the SDAB would have the potential to result in a significant adverse cumulative effect, if in combination, they would violate air quality standards or contribute substantially to existing or projected air quality violations.

The Applicant's Proposed Alternative would result in the emission of criteria pollutants for which the area is in non-attainment during both construction and operation. An adverse effect may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. The SDAB is currently in non-attainment for the federal ozone standard. Notwithstanding the dispersion modeling results, construction and operation of the Applicant's Proposed Alternative would have a significantly adverse cumulative effect on ozone in the SDAB. Cumulative projects would also emit ozone precursors during construction and operation. Therefore, the Applicant's Proposed Alternative would contribute to a significant adverse cumulative effect in the SDAB, even after incorporation of design features.

### Cumulatively Considerable Criteria Pollutants

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Applicant's Proposed Alternative would result in maximum emissions of VOCs and $NO_x$ that would exceed the corresponding AQIA threshold levels. Cumulative projects would also emit ozone precursor emissions during construction and operation. Therefore, the Applicant's Proposed Alternative would contribute to a significant adverse cumulative ozone effect, even after incorporation of design features.

### Health Risk and Microclimate

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the Applicant's Proposed Alternative would not expose sensitive receptors to substantial pollutant concentrations. Therefore, the Applicant's Proposed Alternative would not result in a significant adverse effect to human health, avocado and citrus trees, or microclimate. Cumulative projects in the site vicinity could also emit TAC emissions. However, the Applicant's Proposed Alternative is located a substantial distance from any cumulative projects. Since the Applicant's Proposed Alternative would not result in adverse effects from TAC emissions, then cumulatively there would be no significant adverse effects to human health, avocado and citrus trees, or microclimate from cumulative projects.

### Objectionable Odors

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the Applicant's Proposed Alternative has the potential to cause odors, but the use of a gas recovery system and daily cover would result in no significant adverse odor effects occurring. Cumulative projects in the area also have the potential to generate odors. However, these projects are located a substantial distance from the Applicant's Proposed Project and would not cause any overlap of odors. Since the Applicant's Proposed Alternative would not result in a significant adverse effect from odors, then cumulatively there would be no significant adverse effects from odors in conjunction with cumulative projects.

### Visibility Impacts

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Applicant's Proposed Alternative would not create visibility impacts to the Agua Tibia Wilderness Area and therefore, no significant adverse effects would occur.

The Applicant's Proposed Alternative and cumulative projects located in the vicinity would have the potential to result in an adverse cumulative visibility impacts to the Agua Tibia Wilderness Area, if in combination, they would cause visibility impacts. Since the Applicant's Proposed Alternative does not cause a significant adverse visibility impact, the cumulative projects, which are located farther away from the site, would not be expected to result in cumulative significant adverse visibility impacts either.

### Greenhouse Gases

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, there is no basis for concluding that an emissions increase resulting from the alternative and cumulative projects could actually cause a measurable increase in global GHG emissions sufficient to force global climate change. The Applicant's Proposed Alternative would include design features to reduce GHG emissions, as well as features that

address strategies consistent with the state, County and City regulations for reducing GHG emissions. The Applicant's Proposed Alternative would be consistent with state, County, and City goals, and, therefore, would be consistent with the AB 32 reduction targets. It is likely that the cumulative projects would also meet or exceed applicable local and state laws and policies aimed at reducing GHG emissions, in support of AB 32. Implementation of design features would ensure that impacts from GHG emissions are minimized.

## 6.2.4 Biological Resources

### Waters of the U.S.

As discussed in Section 4.4, Biological Resources, of this EIS, the Applicant's Proposed Alternative would result in permanent impacts to 0.542 acre of jurisdictional waters of the U.S., including 0.005 acre of wetlands within the San Luis Rey River consisting of riparian habitat, and 0.537 acre of non-wetland waters within the Gregory Canyon tributary drainage dominated by coast live oak habitat. The Applicant's Proposed Alternative would also result in temporary construction impacts to 0.563 acre of jurisdictional waters of the U.S., including 0.371 acre of wetlands within the San Luis Rey River and 0.192 acre of non-wetlands within the San Luis Rey River and the Gregory Canyon tributary drainage. With the incorporation of design features, including the HRRMP, and proposed mitigation requiring preparation of a mitigation plan in compliance with the Mitigation Rule, the Applicant's Proposed Alternative would not result in significant adverse effects to jurisdictional waters of the U.S.

The County of San Diego General Plan Update EIR identifies a total of approximately 12,318.53 acres of vegetation communities that potentially contain jurisdictional wetland waters of the U.S. within the Draft North County Plan area, including a range of habitats from open water, to various meadows/seeps, riparian forests, riparian woodlands, and riparian scrub habitats. Of the 12,318.53 acres, 926 acres are identified for potential impacts, which represents 7.5 percent of the total acreage. Although jurisdictional non-wetland waters of the U.S. are not specifically identified, wetland riparian habitats are typically associated with adjacent non-wetland riparian habitats. The County of San Diego General Plan Update EIR states that cumulative projects would be required to comply with applicable federal regulations for wetlands, such as CWA Sections 401 and 404, which require compensatory mitigation to reduce impacts to the extent feasible to achieve the no-net-loss standard. In addition, the County of San Diego's Resource Protection Ordinance restricts, to varying degrees, impacts to natural resources including wetlands, wetland buffers, and floodplains, and requires mitigation of wetlands at a 3:1 ratio. Therefore, the Applicant's Proposed Alternative would not contribute to a cumulatively considerable loss of jurisdictional wetland or non-wetland waters of the U.S. Therefore, no significant adverse cumulative effects would occur.

### Native Vegetation, Sensitive Plant Populations, Regionally Limited Sensitive Habitat

As discussed in Section 4.4, Biological Resources, of this EIS, the Applicant's Proposed Alternative would result in the removal of native vegetation, including 25.8 acres of coast live oak woodland, 25 Engelmann oak trees, 220.2 acres of coastal sage scrub, 0.49 acre of native grasslands, 28.7 acres of chaparral, and 1.24 acres of riparian habitat. The Applicant's Proposed Alternative would not result in the removal of any sensitive plant populations defined by the County of San Diego as rare or endangered (Lists A and B of the County of San Diego Sensitive Plant List), and does not support sensitive habitat that is regionally limited. With implementation of design features that would result in a net gain of native habitat, the Applicant's Proposed Alternative would not result in significant adverse effects to native vegetation. No effects would occur to

sensitive plant populations or regionally limited sensitive habitat due to avoidance of impacts and absence on site, respectively.

The EIR for the County of San Diego General Plan Update identifies impacts ranging from approximately 7.5 percent to approximately 42 percent of the total acreage of oak woodland, coastal sage scrub, native grasslands, chaparral and riparian habitats identified in the Draft North County Plan area.[2] The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts to sensitive natural communities under the General Plan Update would be cumulatively considerable. Although the Draft North County Plan has not yet been adopted, it is assumed for this analysis that the Applicant's Proposed Alternative's compliance with the proposed conservation and mitigation requirements would address impacts on native vegetation such that they would not result in significant adverse cumulative effects.

Since the design features under the Applicant's Proposed Alternative would result in a net increase in oak woodland, coastal sage scrub, native grassland and riparian habitats, and the proposed mitigation measure would result in a no net loss of chaparral habitat, all of which would be preserved in perpetuity and would comply the Draft North County Plan, the Applicant's Proposed Alternative would not contribute to a cumulatively considerable loss of native vegetation within the Draft North County Plan area. Therefore, no significant adverse cumulative effects would occur to native vegetation. No impacts to County of San Diego rare or endangered plant species would occur as a result of the Applicant's Proposed Alternative, and the site does not support regionally limited sensitive habitat; therefore no cumulative effects would occur to either of those biological habitat resources.

### Designated Critical Habitat

As discussed in Section 4.4 Biological Resources, of this EIS, the Applicant's Proposed Alternative would result in direct impacts to designated critical habitat for arroyo toad, least Bell's vireo, southwestern willow flycatcher, and coastal California gnatcatcher. The Applicant's Proposed Alternative would incorporate design features that would compensate for impacts to critical habitat, including establishment, enhancement and/or preservation of habitat for these species. The habitat compensation that would occur under the Applicant's Proposed Alternative would be preserved in perpetuity pursuant to a conservation easement either on site as part of open space that would ultimately contribute to the PAMA of the Draft North County Plan, or off site and managed by a habitat manager, environmental group, or as part of an established mitigation bank. Long-term protection of these habitats would avoid potential future losses.

The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts under the General Plan Update to sensitive natural communities supporting special status species would be cumulatively considerable. Projects would be required to comply with applicable federal and/or state regulations that provide protections for designated critical habitat and sensitive vegetation communities such as riparian habitats, including FESA, CESA, the NCCP, and the CDFG SAA. Compliance with these regulations would require mitigation measures to reduce impacts to the extent feasible. However, the County of San Diego General Plan Update EIR states that without a comprehensive NCCP in place for long-term protection of sensitive natural communities for the

[2] *Although the EIR does not specifically discuss impacts to these native vegetation communities, apart from riparian habitats which are identified as a "sensitive natural community", it is assumed that they would be considered as "other sensitive natural communities" discussed in the document.*

entire southern California region, a cumulative loss would occur even after mitigation has been implemented for individual projects.

Since the design features are in compliance with, and in some cases exceed the policies and regulations outlined in the Draft North County Plan, and compliance would be required with existing regulations such as FESA and the NCCP, the Applicant's Proposed Alternative would not contribute to a cumulatively considerable loss of designated critical habitat within the Draft North County Plan area. Therefore, no significant adverse cumulative effects would occur.

### Wildlife Movement

As discussed in Section 4.4 Biological Resources, of this EIS, wildlife movement would not be permanently affected or disrupted for an extended period by the Applicant's Proposed Alternative. Therefore, the alternative would not contribute to a cumulatively considerable loss of wildlife movement, and no significant adverse cumulative effects would occur.

### Species

As discussed in Section 4.4, Biological Resources, of this EIS, the Applicant's Proposed Alternative would comply with the federal and state policies and regulations for listed species and their habitat, and with the Draft North County Plan. In addition, the Applicant's Proposed Alternative would not jeopardize the continued existence of the arroyo toad, least Bell's vireo, or southwestern willow flycatcher on the site.

The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts under the General Plan Update to special status species would be cumulatively considerable. Projects would be required to comply with applicable federal and/or state regulations that provide protections for special status plant and wildlife species, including FESA, CESA, and the NCCP. Compliance with these regulations would require mitigation measures to reduce impacts to the extent feasible. The County of San Diego General Plan Update EIR states that without a comprehensive NCCP in place for long-term protection of special status plant and wildlife species for the entire southern California region, a cumulative loss would occur even after mitigation has been implemented for individual projects.

Since the design features under the Applicant's Proposed Alternative would avoid direct loss of arroyo toad, least Bell's vireo, and southwestern willow flycatcher, and compliance would be required with existing regulations such as FESA and CESA, the Applicant's Proposed Alternative would not contribute to a cumulatively considerable loss of state- or federal-listed species within the Draft North County Plan area, and no significant adverse cumulative effects would occur.

### Golden Eagle

As discussed in Section 4.4, Biological Resources, of this EIS, the Gregory Canyon golden eagle pair is currently the only western-most surviving nesting pair. Any impacts to this golden eagle pair would therefore result in a cumulative impact to the species. However, with the design features and mitigation measures proposed by the Applicant's Proposed Alternative, no significant adverse effects would occur to the golden eagles. As such, the Applicant's Proposed Alternative would not contribute to significant adverse cumulative effects on the golden eagle.

### Long-Term Regional and Sub-Regional Conservation Goals

As discussed in Section 4.4, Biological Resources, of this EIS, the Applicant's Proposed Alternative would not conflict with any County of San Diego biological resources related policies and ordinances, or conflict with the NCCP or Draft North County Plan. Therefore, the alternative would not contribute to significant adverse cumulative effects to any long-term regional or sub-regional conservation goals.

## 6.2.5 Cultural Resources

### Historic and Archaeological Resources

#### Historical Resources

As discussed in Section 4.5.1, Historical and Archeological Resources, of this EIS, if the option to relocate a portion of the SDCWA Aqueduct were implemented the Applicant's Proposed Alternative would result in an impact to historical resources. However, with the incorporation of design features, significant adverse effects associated the Applicant's Proposed Alternative would be avoided.

Impacts to historical resources associated with past, present, and reasonably foreseeable future projects in the vicinity of the alternative site would result in significant adverse effects since these projects include construction activities associated with land development that has the potential to demolish, destroy, relocate, damage, or alter a resources or its immediate surroundings such that the significance of a historical resource would be materially impaired. Therefore, the Applicant's Proposed Alternative, in combination with the identified cumulative projects, would have the potential to result in a significant adverse cumulative effectassociated with historical resources. It can be reasonably assumed that similar mitigation measures (i.e., documentation and recordation, construction monitoring, compliance with the Secretary of Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*) as that required under the Applicant's Proposed Alternative would be implemented on the identified cumulative projects thus mitigating cumulative impacts to historical resources to below the criterion. Therefore, the Applicant's Proposed Alternative would not have a considerable contribution to a significant adverse cumulative effect.

#### Archaeological Resources

As discussed in Section 4.5.1, Historical and Archeological Resources, of this EIS, impacts to archaeological resources associated the Applicant's Proposed Alternative would be mitigated to a level that avoids significant adverse effects. Although loss of resources cannot be quantified due to a lack of adequate documentation, numerous archaeological resources, and the information important in prehistory or history that they might have yielded, have been lost as a result of both natural processes (such as erosion) and cultural processes (such as ground-disturbing activities associated with land development).

In southern California, archaeological resources include a wide variety of prehistoric Native American sites: camp and village sites, graves, trails, caches, rock art, artifact scatters, and many other types. They also include the remains of a wide variety of sites the origins of which post-date incipient Spanish colonialism. They include the buried remains of buildings and their ancillary facilities, and the material remains (i.e., bottle dumps, refuse scatters, privies, etc.) of a plethora of historic-period activities. Both prior to and following the implementation of laws to protect cultural resources, numerous archaeological resources which might have yielded information important in prehistory or history have been destroyed by modern

land use. The implementation of laws to protect cultural resources has slowed the pace of destruction, but the destruction of many archaeological resources has been permitted with mitigation incorporated. Mitigation has usually consisted of a program of archaeological investigation, data collection, reporting and publication, and placement of artifacts within museums. These programs are almost always limited to an excavation sample with remaining information potential sacrificed to destruction. Archaeological sites which are preserved in place serve as information banks for future investigation using more advanced theory and technology than that what is available today.

Impacts to archaeological resources associated with past, present, and reasonably foreseeable future projects in the vicinity of the alternative site would result in significant adverse effects since these projects include ground-disturbing activities associated with land development that has the potential to destroy, damage, or displace archaeological resources. Therefore, the Applicant's Proposed Alternative, in combination with the identified cumulative projects, would have the potential to result in a significant adverse cumulative effect on archaeological resources. However, it can be reasonably assumed that similar mitigation measures (i.e., data recovery, avoidance, documentation and recordation, construction monitoring, etc.) as those implemented under the Applicant's Proposed Alternative would be implemented for the past, present, and reasonably foreseeable projects thus mitigating cumulative impacts to avoid significant adverse effects on archaeological resources. Therefore, the Applicant's Proposed Alternative would not have a considerable contribution to significant adverse cumulative effects on archaeological resources.

### Traditional Cultural Properties

As discussed in Section 4.5.2, Traditional Cultural Properties, of this EIS, southern California Indian traditional culture has suffered severe impacts since initial European exploration of the California coast. The impacts include the loss of traditional knowledge as a result of population-decimating, introduced foreign diseases, forced religious conversions, and forced displacements from traditional living places, resource gathering places, and sacred places. Both prior to and following the implementation of laws to protect cultural resources, numerous places which are sacred to the Luiseño Indians have been destroyed by colonial and later, non-Luiseño land use including agriculture and the development of built environment such as transportation and other infrastructure, and commercial and residential buildings. Adequate records of these losses which might allow for the quantification of this destruction were not kept. Such sacred places include the graves of Luiseño ancestors, ancestral village sites, places associated with events and deities identified within the Luiseño metaphysical belief system, and secular traditional cultural places.

In Luiseño traditional cultural belief, Chokla is part of an interconnected complex of prehistoric, sacred and secular Luiseño sites, and it is a part of the "Luiseño Ancestral Origin Landscape" (Hoover 2011). According to the Pala Band of Mission Indians THPO, "an interconnected web of sites and ceremonies was used to tie the entire Band and its neighbors together as a larger community" (Gaughen 2011). Table 6-2 *Properties of Luiseño Cultural Importance Within the Environs of the Pala Indian Community,* describes properties of Luiseño cultural importance within the environs of the Pala Indian Community.

The incremental impact of the Applicant's Proposed Alternative on Luiseño traditional cultural properties (TCPs) when added to other past, present, and reasonably foreseeable future actions, would be significant. Luiseño TCPs are finite and irreplaceable cultural resources which are necessary to maintain, and transmit to future generations, traditional Luiseño cultural knowledge, beliefs, and practices. It is foreseeable that

**Table 6-2**

**Properties of Luiseño Cultural Importance Within the Environs of the Pala Indian Community**

| Name | Description | Physical Referents | Location | Distance from Gregory Canyon | Reference |
|---|---|---|---|---|---|
| Chókla | "…was used for coming of age rituals…" and "…the resting place of the Spirit Takwic…" and visited "…in search of healing, prayer, and contemplation…" | "…the area surrounding and including Gregory Mountain and Medicine Rock…" | Pala | adjacent | Gaughen 2011 |
| Éxva Teméeku | Location of "…the creation of all things…" | "…where the Murrieta and Temecula Creeks converge to form the Santa Margarita River…" | Temecula | ~9 miles | Hoover 2011 |
| Tomqav | Meeting place and the place where Wuyóot (the first human) was poisoned (resulting in the first death) | "…a very large area." which bounds the Pala Valley on the north side | Pala | ~2.5 miles | Hoover 2011 |
| Táakwish Poshápila | One of three places that serves as "an important warning to live a just life or your soul would be taken, your flesh pounded and summarily eaten by Táakwish." | "To the south of the [Pala] valley…" | Pala | ~1-3 miles | Hoover 2011 |
| Yáaraxuna | "…where the people were first saved with food made by Wuyóot" (the first human). | Bounds the Pala Valley on the north side, "…at the base of Chókla Mountain/Táakwish landing place" and where the bridge for the proposed landfill project will be placed…" | Pala | >1 mile | Hoover 2011 |

*Source: The information in the Name, Description, and Physical Reference columns are from the sources cited in the Reference column. The contents of the Location and Distance from Gregory Mountain columns are PCR's interpretations and estimates based on the descriptions in those sources.*

future urban development of San Diego County would result in further loss of significant Luiseño TCPs. Therefore, the Applicant's Proposed Alternative would contribute to a cumulative significant adverse effect to Luiseno TCPs.

## 6.2.6 Environmental Justice

Section 4.6, Environmental Justice, identifies the significant adverse direct/individual and cumulative effects that would result from an alternative and evaluates whether those significant adverse effects would fall disproportionately on minority, low-income or tribal populations. The alternative's significant adverse cumulative effects that that would result in disproportionately high and adverse effects on such populations

includes the following topics: aesthetics, traditional cultural properties and traffic effects. In addition, the Section 4.6 analysis identified significant adverse cumulative effects that may be borne disproportionately. The topics so affected include air quality (due to a regionally oriented, large scale effect who's affected population is uncertain) and traffic noise (due to a locally oriented roadway noise effect whose effect would only be experienced at a couple of houses with unknown residential ethnicity characteristics).

## 6.2.7 Geology and Soils

### Fault Rupture

As discussed in Section 4.7, Geology and Soils, of this EIS, there are no faults within or in the immediate vicinity of the site that could pose a threat to landfill facilities at the site or cumulative project's in the vicinity. Therefore, the Applicant's Proposed Alternative would not contribute to a significant adverse cumulative effect.

### Site Stability

As discussed in Section 4.7, Geology and Soils, of this EIS, no significant adverse effects are expected due to instability/landslide associated with the geologic/soil conditions at the Gregory Canyon site. As a result, impacts related to site stability would be site specific and would not occur in concert with, nor be exacerbated by joint effects of other cumulative projects in the nearby project vicinity. Therefore, cumulative significant adverse effects associated with slope stability/landsliding would not occur.

### Rockfalls

As discussed in Section 4.7, Geology and Soils, of this EIS, the analysis of rockfall for the Gregory Canyon site identifies all of the surrounding areas from which rockfall could occur. Additional rockfall would not be expected on the Gregory Canyon site from other cumulative projects. Significant adverse effects related to rockfall would not occur, and therefore the Applicant's Proposed Alternative would not contribute to significant adverse cumulative rockfall effects.

### Debris Flow

As discussed in Section 4.7, Geology and Soils, of this EIS, the analysis of debris flow identifies surrounding areas of the site from which debris flow could occur. Additional debris flow would not be expected on the Gregory Canyon site from other cumulative projects; nor would activities on the Gregory Canyon site contribute cumulatively to debris flow impacts at off-site locations. Therefore, the Applicant's Proposed Alternative would not contribute to significant adverse cumulative effects relative to debris flow.

### Settlement

As discussed in Section 4.7, Geology and Soils, of this EIS, impacts regarding the design of the final cover would be site specific and for would not have adverse effects on drainage and landfill control systems. There are no cumulative projects lying adjacent to the site that could cause drainage effects in the area. Therefore, the Applicant's Proposed Alternative would not contribute to a significant adverse cumulative effect resulting from the design of the final cover.

### Public Safety

As discussed in Section 4.7, Geology and Soils, of this EIS, the new structures associated with a landfill would be developed in accordance with state and county requirements for public safety. There are no proposed related alternative structures that would lie in proximity to the new structures (so as to generate potential joint effects regarding the structural integrity of new development). Cumulative projects would be subject to review and compliance with standard construction requirements associated with permitting provisions for buildings and excavation. Therefore, significant adverse cumulative effects impacts would not occur.

### Mineral Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, as the Applicant's Proposed Alternative would not cause a loss of access to or the availability of mineral resources, it would not contribute to cumulative losses of such resources. Cumulative projects that are located throughout the larger region would have the potential to impact mineral resources, and some may cause a loss of access to valued resources. Such projects would be subject to environmental review and potential impacts can be addressed and in some cases mitigated. However, landfill activities at Gregory Canyon would not have a cumulatively considerable adverse contribution to the loss of access to mineral resources.

### Soil Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, as development of a landfill at Applicant's Alternative site would not require the import/utilization of soil materials from off-site sources, the landfill would not diminish the availability of such resources. Cumulative projects that are located throughout the region would have the potential to affect the availability of resources, and some may cause a loss of access to valued resources and/or add to the consumption of such resources. Such projects would be subject to environmental review and potential impacts can be addressed and in some cases mitigated. However, the Gregory Canyon site does not have unique soil resources and landfill activities at the site would not consume off-site soil resources. Therefore, the Applicant's Proposed Alternative would not have a significant adverse cumulative contribution to the loss of access to soil resources.

## 6.2.8 Human Health and Safety

### Hazard to Public or the Environment

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Applicant's Proposed Alternative would not create a significant adverse hazard to the public or the environment through the release, transport, use, production, or disposal of hazardous materials. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. The Applicant's Proposed Alternative would comply with applicable regulations and would implement design features that would eliminate, minimize or identify potential environmental impacts and/or nuisances. Therefore, landfill operations would not create significant adverse effects to the public or the environment through the transport, use, production, or disposal or release of hazardous materials.

There are no cumulative projects within the area that would require the generation or handling of hazardous wastes other than standard hazardous household waste items. Future development projects would be evaluated on a project-by-project basis to determine impacts to human health and safety. Cumulative

projects would be required to comply with federal, state, and local regulations to ensure that potential contamination or exposure to hazardous substances is avoided or controlled to minimize the risk to the public and environment on a case-by-case basis. Therefore, the Applicant's Proposed Alternative would not contribute to a significant adverse cumulative effect.

### Landfill Hazards

As discussed in Section 4.8, Human Health and Safety, of this EIS, potential contamination and hazards associated with the handling of Class III non-hazardous wastes would be contained by the landfill's environmental containment systems that would preclude hazardous materials reaching human population whose health and safety could be affected.

The analysis of health impacts focuses on the health effects on population in the vicinity of the landfill site that would arise from dispersion of hazardous materials associated with landfill activity; and on population concentrated at congested intersections that haul vehicles pass by. The analysis indicated that landfill operations would not result in significant adverse effects on these populations that would be associated with contamination carried by air, water or vectors. There are no cumulative projects in the vicinity of the landfill site that would cause additional concentration of contaminants at these locations from air or vector transmittal. The analysis of the carbon monoxide (CO) concentration effects at congested intersections, concluding that adverse effects would be less than significant, are based on an analysis that is inclusive of cumulative traffic. Due to the redundant design features for the protection of water resources, the alternative is expected to generate no contamination on water resources and therefore would not contribute to adverse cumulative water effects. Further, cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination to local populations is avoided. Therefore, the Applicant's Proposed Alternative would not contribute to significant adverse cumulative effects.

### Existing On-site Hazardous Materials

As discussed in Section 4.8, Human Health and Safety, of this EIS, existing hazardous materials on the alternative site would not have significant adverse health effects on site population. The Applicant's Proposed Alternative would not create safety hazards as a result of exposure to electromagnetic fields (EMFs), or from the gas line. Further, the alternative would follow procedures that fully protect site workers from exposure to asbestos-containing materials (ACMs) and lead-based materials (LBPs). As such, the alternative would not add a cumulatively considerable contribution to public safety from such effects. The analysis of these safety effects addresses potential risk to local populations in the vicinity of the landfill site. There are no cumulative projects that would be located in the local area so as to contribute to cumulative risk from these operation activities. Therefore, no significant adverse cumulative effects would occur.

### Accident Conditions

As discussed in Section 4.8, Human Health and Safety, of this EIS, landfill construction and operation would be implemented in accordance with regulatory requirements that would protect the public from hazardous conditions and risk of accidents. No significant adverse accident/risk effects would occur from landfill activity.

As such, the alternative would not add a cumulatively considerable contribution to public safety from these landfill activities. The analysis of these safety effects addresses potential risk to local populations in the vicinity of the landfill site. There are no cumulative projects that would be located in the local area so as to contribute to a cumulative risk. The SR 76 improvements and design of the access intersection would provide safety for cumulative traffic in the site vicinity as well as traffic generated by landfill activities. Further, as trucks are not notable contributors to roadway accidents on SR 76, their effects on accidents rates would not be expected to be cumulatively considerable. Therefore, the Applicant's Proposed Alternative would not contribute to a significant adverse cumulative public safety effect with regard to accident/risks.

#### Emergency Response Plans and Emergency Evacuation Plans

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Applicant's Proposed Alternative would not impair implementation of or physically interfere with the County of San Diego OES, the County of San Diego Multi-Jurisdictional HMP, the Operational Area Evacuation Plan/Emergency Plan, the Operational Recovery Plan, or any other emergency plan. These plans have been developed with thought for future development and needs of the County. There is no residential development associated with the landfill, and it is expected that the majority of construction workers and employees would be drawn from the existing labor pool in the region. As such, the Applicant's Proposed Alternative's incremental contribution to demand for increased emergency services would not be cumulatively considerable. A number of the cumulative projects would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to emergency plans. Development projects would be required to address emergency access issues and to provide site emergency provisions. The Applicant's Proposed Alternative would not have adverse effects on emergency plan implementation and would not have a significant adverse cumulative effect on the implementation of emergency response and evacuation plans.

### 6.2.9 Hydrogeology

#### Groundwater Withdrawal and Recharge

As discussed in Section 4.9, Hydrogeology, of this EIS, the Applicant's Proposed Alternative would withdraw sustainable quantities of groundwater and sufficient unlined area would remain on-site to allow adequate groundwater recharge.

Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR evaluated potential groundwater impacts from full buildout of land uses identified in the General Plan. The General Plan Final EIR concludes that no groundwater basins within the San Luis Rey Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan.[3] It is important to note that the study did not include any groundwater recharge or storage from Native American Reservations in the basin-by-basin analysis. Thus, the determination of impacts is conservative in that recharge would continue to occur on the portions of the Pala Basin within the Pala Reservation.

[3] *The Final EIR section was based partially on a Groundwater Study prepared by the County of San Diego Department of Planning and Land Use (included as Appendix D of the General Plan Final EIR).*

The site is located within the Pala Subarea, which is part of the San Luis Rey Hydrologic Unit. It is relevant to evaluate cumulative groundwater conditions within the Pala Subarea because direct impacts to this groundwater basin could ultimately affect the San Luis Rey Hydrologic Unit. With respect to the Pala Subarea, the most significant increase in water use within the Subarea in recent years occurred with the development of the Pala casino and the hotel on the Pala reservation, to the east of the Applicant's Proposed Alternative site. The water use by the Pala casino and hotel was estimated to be 37 to 47 AFY.[4,5] The other new use in the Pala Hydrologic Subarea is the off-road motorcycle racetrack that commenced operation on the Pala reservation. However, that facility was a replacement for the prior Vulcan quarry. The Pala Band reported to the SLRMWD that water usage at the off-road racetrack would be only ten percent of the historic water usage from the closed quarry.

Based on a review of available data regarding groundwater levels in the Pala alluvial aquifer since 1995, water levels in the Pala alluvial aquifer have remained relatively static, with minor seasonal changes, and no evidence of a decreasing water table.[6]

Given that the Applicant's Proposed Alternative would not exceed the safe yield of groundwater resources and would include design features to ensure safe yield of the Pala Hydrologic Subarea, the Applicant's Preferred Alternative would not contribute to significant adverse cumulative effects relative to groundwater supply or groundwater recharge.

### Groundwater Quality

As discussed in Section 4.9, Hydrogeology, of the EIS, with implementation of the environmental control systems designed to prevent pollutants from entering groundwater, the Applicant's Proposed Alternative would not result in the violation of any federal, state, or local groundwater quality standard or waste discharge requirements.

Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR evaluated potential groundwater impacts from full buildout of land uses identified in the General Plan. With respect to groundwater quality, the Final EIR did not identify the Pala Basin as a groundwater basin having the

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[4] *Geo-Logic Associates. Evaluation of Current Utilization of Groundwater Resources in the Pala Groundwater Basin, San Diego, California, pg. 3. October 9, 2009.*

[5] *Review of the Environmental Assessment (EA) for the Pala casino's initial construction estimated that water use would be 80,000 gallons per day (gpd) with a peak quantity of 100,000 gpd (or 90 to 112 AFY). However, the Pala casino project EA (excluding the hotel) stated it would provide water from a reservoir with a nominal capacity of 750,000 gpd to support facility operation (20,000 gpd [25 percent of average daily demand]), fire sprinklers (102,000 gpd) and emergency storage (622,000 gpd). The EA for development of the 507-room hotel at the Pala casino was not available for use in assessing additional water requirements. Based on available literature (City of Los Angeles Master Plan of Sewers), 130 gpd per room is typically estimated for two-person hotel occupancy, or a peak daily water use of approximately 65,910 gpd for full occupancy of the 507-room hotel. Recognizing that the fire sprinkler and emergency supply represent fixed storage rather than daily use, the peak casino and hotel water use is estimated to be 165,910 gpd (100,000 gpd peak daily use for the casino and 65,910 gpd peak daily use for the hotel), or about 186 AFY1. With the exception of a net water loss of about 20 to 25 percent (or about 37 to 47 AFY2) associated with evaporation and irrigated plant transpiration, the water that is used at the Pala casino and hotel, and is pumped to a wastewater treatment plant, is assumed to be discharged back to the underflow of the Pala Basin.*

[6] *Geo-Logic Associates. Evaluation of Current Utilization of Groundwater Resources in the Pala Groundwater Basin, San Diego, California, pg. 4. October 9, 2009.*

potential for significant water quality impacts under full buildout.[7] The Warner Basin within the San Luis Rey Hydrologic Unit was identified has having a potentially significant adverse effects with respect to naturally occurring radionuclides. As the Applicant's Proposed Alternative is "downstream" of the Warner Basin and would not contribute radionuclides to the underlying groundwater, it is not anticipated that the Applicant's Proposed Alternative would pose a significant adverse effect with respect to radionuclides.

As the Applicant's Proposed Alternative would include environmental control systems to prevent pollutants from entering groundwater, the Applicant's Proposed Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater quality or discharge requirements.

## 6.2.10 Land Use and Planning

### Consistency With Land Use Plans

As discussed in Section 4.10, Land Use and Planning, of this EIS, several cumulative projects that would affect land use patterns and the character of the local area are planned along the SR 76 corridor, east of I-15. Most notable among these projects are four large contiguous projects just to the northeast of the I-15/SR 76 interchange within the Fallbrook Community Plan area, and one project within the Pala/Pauma Subregional Plan. Table 6-3, *Basic Characteristics of Cumulative Projects,* provides the basic characteristics of these cumulative projects.

All of the five projects are consistent with the General Plan. The implementation of these development projects would be carried out under the direction of the County Planning Department and in accordance with the requirements of the General Plan and affected community/subregional plan area. As envisioned in the Fallbrook Community Plan, the development along I-15 in the Fallbrook Community Plan would create an urbanized center of higher density housing and educational/commercial uses that would change the land use character of that area. However, this section of SR 76 is sufficiently distant from the Gregory Canyon site to not change the immediate land use environment of agricultural, extractive, and public service uses near the Gregory Canyon site.

The Warner Ranch project, which is located within the Pala/Pauma Village Boundary in the Warner Ranch Special Study Area, was developed in response to objectives of the Subregional Plan, which state: "There is a need to provide sufficient higher densities within the Pala/Pauma Village area to accommodate growth as projected by the San Diego Association of Government forecasts (SANDAG)…SANDAG forecasts indicate that the present Pauma Village cannot accommodate all future population increases for the Subregion through 2030."

The Applicant's Proposed Alternative in combination with the cumulative projects would create a more urbanized and active environment along the SR 76 corridor than under existing conditions. The dedication of a minimum of 1,313 acres of open space and the implementation of the HRRMP on the Gregory Canyon site would sustain a majority of the open space that would occur between the two areas of more concentrated development. In addition, at the closure of the landfill, the site would be converted to

[7] *For the purposes of the General Plan Final EIR, a significant impact was defined as having constituents at elevated concentrations of pollutants above their respective Primary Federal or State MCL, which can limit the availability of potable groundwater.*

**Table 6-3**

**Basic Characteristics of Cumulative Projects**

| Name | Location | Community/ Subregional Plan Area | Description | County Status |
|---|---|---|---|---|
| Meadowood | Just north of SR 76, 0.25 mile east of I-15. | Fallbrook | 355 single-family and 489-multi-family homes, 8-acre community park and trails | Approved January 2012 |
| Campus Park | Just north of SR 76, 0.25 mile east of I-15. | Fallbrook | 230 multi-family and 521 single-family residences, trails | Approved May 2011 |
| Campus Park West | Just north of SR 76, 0.25 mile east of I-15. | Fallbrook | 355 multi-family homes, 350 square feet of commercial floor area | Under Review |
| Palomar College North | East side of I-15 between Pankey Road and Pala Mesa Heights Drive | Fallbrook | 8,500-student Community College campus | Under Construction |
| Warner Ranch | North of SR 76, 5 miles east of I-15 (just northwest of the Pala Casino) | Pala/Pauma | 732 single-family lots, 168 condo units, community park, fire station lot | Proposed |

*Source: Linscott, Law and Greenspan, 2012*

permanent open space, which would further contribute to the open space created by existing agricultural uses between the development at I-15 and Warner Ranch in Pala/Pauma Village.

The cumulative projects and the Applicant's Proposed Alternative would be developed in accordance with General Plan's land use objectives and designations, as interpreted by the County. Because cumulative projects and the Applicant's Proposed Alternative would be developed in accordance with the vision expressed in the General Plan, cumulative development would not conflict with the objectives of the General Plan and Community/Subregional Plans, or conflict with the objectives of the General Plan to frame future growth and development in unincorporated areas. Therefore, the alternative and cumulative projects would have no significant adverse cumulative effect with respect to this criterion.

### Consistency with Resource Conservation Area Designation

As discussed in Section 4.10, Land Use and Planning, of this EIS, several Resource Conservation Areas (RCAs) are located to the east of I-15 in the vicinity of the Gregory Canyon site. In addition to Gregory Mountain RCA (#15), designated RCAs in the Pala-Pauma Subregional Plan area include Mount Olympus (RCA #14), Pala Mountain – San Luis Rey River RCA (#16); Palomar Mountain – Aqua Tibia RCA (#17), San Luis Rey River RCA (upstream of Pala) (#18); and Rancho Guejito – Pine Mountain RCA (#19). The Lancaster Mountain – Keys Canyon – Lilac Creek RCA (RCA #21) is located in the Valley Center Community Plan area, and extends northeasterly into the Fallbrook Community Plan area. The nearest RCAs to the Gregory Canyon property are RCAs 16 and 21. The Pala Mountain – San Luis Rey River RCA (#16) is located at the south side of the

San Luis Rey River to the east of the Pala community. This RCA includes large areas of undisturbed riparian woodland vegetation and large growth mixed chaparral vegetation on the mountain slopes. Lancaster Mountain – Keys Canyon – Lilac Creek RCA (#21) is located just to the west of Couser Canyon and terminates at the San Luis Rey River at the north edge. This area is mainly important for the riparian and oak woodland habitats that exist in the stream bottom. Lancaster Mountain contains mixed chaparral, wildlife habitat and is a scenic landmark. The San Diego County Resource Protection Ordinance (Sensitive Resource Area regulations) is intended to increase the protection and preservation of the County's unique topography, ecosystems, and natural beauty, diversity, and environmentally sensitive lands and natural resources. Development within RCAs is required to conserve resources through such implementation actions such as open space easements and special land use controls, including cluster zoning, large lot zoning, scenic or natural resource preservation overlay zones, or by incorporating special design considerations into subdivision maps or special use permits. Cumulative projects in the region are generally dispersed and are not large-scale in character compared to the proposed landfill and, as such, it is anticipated that these projects would feasibly avoid adverse effects on natural and aesthetic resources through clustering of development or other devices that would preserve open space and mitigate effects on natural resources. As with the expected consistency of cumulative projects with the conservation policies of the RCAs within the subregional planning area, the Applicant's Proposed Alternative would mitigate adverse effects in accordance with RCA policies. Therefore, there would be no significant adverse cumulative effects with respect to consistency with the RCAs in the Pala/Pauma Subregional Plan area,

## 6.2.11 Noise and Vibration

### Initial Construction

As discussed in Section 4.11, Noise and Vibration, of this EIS, initial construction activity associated with the Applicant's Proposed Alternative would not result in noise levels in excess of applicable standards at the nearest residential property line. The maximum construction noise levels at the nearest residential property line with implementation of design features is estimated to be 57 dBA, which is less than the 62.5 dBA noise standard.

Cumulative projects in the region would produce temporary construction noise. As with the alternative, construction schedules and construction noise equipment levels would vary depending on the type of equipment and its duration of use. However, construction associated with the alternative would generally occur in a location distant from the other cumulative projects. Although the nearby noise-sensitive receptors could be exposed to construction noise from other closer projects in the vicinity, cumulative construction noise is not anticipated to result in significant adverse cumulative effects because such projects are disperse with varied construction schedules and each project would be required to comply with the applicable standards. As the Applicant's Proposed Alternative would include design features to reduce noise levels resulting from initial construction, noise levels at the property lines of noise sensitive receptors would not contribute to a cumulatively considerable effect, and no significant adverse cumulative effects would occur.

### Operational Noise

As discussed in Section 4.11, Noise and Vibration, of this EIS, long-term operational noise associated with the Applicant's Proposed Alternative would not expose nearby residential uses to noise levels in excess of applicable standards at the nearest property line. The maximum operational noise levels at the nearest

residential property line would be 62.5 dBA or less with implementation of the design features, which would not exceed the noise standard of 62.5 dBA.

Cumulative projects in the region would produce noise once operational. However, operational noise associated with the alternative would generally occur in a location far removed from the other cumulative projects. In addition, other projects would comply with the applicable standards or require implementation of project-specific mitigation. As the Applicant's Proposed Alternative would incorporate design features to reduce noise levels resulting from operation, the alternative would not contribute to a significant adverse cumulative noise effect.

#### Traffic Noise

As discussed in Section 4.11, Noise and Vibration, of this EIS, although the majority of the noise on most of the roads would come from other traffic sources, the Applicant's Proposed Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. While the noise level increases would be less than 3 dBA, the SR 76 and Old Highway 395 corridors are existing degraded noise environments with noise levels exceeding 60 CNEL at existing residences. As the alternative would increase the noise levels, even by a small margin, the alternative would contribute to a significant adverse cumulative effect relative to traffic noise.

#### Blasting Vibration

As discussed in Section 4.11, Noise and Vibration, of this EIS, blasting associated with the Applicant's Proposed Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards. While cumulative projects in the region may produce vibration from construction activities, vibration from blasting associated with the alternative would be infrequent and short-term and would generally occur in a location far removed from the other cumulative projects. Cumulative vibration is not anticipated to be significant because any vibration-generating activities of the various projects would not overlap or would not occur in the vicinity of blasting activities. Furthermore, each project would be required to comply with the applicable vibration standards. Therefore, the alternative would not contribute to a significant adverse cumulative vibration effect.

### 6.2.12 Public Services

#### Law Enforcement

As discussed in Section 4.12.1, Law Enforcement, of this EIS, the Applicant's Proposed Alternative would not result in substantial adverse physical impacts associated with law enforcement due to increases in population demand or activities occurring at the landfill site. There is no residential development associated with the landfill, and it is expected that the majority of employees would be drawn from the existing labor pool in the region. Further, design features would enhance site security and reduce potential demand for law enforcement services. As such, the Applicant's Proposed Alternative's incremental contribution to demand for law enforcement would not be cumulatively considerable. A number of the cumulative projects would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to law enforcement. While notable population growth occurring in the County

could require additional facilities to enhance protection, the Applicant's Proposed Alternative contribution to cumulative effects would be negligible, and would not result in a significant adverse cumulative effect.

### Fire Protection and Emergency Medical Services

As discussed in Section 4.12.1, Fire Protection and Emergency Medical Services, of this EIS, the Applicant's Proposed Alternative would not result in substantial adverse physical impacts associated with increases in population demand or activities occurring at the landfill site. Design features would limit the potential for fires to occur, would provide a first response capability on-site as a component of normal site operations, and would therefore place limited new demand on fire and emergency medical service providers in the area. As such, the Applicant's Proposed Alternative's incremental contribution to demand for fire and emergency medical services would not be cumulatively considerable. A number of the cumulative projects in the area would include residential development that would add population to the area or contribute to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts on the provision of fire and emergency medical services. Such projects would be subject to regulatory requirements to reduce fire impacts, including implementation of fire protection features and payment of fire mitigation fees, per the County's Fire Mitigation program. While notable population growth occurring in the County could require additional facilities to enhance fire protection, the Applicant's Proposed Alternative contribution to demand would not be cumulatively considerable, and would not result in a significant adverse cumulative effect.

### Schools

As discussed in Section, 4.12.3, Schools, of this EIS, the Applicant's Proposed Alternative would not result in a significantly adverse effect on school facilities. It is expected that the majority of employees would be drawn from the region with a larger percentage being located in communities neighboring or within a reasonable commute distance to the site, with . no new students added to the school population from employees associated with the Applicant's Proposed Alternative. A number of the cumulative projects identified for the Applicant's Proposed Alternative are residential projects located within the same school district boundaries, thus adding population to the area, or large contributors to the employment base. In both cases, the related development projects would be required to pay the appropriate school district developer fees based on the type and size of development proposed. Pursuant to SB 50, payment of fees to the appropriate school district is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios or other performance objectives for schools. Thus, as the Applicant's Proposed Alternative would have limited potential to increase enrollment by a small number of students at any one school, and in light of cumulative projects that would be required to pay school impact fees pursuant to SB 50, the alternative would not have a considerable contribution to cumulative impacts, and no significantly adverse cumulative effects would occur.

### Recreation

As discussed in Section 4.12.4, Recreation, of this EIS, the Applicant's Proposed Alternative would not result in an impact on recreational facilities or resources. It is expected that the majority of employees would be drawn from the region with a larger percentage being located in communities neighboring or adjacent to the site. As there is no proposed residential development and most employees would likely be drawn from the local employment pool, there would be no notable population growth or increase in recreational usage. As

such, the Applicant's Proposed Alternative's incremental contribution to recreational usage would not be cumulatively considerable. A number of the cumulative projects would include residential development that would add population to the area or large contributors to the employment base. Payment of park in lieu fees and/or dedication of parkland pursuant to the County's PLDO by future developments would reduce potential impacts to parks and would not exacerbate the County's existing parkland deficiency. Thus, the Applicant's Proposed Alternative would not be cumulatively considerable, and its it would not have a significantly adverse cumulative effect.

## 6.2.13 Socioeconomics

### Population, Housing, and Employment

As discussed in Section 4.13, Socioeconomics, of this EIS, the Applicant's Proposed Alternative would not remove housing stock, nor generate notable new population or housing in the region. It would include approximately 35 site workers during initial construction and 22 employees during full operations. This increase in employment would fall within the growth forecasts of regional management plans, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies.

SANDAG 2050 regional forecasts have been prepared in coordination with the development of the County's General Plan Update; and they account for the cumulative projects noted above.Further, the projections are tied to development of the County's Regional Transportation Plan (RTP), which identifies future roadway projects, and which guides transportation funding that is provided through the County's Traffic Impact Fee and TransNet Programs.[8]

As such, the regional forecasts reflect both expected, planned and future projected growth and infrastructure systems. As noted above, the Applicant's Proposed Alternative would add a negligible contribution to expected growth; and would be a component of otherwise forecasted growth and distribution of population, housing and employment. Therefore, the Applicant's Proposed Alternative contribution would not be cumulatively considerable, and thus, the Applicant's Proposed Alternative would not result in significantly adverse effect with respect to cumulative socioeconomic impacts.

### Physical Environmental Effects

As discussed in Section 4.13, Socioeconomics, of this EIS, the Applicant's Proposed Alternative would contribute financial benefits to the region. The physical impacts would not substantially interfere with the normal operations of other uses in the vicinity of the Gregory Canyon site in a manner that would lead to significantly adverse socioeconomic consequences.

For the most part, impacts that might affect socioeconomic conditions are independent of cumulative development in the area. For example, the aesthetic impacts, noise impacts and nuisance impacts from cumulative projects would be located sufficiently distant from the alternative site so as not to combine with landfill impacts in a cumulative manner.

[8] *Further documentation regarding the cumulative projects, SANDAG modeling and the County's transportation funding programs is provided in the Traffic Impacts Analysis for the Applicant's Proposed Alternative, Appendix M to this EIS.*

Cumulative effects associated with traffic, i.e. travel conditions and traffic related noise, would affect the setting environment along SR 76. However, the additional landfill traffic would not contribute cumulatively considerable contributions to the socioeconomic conditions beyond those otherwise occurring within the region. The traffic analysis in Section 4.15, Transportation, of this EIS, indicates that under the cumulative conditions (e.g. analysis of the Near-Term Conditions scenario) cumulative impacts would be less than the threshold criteria with the implementation of design features. In fact, numerous roadway improvements along SR 76 are anticipated due to physical improvements required as mitigation for the cumulative projects in the area and/or improvements implemented via funding through the County TIF and/or TransNet programs. With new traffic, along with new traffic improvements, intersection delays along SR 76 would be about the same and in a few cases less, in the future. However, the traffic analysis concluded that the recommended physical mitigation improvements cannot be guaranteed, in terms of the timing of the actual improvements, and therefore the cumulative impacts could potentially remain above the traffic criteria.If the improvements are implemented, there would be no changes to the traffic service levels along SR 76. If the improvements are not implemented, additional delay time would not occur in the western stretches of SR 76 extending from I-15, but would be encountered in the vicinity of the alternative site. While the additional traffic under this maximum impact scenario would create a more congested traffic condition, the increased congestion would be typical of generally increasing traffic throughout the region and would not preclude access to the uses along SR 76.

Section 4.11, Noise and Vibration, of this EIS, indicates that future traffic along SR 76 would cause a few homes to fall within the 60 CNEL noise level. The noise analysis also indicates that the majority of the noise on most of the roads would come from other traffic sources, and traffic from the alternative would not add a discernible difference. This problem is a regional problem due to existing, approved, and future development throughout the region, and would occur with or without the Applicant's Proposed Alternative.

In summary, cumulative traffic along SR 76 could be discernible to residential development and the Pala Community and Casino and its visitors if the County does not expend required TIF fees to the recommended roadway improvements along SR 76. However, while distracting, the impacts would be typical of regionally occurring experiences, and would have the greatest effect on travelers on side roads rather than visitors to the Pala Community and Casino. Added delay would not be so substantial as to preclude on-going social and economic activities in the vicinity of the alternative site. Thus, the Applicant's Proposed Alternative would not contribute to a significant adverse cumulative effect with regard to socioeconomics.

## 6.2.14 Surface Hydrology

### Surface Water Quality

As discussed in Section 4.14, Surface Hydrology, of this EIS, with the implementation of BMPs and recommended mitigation measures, the construction, operation, and maintenance of the Applicant's Proposed Alternative would not result in discharges that would create pollution, contamination or nuisance for the San Luis Rey River, the receiving water body.

As with the Applicant's Proposed Alternative, all new projects within the San Luis River water management area (WMA), including agricultural development, have the potential to expose the river to greater pollution or nuisance as defined in Section 13050 of the CWA and to contribute to the river's existing impairment, which includes TDS along a total of 19-miles of the river, chloride in the lower 13 miles, and indicator

bacteria at the Pacific Coast shoreline. Construction activities and increased impermeability of development sites could also expose the river to increased surface runoff. In order to address these issues on a region-wide basis, the Regional Water Quality Control Board (RWQCB) requires priority projects (the highest potential polluters) to prepare Stormwater Management Plans (SWMPs) to mitigate potential adverse effects associated with surface water runoff. A SWMP must identify pollutant sources and provide best management practices (BMPs), BMP maintenance programs, hydromodification plans, and other pertinent procedures related to the control of surface water runoff and pollution sources. As with the alternative, high priority (the highest potential polluters) cumulative projects would be required under the San Diego County Watershed Protection Ordinance to prepare a SWMP and applicable construction and operation BMPs in compliance with RWQCB regulations. With the implementation of required BMPs, the alternative and cumulative projects would not result in significant adverse cumulative effects with regard to water quality.

### Flood Hazard

As discussed in Section 4.14, Surface Hydrology, of this EIS, with the exception of a section of the access road and bridge abutments, the Applicant's Proposed Alternative would not place habitable structures or unanchored impediments within a 100-year floodplain area. Thus, the Applicant's Proposed Alternative would not place structures within a 100-year flood hazard zone or result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area.

Any new development within the San Luis Rey River's designated special flood hazards area (100-year floodplain), has the potential to increase flood risk at the development site and, secondarily, to damage other properties in the event of a large (100-year) storm or series of storms. Regulations that control new development within flood hazard areas, such as the San Diego County Flood Damage Prevention Ordinance, would be applicable in these cases. The ordinance restricts or prohibits new projects in water or erosion hazard areas. The enforcement of this ordinance would avoid new flood hazards in the area associated with cumulative projects. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to flood hazard.

### Water Surface Elevation

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Applicant's Proposed Alternative would not increase existing channel velocities and or increase existing flood elevations upstream and downstream of the bridge and habitat restoration area.

Any cumulative projects within the San Luis Rey River's designated special flood hazards area (100-year floodplain) have the potential to increase flood velocities or heights. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects that cause such increases. Therefore, the alternative and cumulative projects would not result in significant adverse cumulative effects related to water surface elevation.

### Floodway Alteration (Hydromodification)

As discussed in Section 4.14, Surface Hydrology, of this EIS, with the implementation of treatment BMP's and proposed mitigation measures, the Applicant's Proposed Alternative would not impede or redirect flow in a floodway that would cause flooding downstream or cause substantial additional sources of runoff.

Any new development within the San Luis Rey River's designated special flood hazards area (100-year floodplain), has the potential to adversely affect the river. Regulations that control new development within flood hazard areas, such as the San Diego County Flood Damage Prevention Ordinance, would be applicable in these cases. The ordinance restricts or prohibits new projects in erosion hazard areas and projects that would result in adverse increases in erosion. Because the Applicant's Proposed Alternative would implement treatment BMPs and mitigation measures to reduce impacts, the alternative would not increase surface water in a manner that would overwhelm downstream drainage systems or cause flooding. The enforcement of BMPs for priority projects under the San Diego County Watershed Protection Ordinance would control runoff and reduce storm runoff and alteration of downstream floodways from large scale development, including any larger cumulative projects. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the alteration of floodways.

### Scour

As discussed in Section 4.14, Surface Hydrology, of this EIS, with mitigation, the Applicant's Proposed Alternative would not alter the San Luis Rey River floodway in a manner that would change channel morphology. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects within floodplains that might, otherwise, result in scouring of a river or stream. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects related to scour.

## 6.2.15 Transportation

Section 4.15, Transportation, concludes that that the Applicant's Proposed Alternative would add new traffic to the roadway network, with the greatest impacts along SR 76 between the landfill access road and the I-15 ramps. For both cumulative scenarios analyzed (Near-Term Conditions and Buildout Conditions), the analysis concludes that cumulatively significant adverse traffic effects could be avoided through design features that would be implemented through the payment of TIF fees. However, while payment of TIF fees would generally be considered full mitigation by the County, due to the uncertainty of the timing of implementation of the improvements it is conservatively concluded that the alternative could contribute to significant adverse cumulative conditions at six intersections and six roadway segments under the Near-Term Conditions Scenario; and at one intersection and one roadway segment under the Buildout Conditions scenario.

## 6.2.16 Utilities

### Water Supply

#### Groundwater Supply and Recharge

As discussed in Section 4.16.1, Water Supply, of this EIS, the Applicant's Proposed Alternative would primarily rely on groundwater sources to meet water demands. When utilizing groundwater, the Applicant's Proposed Alternative would not exceed the safe yield of groundwater resources and would include design features to ensure the safe yield of the Pala Hydrologic Subarea is not exceeded. Section 4.9, Hydrogeology, of this EIS, presents a detailed discussion of the potential cumulative groundwater impacts in the Pala Basin and larger San Luis Rey Hydrologic Unit. As discussed therein, the San Diego County General Plan Final EIR concludes that no groundwater basins within the San Luis Rey Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan. Therefore, the Applicant's Proposed Alternative would not contribute to significant adverse cumulative effects relative to groundwater supply or groundwater recharge.

#### Recycled Water Supply

Because the Applicant's Proposed Alternative would secure recycled water from the SGVWC, cumulative projects would be those projects that would also utilize recycled water from the San Gabriel Valley Water Company (SGVWC). As discussed in Section 4.16.1, Water Supply, of this EIS, the SGVWC currently has an excess supply of recycled water and is actively promoting the increased use of the resource. Because recycled water distribution by the SGVWC is limited to the contractually determined quantities, deliveries would not exceed the available recycled water supply. Further, as recycled water would not be provided to the SGVWC in excess of this contract without approval from the Upper San Gabriel Valley Municipal Water District (USGVMWD), the Applicant's Proposed Alternative would not contribute to significant adverse effects with respect to recycled water infrastructure.

The SGVWC projects recycled demand in five year increments to the Year 2035. Prior to the Year 2035, recycled water demand would not equal existing available supplies. This projection considers full successful achievement of the SGVWC's goal to increase the use of recycled water. While the current recycled water agreement between the USGVMWD and SGVWC expires on June 30, 2017, SGVWC has expressed its intention to extend the term of the agreement to coincide with the term of its underlying supply agreement with USGVMWD. As such, it is anticipated that the applicant's contract with the SGVWC would be extended beyond June 2017. At 80,000 gpd (approximately 75 acre-feet per year [AFY] under 307 operating days per year), the Applicant's Proposed Alternative would constitute only 1.1 percent of the cumulative growth in the use of SGVWC recycled water, and would not contribute to demand exceeding the capacity for delivery. Therefore, the Applicant's Proposed Alternative would not contribute to a significant adverse cumulative effect with respect to existing recycled water users.

### Wastewater

As discussed in Section 4.16.2, Wastewater, of this EIS, the Applicant's Proposed Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. This small quantity of wastewater would not exceed the treatment capacity of the treatment provider.

Individual developments would be reviewed by the County of San Diego Department of Environmental Health (DEH) on a project-by-project basis to determine if sufficient wastewater services and treatment capacity exists to serve the specific development. The County requires new developments to pay a sewer service charge to maintain sewer systems. The County charges fees for the privilege of connecting to its sewerage system or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. The fees are required to construct new sewer infrastructure and/or incremental expansions to the existing sewerage system to accommodate individual development, which would mitigate the cumulative impact of the development on the sewerage system. The County would only allow new developments to connect to its sewer systems if there is sufficient capacity or planned expansions of its facilities to accommodate new developments proposed. Therefore, future development would not be permitted to exceed the capacity of wastewater conveyance systems or treatment facilities, since adequate capacity must be demonstrated in order to contribute flows to the system.

The additional wastewater generated by the Applicant's Proposed Alternative would be negligible in contrast to that generated by other development occurring in the region. While notable population growth occurring in the County could require additional wastewater services and facilities, the Applicant's Proposed Alternative would not have a cumulatively considerable increase in demand. Thus, the Applicant's Proposed Alternative would not result in a significant adverse cumulative effect with regard to wastewater.

### Gas and Electric

As discussed in Section 4.16.3, Gas and Electricity Service, of this EIS, the Applicant's Proposed Alternative would not result in an increase in consumption of energy that is above the service provider's planned service capacity, or use energy in a manner that is inconsistent with plans and policies for the conservation of energy.

Natural gas and electricity are provided via planning activities based on growth and demand projections of the service providers that demonstrate an ability to meet future demand for services. These plans are based on growth and consumption demand projections for the entire service area, thus accounting for cumulative development. Further, the plans are updated periodically to account for changes in growth rates. The Applicant's Proposed Alternative's incremental contribution to demand for gas and electricity services would be negligible, and represented within current estimates of demand for service. The cumulative projects would generate additional demand for gas and electricity. Future development projects would be evaluated on a project-by-project basis, and evaluated against planned demand. Future development that requires new infrastructure/gas main extensions or electrical service would be required to pay all applicable fees assessed by SDG&E necessary to accommodate the specific project. SDG&E would not allow new development projects to connect to existing gas mains and would not provide electrical service unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service. Thus, the Applicant's Proposed Alternative would not result in a significant adverse cumulative effect to gas and electrical services as the supply would be managed to meet demand.

## 6.3 NO FEDERAL ACTION ALTERNATIVE

As the No Federal Action Alternative would occur on the Applicant's Proposed Alternative site, the cumulative projects are the same as for the Applicant's Proposed Alternative, as listed and mapped above.

## 6.3.1 Aesthetics

### Natural Landform Character

As concluded in Section 4.1, Aesthetics, of this EIS, the No Federal Action Alternative would result in no development of the alternative site. Therefore, the alternative would not result in a permanent adverse change in the natural landform character of a scenic area. None of the cumulative projects in the area would result in alterations of the landform within the view field of the alternative site. Therefore, the alternative and cumulative projects would not result in significant adverse cumulative effects with respect to the area's natural landform character.

### Visual Quality

As concluded in Section 4.1, Aesthetics, of this EIS, no change in existing conditions that would contrast with existing visual elements would occur. Therefore, this alternative would not contrast with the existing visual elements of a moderate or high quality landscape assessment unit. None of the cumulative projects in the area are located within the view field of the alternative site or would affect the visual quality of the site. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects.

### Visual Resources

As concluded in Section 4.1, Aesthetics, of this EIS, no change in existing conditions that would contrast with existing visual elements would occur under the No Federal Action Alternative, and thus, the alternative would not result in the loss or adverse degradation of a substantial amount of the physical resources that make up the local visual character. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the alternative and cumulative projects would not have a significant adverse cumulative effect on the area's visual quality.

### View Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the No Federal Action Alternative would not block a substantial percentage of an existing view corridor of a regionally or subregionally important view scene (i.e., area ridgelines) or prevent the physical or visual access to a viewing point from which the viewing scene can be seen. No cumulative projects would extend into alternative site's view corridors or would cause view blockage across the site or immediate area. Thus, the alternative and cumulative projects would not result in significant adverse cumulative effects on view quality.

### Neighborhood Character

As concluded in Section 4.1, Aesthetics, of this EIS, the No Federal Action Alternative would not include any new development and, thus, would have no effect with respect to neighborhood character, or other aesthetic goals of the San Diego County General Plan or Pala-Pauma Subregional Plan. Cumulative projects would be consistent with the designations and visual character policies of the respective community plans. Therefore, the No Federal Action Alternative and cumulative projects would not result in significant adverse cumulative effects with respect to community plans and neighborhood character.

### Dark Skies

As concluded in Section 4.1, Aesthetics, of this EIS, no development would occur under the No Federal Action Alternative that would introduce any light-generating sources that would adversely affect nighttime views in the area. Cumulative projects would be required to comply with the County's Light Pollution Code, which requires that all new exterior lighting must be shielded. Because all new development would be required to comply with the Light Pollution Code, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the County's dark skies policies.

## 6.3.2 Agricultural Resources

As concluded in Section 4.2, Agricultural Resources, of this EIS, the No Federal Action Alternative would not convert Prime Farmland, Unique Farmland, Farmland of Statewide or Local Importance, or other agricultural resources to a non-agricultural use. In addition, the No Federal Action Alternative would not would not cause detrimental effects on adjacent agricultural uses.

The conversion of rural lands to permanent open space in San Diego County could potentially cause a cumulative reduction in land available for agricultural use. According to the San Diego County General Plan Update EIR, 140,493 total acres of open space are designated in areas considered to contain agricultural resources. The General Plan Update EIR indicates that open space and agricultural uses are compatible in that Williamson Act and other agricultural regulations are intended to preserve both open space and agricultural uses as related non-urban uses (General Plan Update EIR, page 2.2-14). It is, thus, assumed that adjoining agriculture and open space (conservation) uses would be compatible. Implementation of the General Plan to create open space areas in existing agricultural areas would not cause the indirect conversion of adjacent, agricultural resources to a non-agricultural use or typically prohibit off-site agricultural uses. Because the No Federal Action Alternative would occur on a property no longer used for agricultural purposes, it would not directly affect agricultural uses or contribute to the cumulative, direct conversion of farmland. Also, because the No Federal Action Alternative would be an open space use, which is considered to be compatible with adjacent farmland, it would not contribute to the indirect conversion of adjacent farmland to a non-agricultural use. Because the No Federal Action Alternative would not directly or indirectly convert farmland, it would not incrementally contribute to any cumulative effects caused by the General Plan's designation of open space in agricultural areas. Therefore, the combined No Federal Action Alternative and policies of the General Plan would not have an adverse cumulative effect on agricultural resources.

## 6.3.3 Air Quality

### Air Quality Plans

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, under the No Federal Action Alternative, the Applicant's Proposed Alternative site would remain undeveloped and limited construction activities would occur to implement the conservation bank. As a result, there would be no air quality impacts and the No Federal Action Alternative would present no conflict with implementation of the RAQS or the SIP. Thus, the No Federal Action Alternative would not contribute to a significant adverse cumulative effect.

### Air Quality Standards

Under the No Federal Action Alternative, limited construction activities would occur to implement the conservation bank and impacts from the implementation of the conservation bank would not be adversein the SDAB. However, under the No Federal Action Alternative, waste generated in San Diego County would be exported to out-of-County landfills (El Sobrante) by 2025. Thus, emissions under the No Federal Action Alternative would potentially increase in the South Coast Air Basin due to increased vmt from on-road haul trucks, increased use of off-road equipment to deposit the waste and increased landfill gas and flaring. As the No Federal Action Alternative would result in violations of air quality standards or contribute to existing or projected violations in the South Coast Air Basin, the No Federal Action Alternative would contribute to a cumulative significant adverse effect in the South Coast Basin.

### Cumulatively Considerable Criteria Pollutants

The region is currently in non-attainment for ozone, $PM_{10}$ and $PM_{2.5}$. As no construction or operational activities would occur under the No Federal Action Alternative, the No Federal Action Alternative would not cause new emissions of any criteria pollutants. Therefore, the development of the conservation bank at the Applicant's Proposed Alternative site would not result in a cumulatively considerable net increase of non-attainment pollutants and cumulative air quality effects would not be adverse.

However, under the No Federal Action Alternative, emissions of $NO_X$, $PM_{10}$, and $PM_{2.5}$ would potentially increase in the South Coast Air Basin in excess of the SCAQMD daily thresholds for operational emissions. The South Coast Air Basin is in non-attainment of the federal and state standards for ozone ($NO_X$ is an ozone precursor), $PM_{10}$, and $PM_{2.5}$ and is designated as "extreme" non-attainment for ozone. Thus, the No Federal Action Alternative would contribute to cumulatively significant adverse air quality effects.

### Health Risk and Microclimate

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, under the No Federal Action Alternative, the site would remain undeveloped and limited construction activities would occur to implement the conservation bank. Thus, the No Federal Action Alternative would not incrementally contribute to substantial pollutant concentrations at sensitive receptors. As a result, cumulative health risk and microclimate impacts would not be adverse.

### Objectionable Odors

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, under the No Federal Action Alternative, no odor-generating activities would occur. Thus, the No Federal Action Alternative would not contribute to odor levels affecting a substantial number of people. As a result, cumulative odor impacts would not be adverse.

### Visibility Impacts

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, under the No Federal Action Alternative, the Applicant's Proposed Alternative site would remain undeveloped and no new visibility impacts would occur. As a result, cumulative visibility impacts would not be adverse.

### Greenhouse Gases

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the No Federal Action Alternative would not entail construction or new landfill operational activities. As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, because of the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that an emissions increase resulting from the alternative and cumulative projects could actually cause a measurable increase in global GHG emissions sufficient to force global climate change.

## 6.3.4 Biological Resources

As discussed in Section 4.4, Biological Resources, of this EIS, the conservation bank proposed under the No Federal Action Alternative would benefit state- and federal- listed species and their designated critical habitats through preservation and restoration, specifically the arroyo toad, least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher, and golden eagle. The conservation bank would avoid restoration activities within USACE jurisdictional portions of the San Luis Rey River due to permitting requirements, although the river may be declining in quality due to runoff from the vacated dairies and colonization of invasive non-native plans and predatory species such as cowbirds. The declining quality could potentially diminish the suitability of designated critical habitat for listed species and/or carrying capacity for resident arroyo toad, least Bell's vireo, and southwestern willow flycatcher migrants. A cumulatively considerable loss of habitat within the Draft North County Plan could reduce the population of these species and result in adverse cumulative effects. However, the extent of habitat decline in the San Luis Rey River has not been determined and would need to be considered on a watershed scale. Furthermore, the preservation and restoration of habitats adjacent to USACE jurisdictional areas by the No Federal Action Alternative would provide benefits to the San Luis Rey River and associated species. As such, indirect impacts to state- and federal- listed species and their designated critical habitat by not restoring USACE jurisdictional portions of the San Luis Rey River is not considered a significant adverse cumulative effect.

## 6.3.5 Cultural Resources

### Historical and Archaeological Resources

As discussed in Section 4.5.1, Historical and Archaeological Resources, of this EIS, given the identification of numerous cultural resources within the alternative site and within a one-mile radius, buried and undiscovered National Register-eligible and California Register-eligible cultural resources still may be present throughout the site. Thus, impacts to historical or archaeological resources could occur under the No Federal Action Alternative. Implementation of MM No Federal Action CUL-2, -3, -4, and -5, would ensure that significant adverse effects to unknown cultural resources encountered during ground-disturbing activities would not occur.

Similarly, impacts to historical and archaeological resources associated with past, present, and reasonably foreseeable future projects in the vicinity of the alternative site could also result in significant adverse effects since these cumulative projects also include ground-disturbing activities associated with land development that have the potential to destroy, damage, or displace surface or previously undiscovered subsurface historical and archaeological resources. However, it can be reasonably assumed that similar mitigation measures (i.e., data recovery, avoidance, documentation and recordation, treatment in accordance with the Secretary of Interior's Standards, construction monitoring, etc.) would be implemented on the identified

cumulative projects, to ensure that significant adverse cumulative effects to historical and archaeological resources would not occur.

### Traditional Cultural Properties

As discussed in Section 4.5.2, Traditional Cultural Properties, of this EIS, the No Federal Action Alternative would maintain the existing private status of the applicant's land, more than half of the TCP known as Chokla would remain lawfully inaccessible to traditional Luiseño cultural practitioners, and the pictographs at Medicine Rock would continue to deteriorate due to ambient corrosive agents. However, implementation of the alternative would not alter the existing situation, nor preclude future actions regarding these effects. Therefore, the No Federal Action Alternative would not contribute to a significantly adverse effect regarding TCPs.

## 6.3.6 Environmental Justice

Section 4.6, Environmental Justice, identifies the significant adverse direct/individual and cumulative effects that would result from an alternative and evaluates whether those significant adverse effects would fall disproportionately on minority, low-income or tribal populations. This alternative would have no significant adverse cumulative effects that would fall disproportionately on such populations.

## 6.3.7 Geology and Soils

### Fault Rupture

As discussed in Section 4.7, Geology and Soils, of this EIS, no faults are located on the site, and the site is not located within an Alquist-Priolo Fault Zone. As such, there would be no fault impacts associated with a conservation bank at the site and development of a conservation bank would not contribute to cumulative effects regarding ground rupture. Further, there would be no impacts on cumulative projects due to faulting Gregory Canyon vicinity. Impacts of cumulative projects regarding faults at more remote locations would be distinctive of those projects and would not be cumulative, inclusive of the No Federal Action Alternative.

### Site Stability

As discussed in Section 4.7, Geology and Soils, of this EIS, adverse impacts associated with site stability would not occur because there would be no material change in landform and there would be no activities likely to induce landslide. Additionally, grading and vegetation plans for the No Federal Action Alternative would be designed to protect the integrity of, and provide stabilization for the final landforms. Impacts related to site stability would be site specific and would not occur in concert with, nor be exacerbated by joint effects of other land use activities in the surrounding vicinity. Therefore, cumulative impacts associated with slope stability/landsliding would not be adverse.

### Rockfalls

As discussed in Section 4.7, Geology and Soils, of this EIS, the only notable change in site conditions would be associated with development and maintenance of a conservation bank that would not generate site activity, (e.g. cutting and filling, blasting, etc.) that might trigger an unstable rock to fall. Additionally, with the No

Federal Action Alternative there would be no regular site population exposed to potential rockfall. Therefore, there would be no cumulative adverse effects from rockfall.

#### Debris Flow

As discussed in Section 4.7, Geology and Soils, of this EIS, potential debris flow is a site specific event that would not be affected by other off-site development. Potential impacts for the conservation bank that are associated with debris flow would be limited due to lack of on-site population and final contouring and vegetation enhancement at the site. Therefore, the No Federal Action Alternative could not have adverse cumulative impacts.

#### Drainage and Erosion

As discussed in Section 4.7, Geology and Soils, of this EIS, no grading would occur to create better connectivity between the San Luis Rey River and upland areas and the final terrain contours of the site would not have adverse effects on drainage and erosion. There are no cumulative projects lying adjacent to the alternative site that could cause drainage onto the site, nor combine with the site in causing joint drainage effects in the area. Therefore, the No Federal Action Alternative would not have a cumulative adverse effect.

#### Public Safety

As discussed in Section 4.7, Geology and Soils, of this EIS, no new structures would be located at the Gregory Canyon site. Therefore, the No Federal Action Alternative would not contribute to a cumulative adverse effect with regard to new structures.

#### Mineral Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, the development of a conservation bank at the Gregory Canyon site under the No Federal Action Alternative would involve only surficial grading of the site soils and would not preclude future access to geological and soil units on the site. As the No Federal Action Alternative would not cause a loss of access to or the availability of mineral resources, it would not contribute to adverse cumulative losses of such resources.

#### Soil Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, as development of a conservation bank at the Gregory Canyon site would not require the importation or utilization of soil materials from off-site sources, the No Federal Action Alternative would not diminish the availability of such resources. Therefore, the No Federal Action Alternative would not contribute to a cumulative effect regarding the consumption of soil resources.

### 6.3.8 Human Health and Safety

#### Hazard to Public or the Environment

As discussed in Section 4.8, Human Health and Safety, of this EIS, the No Federal Action Alternative would not require the transport, use, production or disposal of hazardous materials. The use of common

landscaping chemicals for implementation of this alternative would be subject to regulatory measures for the protection of the public safety. Therefore, there would be no adverse health effects associated with a conservation bank at the Gregory Canyon site, and thus, development of a conservation bank would not contribute to cumulative effects regarding impacts from exposure to hazardous materials. Further, there would be no impacts from cumulative projects in the vicinity of the Gregory Canyon site that would be expected to contribute to the release of hazardous materials.

#### Landfill Hazards

As discussed in Section 4.8, Human Health and Safety, of this EIS, there would be no adverse health effects associated with a conservation bank at the Gregory Canyon site and therefore, development of a conservation bank would not contribute to cumulative effects regarding decomposition of site materials and/or attraction of vectors. Further, there would be no impacts from cumulative projects in the vicinity of the Gregory Canyon site that would be expected to cause decomposition of materials, nor attraction of vectors, that would contribute with the No Federal Action Alternative to adverse health conditions.

#### Accident Conditions

As discussed in Section 4.8, Human Health and Safety, of this EIS, implementation and maintenance of a conservation bank would require minor grading and landscaping activity that is typical of daily construction activity carried out under regulatory provisions for the public safety. No adverse accident/risk effects would occur. Therefore, development of a conservation bank would not contribute to cumulative effects regarding public safety. Further, there would be no impacts from cumulative projects in the vicinity of the Gregory Canyon site that would be expected to cause cumulative adverse safety effects.

#### Emergency Response Plans and Emergency Evacuation Plans

As discussed in Section 4.8, Human Health and Safety, of this EIS, the No Federal Action Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no adverse effect would occur. Future development projects in the area would be evaluated on a project-by-project basis to determine potential impacts to emergency plans. Development projects would be required to address emergency access issues and to provide site emergency provisions.

### 6.3.9 Hydrogeology

#### Groundwater Withdrawal and Recharge

As discussed in Section 4.9, Hydrogeology, of this EIS, groundwater infiltration rates would remain essentially unchanged and any groundwater withdrawal would be limited under the No Federal Action Alternative. Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR, concluded that no groundwater basins within the San Luis Rey Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan. There would be no groundwater impacts associated with the No Federal Action Alternative. When compared to the impacts identified under the General Plan Final EIR, it is important to consider that the Gregory Canyon site is identified for landfill purposes under the General Plan, and thus, impacts under the No Federal Action Alternative would be less than those that would

occur under the General Plan buildout. Therefore, the No Federal Action Alternative would not contribute to cumulative adverse effects regarding groundwater supply and recharge rates.

### Groundwater Quality

As discussed in Section 4.9, Hydrogeology, of this EIS, the No Federal Action Alternative would only use limited herbicides and pesticides in accordance with applicable regulations regarding a conservation bank. Therefore, the No Federal Action Alternative would not violate any federal, state, or local groundwater quality standard or waste discharge requirements. As discussed above, Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR evaluated potential groundwater impacts from full buildout of land uses identified in the General Plan. With respect to groundwater quality, the Final EIR did not identify the Pala Basin as a groundwater basin having the potential for significant water quality impacts under full buildout. Further, any project within the San Luis Rey Hydrologic Unit would be required to comply with applicable federal, state, and local regulations that protect groundwater. Therefore, the development of a conservation bank under the No Federal Action Alternative would not contribute to adverse cumulative effects regarding groundwater quality or recharge.

## 6.3.10 Land Use and Planning

### Consistency With Land Use Plans

As discussed in Section 4.10, Land Use and Planning, of this EIS, the site would remain as permanent open space, which would not be consistent with the existing General Plan land use designation of Public/Semi-Public Land (SWF) or GOAL LU-12. Nonetheless, although inactivity would not be consistent with objectives to provide for public facilities to meet solid waste needs, the No Federal Action Alternative would not result in any physical effects that would conflict with General Plan or local plan policies or impede the County's efforts to find other solid waste sites. The No Federal Action Alternative would also not be consistent with the County's Integrated Waste Management Plan in that it would not provide for the construction and operation of a landfill in the northern San Diego County area on a site identified in the County of San Diego Five-Year CIWMP Review Report. Under the No Federal Action Alternative, a landfill site would not be constructed in North San Diego County and a large percentage of waste generated in North San Diego County would be hauled to El Sobrante landfill in Riverside County. Because the El Sobrante landfill is approximately 50 miles to the north of the Gregory Canyon site, the No Federal Action Alternative would indirectly result in an increase in vehicle emissions resulting from longer hauling trips. Therefore, this alternative would not be consistent with SANDAG's Growth Management Strategy and the Regional Air Quality Plan to reduce vehicle emissions within the region.

Because the No Federal Action Alternative would not result in any physical effects that would conflict with plan policies or impede efforts to find other solid waste sites, and cumulative projects would be developed in accordance with the vision expressed in the General Plan, cumulative development would not conflict with the objectives of the General Plan and Community/Subregional Plans, or conflict with the objectives of the General Plan to frame future growth and development in unincorporated areas. Therefore, the No Federal Action Alternative would not contribute to an adverse cumulative effect.

### Consistency With Resource Conservation Area Designation

As discussed in Section 4.10, Land Use and Planning, the No Federal Action Alternative would not result in adverse effects related to the Pala/Pauma Subregional Plan's RCA designation for Gregory Mountain. No development would occur under the No Federal Action Alternative; therefore, this alternative would not contribute to cumulative changes that may occur in the region's designated RCA's. San Diego County Sensitive Resource Area regulations would be implemented for all development projects in RCAs and would ensure consistency with the conservation objectives of the community plans. Therefore, the alternative and cumulative projects would have no cumulatively adverse effects.

## 6.3.11 Noise and Vibration

### Construction/operation

As discussed in Section 4.11, Noise and Vibration, of this EIS, the No Federal Action Alternative would involve some earthmoving work to implement the conservation bank. However, such work would be minimal and would be short-term in duration. Under the No Federal Action Alternative, the Gregory Canyon property would remain undeveloped and minimal activity would occur to implement and maintain the conservation bank. No long-term operational noise and vibration effects would be associated with the conservation bank. Thus, the No Federal Action Alternative would not result in a significant adverse cumulative noise and vibration effect.

### Traffic noise

As discussed in Section 4.11, Noise and Vibration, of this EIS, the No Federal Action Alternative would result in minimal trips for implementation and maintenance of the conservation bank. These minimal trips would result in no measureable increase in traffic noise. Therefore, the No Federal Action Alternative would not contribute to a significant adverse cumulative traffic noise effect.

### Blasting

Under the No Federal Action Alternative no blasting would occur to implement or maintain the conservation bank. Therefore, this criterion does not apply to the No Federal Action Alternative.

## 6.3.12 Public Services

### Law Enforcement

As discussed in Section 4.12.1, Law Enforcement, of this EIS, the No Federal Action Alternative would not result in an increase in population that would contribute to the demand for law enforcement services; nor result in an increase in activity at the Gregory Canyon site that would necessitate surveillance or notable site visits from law enforcement so as to require the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities to support additional services. As the No Federal Action Alternative would have no impacts on law enforcement services or facilities, it would not contribute to adverse cumulative effects on law enforcement services or facilities.

### Fire Protection and Emergency Medical Services

As discussed in Section 4.12.3, Fire Protection and Emergency Medical Services, the No Federal Action Alternative would not result in increases in population demand or activities occurring at the site that would necessitate a demand for services beyond the general level of demand occurring in the site area. A number of the cumulative projects in the area would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts on the provision of fire and emergency medical services. Such projects would be subject to regulatory requirements to reduce fire impacts, including implementation of fire protection features and fire mitigation fees. While notable population growth occurring in the County could require additional facilities to enhance protection, the No Federal Action Alternative would not add to the cumulative demand for services.

### Schools

As discussed in Section 4.12.3, Schools, of this EIS, the No Federal Action Alternative would not create student enrollment that would exceed available capacities of school facilities at a level that would require the construction of new school facilities. As the No Federal Action Alternative would have no impacts on school facilities, it would not contribute to adverse cumulative effects on school facilities.

### Recreation

As discussed in Section 4.12.4, Recreation, of this EIS, the No Federal Action Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources. As the No Federal Action Alternative would have no impacts on recreational facilities or resources, it would not contribute to adverse cumulative effects on recreational facilities or resources.

## 6.3.13 Socioeconomics

### Population, Housing, and Employment

As discussed in Section 4.13, Socioeconomics, of this EIS, the No Federal Action Alternative would have no effects on housing stock, population or employment. It would not notably affect regional growth forecasts and would not alter land use patterns or result in demand for housing and services that would exceed supplies.

The SANDAG regional 2050 regional forecasts considered in the analysis of socioeconomic effects have been prepared in coordination with the development of the County's General Plan Update and with accounting for the related projects identified for the Applicant's Proposed Alternative. Further, the projections are tied to development of the County's Regional Transportation Plan (RTP), which identifies future roadway projects, and which guides transportation funding that is provided through the County's Traffic Impact Fee and TransNet Programs.

As such, the regional forecasts reflect both expected, planned and future projected growth and infrastructure systems. As noted above, the No Federal Action Alternative would not affect the amounts of, nor distribution of population, housing and employment. Thus, the No Federal Action Alternative would not contribute to cumulative effects.

### Physical Environmental Effects

As discussed in Section 4.13, Socioeconomics, of this EIS, the No Federal Action Alternative would not cause the construction or demolition of development and would not remove housing stock or otherwise directly affect the availability of housing stock. No residential uses are proposed that would bring new population to the area. As the alternative would have no physical effects on the environment that could change the setting conditions for social activities or economic activity in the area, the alternative would not contribute to adverse cumulative effects.

## 6.3.14 Surface Hydrology

### Surface Water Quality

As discussed in Section 4.14, Surface Hydrology, of this EIS, the No Federal Action Alternative would not involve construction or operation of any development and would have no adverse impacts on water quality. Any high priority (the highest polluters) cumulative projects would be required under the San Diego County Watershed Protection Ordinance to prepare a SWMP and applicable construction and operation BMPs in compliance with RWQCB regulations. With the implementation of required BMPs, the alternative and cumulative projects would not result in significant adverse cumulative effects with regard to water quality.

### Flood Hazard

As discussed in Section 4.14, Surface Hydrology, of this EIS, no habitable structures or unanchored impediments would be permanently located within a 100-year floodplain area under the No Federal Action Alternative. Because the No Federal Action Alternative would not locate structures within the floodplain, it would not contribute to cumulatively adverse flood conditions. In addition, the San Diego County Flood Damage Prevention Ordinance would require a development permit before any cumulative projects could be located within a flood hazard area, restricting such uses that could affect health, safety, and property due to flooding. The enforcement of this ordinance would avoid new flood hazards in the area. Therefore, the No Federal Action Alternative and cumulative projects would not result in adverse cumulative effects with respect to flood hazard.

### Water Surface Elevation

As discussed in Section 4.14, Surface Hydrology, of this EIS, the No Federal Action Alternative would not require the development of any facilities within the San Luis Rey River floodplain that could potentially constrict or change the level of the river. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects that cause such increases. Therefore, it is not expected that the alternative and cumulative projects would result in significant adverse cumulative effects related to water surface elevation.

### Floodway Alteration (Hydromodification)

As discussed in Section 4.14, Surface Hydrology, of this EIS, with the implementation of BMP's, the No Federal Action Alternative would not increase velocities or peak flows in the San Luis Rey River or cause an increase in the downstream flooding. The enforcement of BMPs for priority projects, including larger cumulative projects, under the San Diego County Watershed Protection Ordinance would control runoff and

reduce storm runoff and alteration of downstream floodways. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the alteration of floodways.

#### Scour

As discussed in Section 4.14, Surface Hydrology, of this EIS, the No Federal Action Alternative would not alter the floodway. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects within floodplains that might, otherwise, result in scouring of a river or stream. Therefore, it is expected that the No Federal Action Alternative and cumulative projects would not result in significant adverse cumulative effects relatedto scour.

### 6.3.15 Transportation

Section 4.15, Transportation, concludes that that the Applicant's Proposed Alternative would add only a few traffic trips to the roadway network on an irregular basis. This level of traffic would not add a cumulatively considerable contribution to significant adverse cumulative effects at any location.

### 6.3.16 Utilities

#### Water Supply

##### New water facilities

As discussed in Section 4.16.1, Water Supply, of this EIS, the No Federal Action Alternative would not appreciably increase water demand at the Gregory Canyon site and no new water facilities or expanded water facilities would be required. The San Diego County General Plan Final EIR concludes that no groundwater basins within the San Luis Rey Hydrologic Unit would be significantly withdrawn under full buildout of the County's General Plan. Because the No Federal Action Alternative would not install new groundwater wells, it would not contribute to an adverse cumulative effect with respect to the construction of new water facilities.

##### Groundwater Supply and Recharge

As discussed in Section 4.16.1, Water Supply, of this EIS, the site is located within the SLRMWD, which serves property in that area along the San Luis Rey River from the Pala Indian Reservation on the east to Highway I-15 on the west. The sole source of water to properties within the District is the San Luis Rey River and the groundwater basins it supplies. The San Diego County General Plan Final EIR concluded that no groundwater basins within the San Luis Rey Hydrologic Unit would be significantly withdrawn under full buildout of the County's General Plan. As the No Federal Action Alternative would not result in adverse effects to groundwater, the No Federal Action Alternative would not contribute to cumulative adverse effects regarding groundwater supply and recharge rates.

##### Recycled Water

As discussed in Section 4.16.1, Water Supply, of this EIS, the SGVWC's available recycled water supply would exceed the demand for recycled water for the foreseeable future. As the No Federal Action Alternative would

not increase the demand for recycled water, the No Federal Action Alternative would not contribute to a cumulative significant adverse effect with respect to recycled water supplies to existing users.

#### Wastewater

As discussed in Section 4.16.2, Wastewater, of this EIS, the No Federal Action Alternative would generate virtually no wastewater and therefore would not require notable treatment of wastewater. As such, the No Federal Action Alternative would not add incrementally to the cumulative demand and there would be no cumulative adverse effect with regard to wastewater.

#### Gas and Electric

As discussed in Section 4.16.3, Gas and Electricity Service, the No Federal Action Alternative would not require the consumption of natural gas or electricity. As such, the alternative would not add to cumulative effects on gas and electricity services.

## 6.4 ASPEN ROAD ALTERNATIVE

Table 6-4, *Aspen Road Alternative - Cumulative Projects,* provides the list of projects in the vicinity of the Aspen Road Alternative. Figure 6-2, *Aspen Road Alternative - Locations of Cumulative Projects,* shows the locations of these projects.

### 6.4.1 Aesthetics

#### Natural Landform Character

As concluded in Section 4.1, Aesthetics, of this EIS, the Aspen Road Alternative would have a significant adverse effect on natural landform character because of the dominance of the landfill compared to natural landforms in the area. Although impacts would be reduced through implementation of design features, such as contouring of the landfill's engineered slope and revegetation, the alternative would still have a residual significant adverse effect. However, none of the cumulative projects in the area would result in alterations of the landform within the view field of the alternative site. Therefore, the alternative and cumulative projects would not result in significant adverse cumulative effects with respect to the area's natural landform character.

#### Visual Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the Aspen Road Alternative would contrast with the exiting visual elements of a moderate and high quality landscape. Impacts would be reduced through implementation of mitigation measures such as landscape screening, revegetation with native plants, contrast, color and, texture matching. While, the height of the landfill would continue to contrast with the areas existing visual quality, with the mitigation measures, the alternative would not have a significant adverse effect on visual quality. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the Aspen Road Alternative and cumulative projects would not cause significant adverse cumulative effects in the area's visual quality.

**Table 6-4**

**Aspen Road Alternative - Cumulative Projects**

| No. | Project Name | Project No. |
|---|---|---|
| 1 | Peppertree Park | 4713 |
| 2 | The Woodlands At Pala Mesa | 4737 |
| 3 | Morro Estates | 4763 |
| 4 | Jvc Properties Tm | 4766 |
| 5 | Reche Rd Subdivision | 4972 |
| 6 | Fallbrook/ Reche Rd | 4993 |
| 7 | Palisades Estates | 5158 |
| 8 | Heritage Oaks | 5168 |
| 9 | Uchimura Subdivision | 5190 |
| 10 | The Crest Tm | 5195 |
| 11 | Alvarado Knolls | 5215 |
| 12 | Chaffin Tm | 5225 |
| 13 | Pala Mesa | 5231 |
| 14 | Vandevegte, Steven, Tm, | 5243 |
| 15 | Garrett Holdings Llc | 5268 |
| 16 | Barr Ranch Tm | 5293 |
| 17 | The Prominence At Pala | 5321 |
| 18 | Passerelle, Campus Park, Gpa, Spa, Rez, | 5338 |
| 19 | Calavo Subdivision | 5350 |
| 20 | Meadowood, Gpa, Sp, Rez, Tm, Stp's, | 5354 |
| 21 | Daniels Tm | 5364 |
| 22 | Estates At Mcdonald Park Tm | 5378 |
| 23 | Rancho Alegre | 5413 |
| 24 | Fallbrook Oaks, Gpa, Rez, Tm, Stp | 5449 |
| 25 | Ridge Creek Tm | 5469 |
| 26 | Fallbrook Ranch Tm | 5532 |
| 27 | Pala Mesa Resort/Tm | 5534 |
| 28 | Catalpa Ln, Tm | 5544 |
| 29 | Reche Road,Tm | 5547 |
| 30 | Rocky Dixon | 19593 |
| 31 | N/A | 20096 |
| 32 | N/A | 20244 |
| 33 | Madrigal | 20279 |
| 34 | Atteberry TPM | 20322 |
| 35 | Patterson TPM | 20355 |
| 36 | Rosa TPM | 20373 |
| 37 | Chipman TPM | 20381 |
| 38 | Hartog TPM | 20410 |
| 39 | Atteberry TPM | 20434 |
| 40 | Chipman TPM | 20440 |
| 41 | Mc Connell TPM | 20446 |
| 42 | Schilling TPM | 20467 |

**Table 6-4 (Continued)**

**Aspen Road Alternative - Cumulative Projects**

| No. | Project Name | Project No. |
|---|---|---|
| 43 | Daniels TPM | 20476 |
| 44 | Zebu Inc TPM | 20486 |
| 45 | Lackey TPM | 20500 |
| 46 | Lundstat TPM | 20504 |
| 47 | Collins TPM | 20505 |
| 48 | Steinmar Inc TPM | 20532 |
| 49 | Patapoff Lp A Limited Partnership TPM | 20542 |
| 50 | Shields TPM | 20546 |
| 51 | Tinker TPM | 20575 |
| 52 | Treister TPM | 20581 |
| 53 | Amos Family Trust TPM | 20603 |
| 54 | N/A | 20621 |
| 55 | Pizzo/Younis Tentative Parcel Map | 20622 |
| 56 | TPM20641 | 20641 |
| 57 | Dienhart | 20664 |
| 58 | Robbins TPM | 20667 |
| 59 | Osterkamp TPM | 20687 |
| 60 | Hall / Donnelly | 20696 |
| 61 | Cles Llc TPM | 20708 |
| 62 | Valentine Trust TPM | 20710 |
| 63 | Compton TPM | 20722 |
| 64 | Mission Ridge Road TPM | 20793 |
| 65 | Cohen | 20795 |
| 66 | Crossroads Investors, TPM, Stp | 20800 |
| 67 | Bartlett | 20806 |
| 68 | Ferraro, TPM | 20833 |
| 69 | Duchi TPM | 20844 |
| 70 | Frame TPM--Denied7-14-06 | 20872 |
| 71 | Constant Creek | 20876 |
| 72 | Rosemere Lane TPM | 20901 |
| 73 | Kirk And Krippner | 20924 |
| 74 | Texaco Fallbrook | 20955 |
| 75 | White Fox Run | 20957 |
| 76 | Amkraut | 20972 |
| 77 | Dien N Do, TPM | 20976 |
| 78 | Johnson, TPM | 20980 |
| 79 | Agapito, TPM | 20992 |
| 80 | Madrigal, TPM | 20994 |
| 81 | Heald, TPM | 21010 |
| 82 | Frame Tentative Parcel Map | 21034 |
| 83 | Keakor, TPM | 21037 |
| 84 | Los Alisos, Barker, TPM | 21040 |

**Table 6-4 (Continued)**

**Aspen Road Alternative - Cumulative Projects**

| No. | Project Name | Project No. |
|---|---|---|
| 85 | American Lotus Buddhist Assc | 21047 |
| 86 | Topete, TPM | 21053 |
| 87 | Hamilton Lane TPM | 21079 |
| 88 | Brannon Trust TPM | 21085 |
| 89 | Nickerson, Tentative Parcel Map, | 21119 |
| 90 | Buys 3 Lot TPM | 21130 |
| 91 | Surrey Heights, Minor Subdivision | 21138 |
| 92 | Garner TPM 21167, Stp 09-017 | 21167 |
| 93 | Bela, Major Pre-App Meeting, 08-146 | 21168 |
| 94 | Campus Park | 5354 |
| 95 | Campus Park West | 5424 |
| 96 | Accretive | N/A |

*Source: Linscott, Law and Greenspan, 2012*

## Visual Resources

As concluded in Section 4.1, Aesthetics, of this EIS, the Aspen Road Alternative would impact the area's natural visual resources, including native vegetation and rock outcrops. However, with the implementation of mitigation measures that require replanting with native vegetation and replacement of rock outcrops, the alternative would not have a significant adverse effect with respect to visual resources. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the alternative and cumulative projects would not have a significant adverse cumulative effect on the area's visual resources.

## View Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the Aspen Road Alternative would block or reduce view corridors of high value mountain views from several locations; thus resulting in a significant adverse effect. However, no cumulative projects would extend into alternative site's view corridors or would cause view blockage across the site or immediate area. Thus, the alternative and cumulative projects would not result in significant adverse cumulative effects on view quality.

## Neighborhood Character

As concluded in Section 4.1, Aesthetics, of this EIS, the Aspen Road Alternative would not be fully consistent with goals of the Fallbrook Community Plan and County General Plan to preserve the rural character of the neighborhood and scenic resources, including ridgelines. Specifically, although mitigation measures would reduce impacts to neighborhood and scenic resources, the alternative would not meet goals to preserve

ridgelines and would not be consistent with the underlying Rural and Semi-rural designation, thus resulting in a significant adverse effect. However, cumulative projects would be consistent with the rural character policies of the Fallbrook Community Plan and General Plan. Therefore, the alternative and cumulative projects would not result in significant adverse cumulative effects with respect to neighborhood character policies.

### Dark Skies

As concluded in Section 4.1, Aesthetics, of this EIS, the Aspen Road Alternative would operate during daytime hours and would be consistent with County's Light Pollution Code which requires shielding and downward direction of exterior lighting. Cumulative projects in the area would also be required to comply with the County's Light Pollution Code, which requires that all new exterior lighting must be shielded. Because all new development would be required to comply with the Light Pollution Code, the alternative and cumulative projects would not result in adverse cumulative effects with respect to dark skies.

## 6.4.2 Agricultural Resources

As concluded in Section 4.2, Agricultural Resources, of this EIS, the Aspen Road Alternative would convert Unique Farmland and Farmland of Local Importance, to a non-agricultural use. Therefore, a significant adverse effect would occur regarding the conversion of these designated farmlands. In addition, the Aspen Road Alternative would directly impair the productivity of an on-site Land Conservation Act (Williamson) contracted tract in a manner that would inhibit agricultural activities. Therefore, the Aspen Road Alternative would result in a significant adverse effect with respect to the conversion of farmland to a non-agricultural use.

According to the Conservation and Open-Space Element of the General Plan, a number of issues, including land use pressures, cause stress on the ongoing success of agriculture in the County.[9] Between 1984 and 2006 total agricultural lands in the County were reduced by approximately 4,000 acres per year.[10] For this reason, the General Plan includes a goal to "support the acquisition or voluntary dedication of agricultural conservation easements and programs that preserve agricultural lands" (San Diego County General Plan Goal COS 6.4). Statewide, the Williamson Act was passed to preserve agricultural and open space lands statewide and in San Diego County, an Agricultural Preserves program was adopted to allow landowners to enter into a contract with the County to restrict their land to certain agricultural uses. The Fallbrook Community Plan area of San Diego County contains 1,972 acres of agricultural preserves and 593 acres of Williamson Act properties and the adjacent Rainbow Community Plan area contains 663 acres of agricultural preserves and 293 acres of Williamson Act properties.[11] Many of these lands are within the vicinity of I-15.[12,13] The General Plan Update EIR states that during the past 25 years, very few property owners have requested to enter into

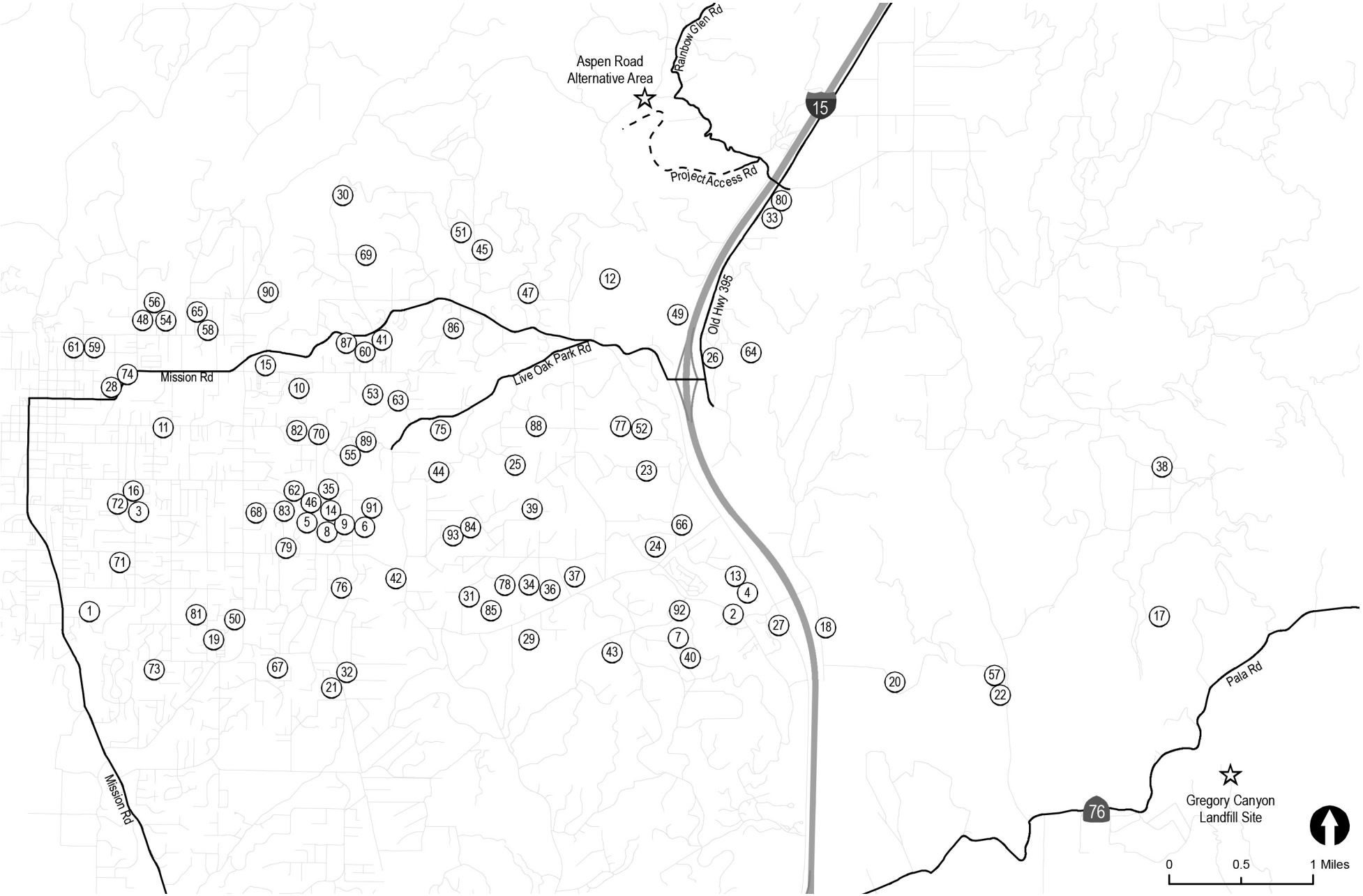
[9] *San Diego County General Plan, Conservation and Open Space Element, page 5-14 (2010).*

[10] *San Diego County General Plan Update EIR, Section 2.02, Agricultural Resources, Table 2.2-1, San Diego County Farmland Mapping and Monitoring Program Acreages, page 2.2-35 (August 2011).*

[11] *San Diego County General Plan Update EIR, op. cit., Table 2.2-12, Existing Agricultural Preserves and Williamson Act Contract Lands, page 2.2-41.*

[12] *San Diego County General Plan Update EIR, op. cit., Figure 2.2-6, Agricultural Preserves and Williamson Act Contract Lands.*

[13] *As indicated by signage installed by Caltrans along I-15 between SR 78 in Escondido and the City of Temecula, this section of highway is called the "Avocado Highway."*




N

0 1 Miles

## Aspen Road Alternative - Locations of Cumulative Projects

**Gregory Canyon**

Source: Linscott Law & Greenspan, 2012.

FIGURE

**6-2**

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a Williamson Act Contract and many parcels under contract are in the process of non-renewal. The General Plan Update EIR also states that land use changes that would not protect Williamson Act properties from development pressures are considered a potentially significant impact.[14] No mitigation measures are provided in the General Plan EIR that would reduce impacts to a less than significant level.[15]

No large-scale projects that would convert agricultural lands to non-agricultural uses are known within the adjacent area. With the incorporation of design features, the Aspen Road Alternative is not expected to directly or indirectly impair agricultural activities on adjacent farmlands or cause adjacent farmland to convert to non-agricultural uses. However, the Aspen Road Alternative would cause the conversion of on-site Williamson Contract lands to non-agricultural use. Therefore, the Aspen Road Alternative could cumulatively contribute to the loss of some conserved farmland in the local area. This potential cumulative effect would be reduced but not eliminated by the restrictions placed on Williamson Act contract and lands within off-site agricultural preserves which, in most cases, would generally prohibit lands from converting to non-agricultural uses during a prescribed period of time. Although the conversion of agricultural lands to non-agricultural uses would be reduced by existing Conservation contracts on agricultural lands county-wide, such contracts do not apply to all designated, important farmland in the region or county. However, because a tract within the Aspen Road site is under a Williamson Act contract and other areas of the site are designated as Farmland of Local Importance and Unique Farmland under FMMP designators, the development of the Aspen Road Alternative would cumulatively contribute to the loss of important agricultural lands in the County and to lands under Williamson Act contract. Significant adverse cumulative effects on farmland would occur.[16]

## 6.4.2 Air Quality

### Air Quality Plans

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Aspen Road Alternative would not conflict with implementation of the RAQS or the applicable portions of the SIP as it is consistent with growth anticipated by the County and SANDAG. Cumulative projects identified in the Aspen Road Alternative area would have the potential to result in a cumulative effect to air quality plans if, in combination, they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Projects that are inconsistent with the regional planning documents that the RAQS and SIP are based on would have the potential to result in cumulative impacts if they would include development beyond regional projections. The nearest cumulative projects are located along I-15 to the east or in the town of Rainbow and include residential and commercial development. These cumulative projects would generally be consistent with the SIP and the RAQS because the projects would be required to be consistent with adopted general plans or other planning documents accounted for in the RAQS growth projections. Therefore, the Aspen Road Alternative, in combination with the cumulative projects in the Aspen Road Alternative area, would not result in significant adverse cumulative effects.

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[14] *San Diego County General Plan Update EIR, op. cit., page 2.2-8.*

[15] *San Diego County General Plan Update EIR, op. cit. page 2.2-30.*

[16] *According to Sandy Parks, Assistant Director of the San Diego Department of Agriculture, the loss of Williamson Act parcels, the purpose of which are to preserve lands for agricultural uses, and farmlands designated as important under the state FMMP designators would be cumulatively significant because of trends in the County in which farmlands are being incrementally lost to development (telephone interview, June 20, 2012).*

### Air Quality Standards

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Aspen Road Alternative would likely result in emissions of VOC and $NO_x$ from the construction and operation that would cause significant adverse effects. As the Aspen Road Alternative and cumulative projects located in the SDAB would have the potential to result in cumulative effects in combination, they would violate air quality standards or contribute to existing or projected air quality violations; and result in significant adverse cumulative effects.

### Cumulatively Considerable Criteria Pollutants

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Aspen Road Alternative would result in the emission of criteria pollutants for which the area is in non-attainment during both construction and operation. A significant adverse effect may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. The SDAB is currently non-attainment for the federal ozone standard.

Construction and operation of the Aspen Road Alternative would exceed the AQIA threshold criteria for VOC and $NO_x$ and would have a cumulatively considerable and unavoidable significant adverse effect on ozone in the region. Cumulative projects would also emit ozone precursors during construction and operation. Therefore, the Aspen Road Alternative would contribute to a significant adverse cumulative ozone effect, even after incorporation of design features.

The Aspen Road Alternative would result in maximum emissions of VOCs and $NO_x$ that would exceed the corresponding AQIA threshold levels. Cumulative projects would also emit ozone precursor emissions during construction and operation. Therefore, the Aspen Road Alternative would contribute to a significant adverse cumulative ozone impact, even after incorporation of design features.

### Health Risk and Microclimate

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the Aspen Road Alternative would not expose sensitive receptors to substantial pollutant concentrations. Additionally, the alternative would also not result in air pollutant emissions or changes in microclimate that would to affect the surrounding agricultural uses. Therefore, the Aspen Road Alternative would not result in a significant adverse effect to human health, avocado and citrus trees, or microclimate.

Cumulative projects in the site vicinity could also emit TAC emissions. However, the Aspen Road Alternative is located a substantial distance from any cumulative projects. Since the Aspen Road Alternative would not result in significant adverse effects from TAC emissions, then cumulatively there would be no significant adverse cumulative effects to human health. In addition, no significant adverse cumulative effects would occur to human health, avocado and citrus trees, or microclimate from cumulative projects.

### Objectionable Odors

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the Aspen Road Alternative has the potential to cause odors, but the use of a gas recovery system and daily cover would result in no significant adverse odor impacts.

Cumulative projects in the vicinity also have the potential to generate odors. However, these projects are located a substantial distance from the Aspen Road Alternative site and would not cause any overlap of odors. The Aspen Road Alternative would not result in significant adverse effects from odors, nor contribute to significant adverse cumulative odor effects.

#### Visibility Impacts

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Aspen Road Alternative would not create visibility impacts to nearby Class I wilderness areas and therefore, no significant adverse effects would occur. Nonetheless, the alternative and cumulative projects located in the vicinity would have the potential to result in an adverse cumulative visibility impacts to the Agua Tibia Wilderness Area, if in combination, they would cause visibility impacts. Since no significantly adverse visibility impact would result from this alternative, the alternative would not contribute to cumulative significant adverse visibility impacts .

#### Greenhouse Gases

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, because of the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that an emissions increase resulting from the alternative and cumulative projects could actually cause a measurable increase in global GHG emissions sufficient to force global climate change. The Aspen Road Alternative would include design features to reduce GHG emissions, such as implementing a landfill gas recovery and flaring system, as well as features that address strategies consistent with the state, County and City regulations for reducing GHG emissions. The Aspen Road Alternative would be consistent with state, County, and City goals, and therefore would be consistent with the AB 32 reduction targets. It is likely that the cumulative projects would also meet or exceed applicable local and state laws and policies aimed at reducing GHG emissions, in support of AB 32. Implementation of design features would ensure that impacts from GHG emissions are minimized.

### 6.4.4 Biological Resources

#### Waters of the U.S.

As discussed in Section 4.4, Biological Resources, of this EIS, the Aspen Road Alternative would result in permanent impacts to 0.4 acre of potentially jurisdictional non-wetland waters of the U.S. associated with the Rainbow Creek tributary, supporting coastal sage scrub habitat and a small area of live oak woodland. No permanent impacts would occur to potentially jurisdictional wetland waters of the U.S., and no temporary impacts to jurisdictional non-wetland or wetland waters are proposed. Direct and/or indirect permanent impacts to jurisdictional waters of the U.S. would be addressed through compliance with existing regulations including water quality standards and the no-net-loss policy of the CWA, subject to approval and regulatory permitting from the USACE and RWQCB. A compensatory mitigation plan would also be required in compliance with the Mitigation Rule, to offset environmental losses resulting from unavoidable impacts to waters of the U.S.

The EIR for the County of San Diego General Plan Update identifies a total of approximately 12,318.53 acres of vegetation communities potentially containing jurisdictional wetland waters of the U.S. within the Draft North County Plan area, including a range of habitats from open water, to various meadows/seeps, riparian

forests, riparian woodlands, and riparian scrub habitats. Of this total, 926 acres are identified for potential impacts that represent 7.5 percent of the total acreage of potential jurisdictional wetland waters of the U.S. identified within the Draft North County Plan area. The County of San Diego General Plan Update EIR states that projects would be required to comply with applicable federal regulations for wetlands, such as Sections 401 and 404 of the CWA, which require compensatory mitigation to reduce impacts to the extent feasible to achieve the no-net-loss standard. In addition, the County of San Diego's Resource Protection Ordinance restricts, to varying degrees, impacts to natural resources including wetlands, wetland buffers, and floodplains, and requires mitigation of wetlands at a 3:1 ratio. Therefore, the Aspen Road Alternative would not contribute to a cumulatively considerable loss of jurisdictional waters of the U.S. Therefore, no significant adverse cumulative effects would occur.

### Native Vegetation, Sensitive Plant Populations, Regionally Limited Sensitive Habitat

As discussed in Section 4.4, Biological Resources, of this EIS, the Aspen Road Alternative would result in the removal of native vegetation, including 2.3 acres of live oak woodland, 167.5 acres of coastal sage scrub, and 18.5 acres of mixed chaparral. The alternative site is known to support Parry's tetracoccus, a sensitive plant on List A of the County of San Diego Sensitive Plant List, based on surveys documented in 1990. However, since no information is available on the location of this species on site, potential impacts could not be assessed. The site does not support sensitive habitat that is regionally limited. With implementation of the mitigation measures resulting in a no net loss or, in most cases, a net gain of habitat and avoidance of sensitive plants in compliance with the Draft North County Plan, the Aspen Road Alternative would not result in significant adverse effects to native vegetation or sensitive plant populations. No effects would occur to regionally limited sensitive habitat due to absence on site.

The EIR for the County of San Diego General Plan Update identifies impacts ranging from approximately 7.5 percent to approximately 42 percent of the total acreage of oak woodland, coastal sage scrub, native grasslands, chaparral and riparian habitats identified in the Draft North County Plan area. The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts to sensitive natural communities under the General Plan Update would be cumulatively considerable. Therefore, although the Draft North County Plan has not yet been adopted, it is assumed for this analysis that the Aspen Road Alternative's compliance with the proposed conservation and mitigation requirements would address impacts on native vegetation such that they would not result in significant adverse cumulative effects.

Since the mitigation measures under the Aspen Road Alternative would result in a net increase in oak woodland and coastal sage scrub habitats, and a no net loss of chaparral habitat, all of which would be preserved in perpetuity and would comply the Draft North County Plan, the alternative would not contribute to a cumulatively considerable loss of native vegetation within the Draft North County Plan area. A mitigation measure is also proposed to avoid loss of more than 20 percent of sensitive plants. Therefore, no significant adverse cumulative effects would occur to native vegetation or sensitive plant populations. The site does not support regionally limited sensitive habitat, therefore the alternative would not contribute to cumulative effects on regionally limited sensitive habitat.

### Designated Critical Habitat

As discussed in Section 4.4 Biological Resources, of this EIS, the Aspen Road Alternative would result in direct impacts to designated critical habitat for coastal California gnatcatcher. Mitigation measures are proposed to compensate for impacts to native coastal sage scrub and chaparral vegetation, which is

potentially suitable habitat for coastal California gnatcatcher. Therefore, the alternative would not result in significant adverse effects on designated critical habitat. The habitat compensation would be preserved in perpetuity pursuant to a conservation easement either on site as part of open space that would ultimately contribute to the PAMA of the Draft North County Plan, or off site and managed by a habitat manager, environmental group, or as part of an established mitigation bank. Long-term protection of these habitats would avoid potential future losses.

The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts under the General Plan Update to sensitive natural communities supporting special status species would be cumulatively considerable. Compliance with applicable federal and/or state regulations that provide protections for designated critical habitat and sensitive vegetation communities such as riparian habitats, including FESA, CESA, the NCCP, and the CDFG SAA, would reduce impacts to the extent feasible. However, the County of San Diego General Plan Update EIR states that without a comprehensive NCCP in place for long-term protection of sensitive natural communities for the entire southern California region, a cumulative loss would occur even after mitigation has been implemented for individual projects.

Since the mitigation measures for the Aspen Road Alternative are in compliance with the policies and regulations outlined in the Draft North County Plan, and compliance would be required with existing regulations such as FESA and the NCCP, the alternative would not contribute to a cumulatively considerable loss of designated critical habitat within the Draft North County Plan area.

### Wildlife Movement

As discussed in Section 4.4, Biological Resources, of this EIS, the Aspen Road Alternative site is within a regional linkage identified in the South Coast Missing Linkages study. The alternative would avoid impacts to a potential wildlife corridor along a tributary in the southeastern portion of the site, but would result in disruption over a minimum 25-year period to a potential north-south wildlife movement corridor. As a result, the alternative would contribute to significant adverse cumulative effects to wildlife movement.

### State and Federal Listed Species

As discussed in Section 4.4, Biological Resources, of this EIS, the Aspen Road Alternative would comply with federal and state policies and regulations for listed species and their habitats, and with the Draft North County Plan. In addition, the Aspen Road Alternative would not jeopardize the continued existence of these species on the site. Surveys would be required to determine the presence of arroyo toad, least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher, or any other listed species on the alternative site, pursuant to proposed mitigation.

The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts under the General Plan Update to special status species would be cumulatively considerable. Projects would be required to comply with applicable federal and/or state regulations that provide protections for special status plant and wildlife species, including FESA, CESA, and the NCCP, that typically require approval from USFWS and CDFG. Compliance with these regulations would require mitigation measures to reduce impacts to the extent feasible. However, the County of San Diego General Plan Update EIR states that without a comprehensive NCCP in place for long-

term protection of special status plant and wildlife species for the entire southern California region, a cumulative loss would occur even after mitigation has been implemented for individual projects.

Since the mitigation measures proposed by the Aspen Road Alternative would avoid direct loss of arroyo toad, least Bell's vireo, and southwestern willow flycatcher, if any of these species are determined present on site, and compliance would be required with existing regulations such as FESA and CESA, the alternative would not contribute to a cumulatively considerable loss of state- or federal-listed species within the Draft North County Plan area, and no significant adverse cumulative effects would occur.

#### Golden Eagle

As discussed in Section 4.4, Biological Resources, of this EIS, golden eagles are not known to occur on or near the Aspen Road Alternative site. Therefore, the alternative would not contribute to significant adverse cumulative effects.

#### Long-Term Regional and Sub-Regional Conservation Goals

As discussed in Section 4.4, Biological Resources, of this EIS, the Aspen Road Alternative would be required to comply with conservation requirements pursuant to the NCCP and County of San Diego biological resource guidelines, including consideration of the Draft North County Plan pending its approval. Therefore, the alternative would not result in significant adverse cumulative effects regarding the conservation requirements.

### 6.4.5 Cultural Resources

#### Historic and Archaeological Resources

As discussed in Section 4.5.1, Historical and Archeological Resources, of this EIS, based on available information to date, it appears the Aspen Road Alternative would not have an adverse effect on historic properties, and the implementation of mitigation measures would result in no significant adverse effects to cultural resources. The Aspen Road Alternative, in combination with the identified cumulative projects, would have the potential to result in a cumulative impact associated with historical and archaeological resources. However, it can be reasonably assumed that similar mitigation measures to those recommended for the alternative (i.e., data recovery, avoidance, documentation and recordation, treatment in accordance with the Secretary of Interior's *Standards*, construction monitoring, etc.) would be implemented for the cumulative projects. Thus, the Aspen Road Alternative would not contribute to a significant adverse cumulative adverse effect.

#### Traditional Cultural Properties

As discussed in Section 4.5.2, Traditional Cultural Properties, of this EIS, it is known that the area was a prehistoric and historical Luiseño Indian trade route, archaeological sites representing seasonal camp sites are present, and it may have been used as a source of ethnobotanical resources. Nonetheless, mitigation measures are proposed to reduce the significant adverse effects of the alternative on TCPs. Specifically, Mitigation Measure Aspen-TCP-1a requires the applicant conduct an updated and expanded alternative-specific Luiseño Indian ethnohistory study with the purpose of identifying NRHP-eligible Luiseño TCPs within the APE prior to the issuance of a permit. Similarly, Mitigation Measure Aspen-TCP-1b requires that the Aspen Road Alternative would avoid impacts to NRHP-eligible TCPs and would preserve NRHP-eligible

TCPs. With implementation of proposed mitigation, the Aspen Road Alternative would not contribute to cumulative impacts to NRHP-eligible TCPs, and no significant adverse cumulative effects would result.

## 6.4.6 Environmental Justice

Section 4.6, Environmental Justice, identifies the significant adverse direct/individual and cumulative effects that would result from an alternative and evaluates whether those significant adverse effects would fall disproportionately on minority, low-income or tribal populations. The analysis indicated that the alternative would not result in significant adverse cumulative effects that would directly result in disproportionately high and adverse effects on such populations. The analysis did identify one significant adverse cumulative effect that may be borne disproportionately. That effect pertains to air quality and the uncertainty of the affected population is due to the regionally oriented, large scale effect and varying directionality of the impact.

## 6.4.7 Geology and Soils

### Fault Rupture

As discussed in Section 4.7, Geology and Soils, of this EIS, according to the California Geological Survey, there are no faults located on the Aspen Road Alternative site, and the site is not located within an Alquist-Priolo Fault Zone. No active faults have been identified within the area, and, therefore, under the Aspen Road Alternative, no significant adverse effects from ground rupture would occur. As such, the Aspen Road Alternative would not contribute to significant adverse cumulative effects regarding ground rupture.

### Site Stability

As discussed in Section 4.7, Geology and Soils, of this EIS, the conceptual excavation plan prepared for the Aspen Road Alternative includes acceptable cut slope inclinations. In addition, grading operations at the site would remove all loose soils from the footprint of the landfill, liquefaction or potential harm associated with expansive soils, should such potential be present, would not occur within the landfill footprint. Therefore, appropriate design measures are required to ensure the public safety and adverse impacts to public would be avoided, as would be demonstrated in the JTD for a landfill at the Aspen Road site. Impacts related to site stability would be site specific and would not occur in concert with, nor be exacerbated by joint effects of other land use activities in the vicinity. Therefore, significant adverse cumulative effects associated with slope stability/landsliding would not occur.

### Rockfalls

As discussed in Section 4.7, Geology and Soils, of this EIS, the Aspen Road Alternative would include design features to protect on-site components from rockfalls such that rockfalls would not create a safety risk to workers and equipment, or to the landfill development. No significant adverse effects would occur. Additional rockfall would not be expected on the Aspen Road site from other cumulative project sites. Activities on the Aspen Road site would not combine with activities at nearby sites in a manner that would increase potential threats from rockfall. Therefore, significant adverse cumulative effects would not occur.

### Debris Flow

As discussed in Section 4.7, Geology and Soils, of this EIS, design features would be identified and incorporated into the overall design of the landfill to provide adequate protection, if needed. Standard restraining structures for the control of debris flow impacts could be implemented. In addition, debris flow is generally site specific and would not be affected by off-site development. Significant adverse effects related to debris flow would not occur and therefore, the alternative would not contribute to a significant adverse cumulative effect from debris flow.

### Drainage and Erosion

As discussed in Section 4.7, Geology and Soils, of this EIS, landfill settlement of the final closure cap would be designed in accordance with a Final Closure and Post-closure Maintenance Plan to avoid adverse effects regarding drainage or damage to landfill control systems. Impacts regarding the design of the final cover would be site specific and would not result in significant adverse effects on drainage or land control systems. There are no cumulative projects located adjacent to the site that could cause drainage onto the site, nor combine with the site in causing joint drainage effects in the area. Therefore, the Aspen Road Alternative would not contribute to a significant adverse cumulative effect resulting from the design of the final cover.

### Public Safety

As discussed in Section 4.7, Geology and Soils, of this EIS, the structures associated with a landfill at the Aspen Road Alternative site would be developed in accordance with applicable standards, such as the County Building Code. Standards established therein provide acceptable public protection from structural failure due to soil conditions and/or seismic activity. There are no proposed cumulative project structures that would lie adjacent to the landfill facilities so as to pose adverse effects regarding structural stability. Cumulative projects would be required to meet standard building codes that provide for the safety of the public. Therefore, significant adverse cumulative impacts would not occur.

### Mineral Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, the Aspen Road Alternative site is designated MRZ-3, i.e. with "Potential Mineral Resource Significance" and therefore not necessarily considered a depository of valued mineral or soil resources. As the Aspen Road Alternative would not cause a loss of access to or the availability of mineral resources, it would not contribute to cumulative losses of such resources. Significant adverse cumulative effects would not occur.

### Soil Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, the use of imported soil at the Aspen Road site would contribute to the overall consumption of such resources that is occurring within the region. However, the consumption of such resources would be reduced due to the use of on-site materials and ADCs and the alternative would not add considerably to a shortfall in the availability of such resources. Significant adverse cumulative effects would not occur.

## 6.4.8 Human Health and Safety

### Hazard to Public or the Environment

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Aspen Road Alternative would not create a significant adverse hazard to the public or the environment through the release, transport, use, production, or disposal of hazardous materials. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. The alternative would comply with applicable regulations and would implement design features that would eliminate, minimize or identify potential environmental impacts and/or nuisances.

There are no cumulative projects within the area that would require the generation or handling of hazardous wastes other than standard hazardous household waste items. Future development projects would be evaluated on a project-by-project basis to determine impacts to human health and safety. Cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination or exposure to hazardous substances is avoided or controlled to minimize the risk to the public and environment on a case-by-case basis. Therefore, the Aspen Road Alternative would not contribute to a significant adverse cumulative effect.

### Landfill Hazards

As discussed in Section 4.8, Human Health and Safety, of this EIS, potential contamination and hazards associated with the handling of Class III non-hazardous wastes would be contained by the landfill's environmental containment systems that would preclude hazardous materials reaching human population whose health and safety could be affected. Therefore, there would be no significant adverse effects on human population from landfill contamination.

The analysis of health impacts focuses on the health effects on population in the vicinity of the landfill site that would arise from dispersion of hazardous materials associated with landfill activity; and on population concentrated at congested intersections that haul vehicles pass by.

There are no cumulative projects in the vicinity of the landfill site that would cause additional concentration of contaminants at these locations from air or vector transmittal. The analysis of the CO concentration effects at congested intersections, concluding that significant adverse effects would not occur, are based on an analysis that is inclusive of cumulative traffic. Due to the design features for the protection of water resources, the alternative is expected to generate no contamination on water resources and therefore would not contribute to adverse cumulative water effects. Further, cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination to local populations is avoided. Therefore, the alternative would not contribute to significant adverse cumulative effects.

### Existing On-site Hazardous Materials

As discussed in Section 4.8, Human Health and Safety, of this EIS, existing hazardous materials on the alternative site would not have significant adverse health effects on site population. Specifically, the alternative would follow procedures that fully protect site workers from exposure to ACM and LBP materials. As such, the alternative would not add a cumulatively considerable contribution to public safety from such effects. The analysis of these safety effects addresses potential risk to local populations in the vicinity of the

landfill site. There are no cumulative projects that would be located in the local area so as to contribute to cumulative risk from these activities. Therefore, a significant adverse cumulative effect would not occur.

### Accident Conditions

As discussed in Section 4.8, Human Health and Safety, of this EIS, landfill construction and operation would be implemented in accordance with regulatory requirements that would protect the public from hazardous conditions and risk of accidents. No significant adverse accident/risk effects would occur from landfill activity.

As such, the alternative would not add a cumulatively considerable contribution to public safety from these landfill activities. The analysis of these safety effects addresses potential risk to local populations in the vicinity of the landfill site. There are no cumulative projects that would be located in the local area so as to contribute to a cumulative risk. Therefore, this alternative would not contribute to a significant adverse cumulative public safety effect with regard to accident/risks.

### Emergency Response Plans and Emergency Evacuation Plans

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Aspen Road Alternative would not impair implementation of or physically interfere with the County of San Diego OES Operational Area Emergency Plan. This plan has been developed with thought for future development and needs of the County. There is no residential development associated with the landfill, and it is expected that the majority of construction workers and employees would be drawn from the existing labor pool in the region. As such, this alternative's incremental contribution to demand for increased emergency services would not be cumulatively considerable. A number of the cumulative projects would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to emergency plans. Development projects would be required to address emergency access issues and to provide site emergency provisions. The Aspen Road Alternative would not have adverse effects on emergency plan implementation and therefore would not result in a significant adverse cumulative effect on implementation of emergency response and evacuation plans.

## 6.4.9 Hydrogeology

### Groundwater Withdrawal and Recharge

As discussed in Section 4.9, Hydrogeology, of this EIS, the Aspen Road Alternative would not utilize groundwater and would occupy a small portion of the Gavilan Hydrologic Subarea. Therefore, no significant adverse effects would result to groundwater supplies or groundwater recharge as a result of the Aspen Road Alternative.

Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan EIR evaluated the potential groundwater impacts from full buildout of the General Plan. The San Diego County General Plan Final EIR concluded that no groundwater basins within the Santa Margarita Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan. As the Aspen Road Site Alternative would not utilize groundwater in the initial construction, operation, or closure, the alternative would not contribute to any overdraft of groundwater resources within the Santa Margarita Hydrologic Unit. Therefore, the Aspen Road

Alternative would not be anticipated to result in a significant adverse cumulative effect with respect to groundwater supplies. As the Aspen Road Alternative would not substantially alter the groundwater recharge, the alternative would not contribute to a significant adverse cumulative effect with regard to recharge.

#### Groundwater Quality

As discussed in Section 4.9, Hydrogeology, of this EIS, since the Aspen Road Alternative would be developed in accordance with all applicable regulations and design features to prevent groundwater contamination, no significant adverse effects would occur with respect to federal, state, or local groundwater quality standard or waste discharge requirements.

The San Diego County General Plan Final EIR did not identify the Gavilan Basin as a groundwater basin having the potential for significant water quality impacts under full buildout. As with the Applicant's Proposed Alternative, the Aspen Road Alternative would be designed to contain any unlikely leaks within the site and to remedy any unforeseen leaks prior to reaching underlying groundwater resources through implementation of a CAP in accordance with SWRCB and RWQCB regulations. Other projects within the Santa Margarita Hydrologic Unit would be required to comply with applicable federal, state, and local regulations protecting groundwater. Thus, the Aspen Road Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater quality or discharge requirements.

### 6.4.10 Land Use and Planning

#### Consistency With Land Use Plans

As discussed in Section 4.10, Land Use and Planning, of this EIS, the Aspen Road Alternative would conflict with several policies and goals of the General Plan and Fallbrook Community Plan regarding land use designation, rural character, agricultural resources, and ridgeline disruption. Thus, a significant adverse effect would result.

As anticipated under existing General Plan land use designations the area would continue to be rural and semi-rural. A few cumulative projects, consisting of rural and semi-rural, single-family residential development are anticipated in the area accessed from SR 76 (Mission Road), to the south. Cumulative projects would not affect other regional plans. Therefore, the alternative and cumulative projects would have no significant adverse cumulative effects.

#### Consistency With Resource Conservation Area Designation

As discussed in Section 4.10, Land Use and Planning, of this EIS, the Aspen Road Alternative would conflict with a regional wildlife corridor and would block or reduce view corridors of high value mountains. Therefore, the alternative would not be consistent with the objective of the RCA and would result in a significant adverse effect relative to the RCA.

In addition to the Santa Margarita River RCA (RCA #3), the Fallbrook Community Plan contains the Riverview Drive Creek RCA (RCA #4), the Willow Glen Road RCA (RCA #5), the Tumble Creek RCA (RCA #6), the Live Oak Park RCA (RCA #8), the I-15/Reche Road RCA (RCA #9), and the Stewart Canyon RCA

(RCA #10). These are all smaller than the Santa Margarita River RCA and, combined have the approximate land area as the Santa Margarita River RCA. The San Diego County Resource Protection Ordinance (Sensitive Resource Area regulations), which would apply to RCAs, is intended to increase the protection and preservation of the County's unique natural resources through such implementation actions such as open space easements and special land use controls, including cluster zoning, large lot zoning, scenic or natural resource preservation overlay zones, or by incorporating special design considerations into subdivision maps or special use permits. Cumulative projects in the region are generally dispersed and, compared to the alternative, are not large-scale in character. As such, it is anticipated that cumulative projects would feasibly avoid adverse effects on natural and aesthetic resources through clustering of development or other devices that would preserve open space and mitigate effects on natural resources. While the Aspen Road Alternative would not be consistent with the conservation policies of the RCA, because cumulative projects are expected to feasibly mitigate adverse effects on resources and would be consistent with the requirements of the respective RCAs in the Fallbrook Community Plan, no significant adverse cumulative effects would occur.

## 6.4.11 Noise and Vibration

### Initial Construction

As discussed in Section 4.11, Noise and Vibration, of this EIS, the estimated peak noise levels generated by construction activities on the Aspen Road Alternative site is estimated to be up to 62 dBA at the single-family residence and access road. Construction-related noise would not exceed the 62.5 dBA criterion at the nearest residential property line. No significant adverse noise effects would occur during initial construction.

Cumulative projects in the region would produce temporary construction noise. As with the alternative, construction schedules and construction equipment noise levels would vary depending on the type of equipment and its duration of use. However, construction associated with the alternative would generally occur in a location distant from the cumulative projects. Although the nearby noise-sensitive receptors could be exposed to construction noise from other closer projects in the vicinity, cumulative construction noise is not anticipated to result in significant adverse cumulative effects because such projects are disperse with varied construction schedules and each project would be required to comply with the applicable standards. Therefore, with the mitigation measures to reduce noise levels resulting from initial construction of the Aspen Road Alternative, noise levels at the property lines of noise sensitive receptors would not contribute to a significant adverse cumulative effect.

### Operation

As discussed in Section 4.11, Noise and Vibration, of this EIS, long-term operational noise associated with the Aspen Road Alternative would expose nearby residential uses to noise levels in excess of applicable standards at the nearest property line. The maximum noise levels from periodic construction and landfill operations at the nearest residential property line would be 67.5 dBA including implementation of the design features, which would exceed the noise standard of 62.5 dBA. With implementation of the mitigation measures, impacts from periodic construction and landfill operations would be below the criterion. Blasting would be infrequent, but may cause noise levels to exceed 62.5 dBA at the nearest residential property line, which would result in a significant adverse effect.

Cumulative projects in the region would produce noise once projects in the region become operational. However, operational noise associated with the alternative would generally occur in a location distant from the other cumulative projects. In addition, other projects would comply with the applicable standards or require implementation of project-specific mitigation. As a result, no noise ordinance impact would be expected to occur. With the mitigation measures to reduce noise levels resulting from operation of the Aspen Road Alternative, noise levels at the property lines would not contribute to a significant adverse cumulative effect.

#### Traffic Noise

As discussed in Section 4.11, Noise and Vibration, of this EIS, traffic noise associated with the Aspen Road Alternative would increase the noise levels at residences with existing exterior noise levels in excess of 60 dBA CNEL, which would be above the criterion. Although the majority of the noise on most of the roads would come from other traffic sources, the Aspen Road Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. While the noise level increases would be less than 3 dBA, the Mission Road and Old Highway 395 corridors are existing degraded noise environments with noise levels exceeding 60 CNEL at existing residences. As the alternative would increase the noise levels, even by a small margin, the alternative would contribute to a significant adverse cumulative effect.

#### Blasting

As discussed in Section 4.11, Noise and Vibration, of this EIS, blasting associated with the Aspen Road Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards. While cumulative projects in the region may produce vibration from construction activities, vibration from blasting associated with the alternative would be infrequent and short-term and would generally occur in a location distant from the cumulative projects. Cumulative vibration is not anticipated to be significant because any vibration-generating activities of the various projects would not overlap or would not occur in the vicinity of blasting activities. Furthermore, each project would be required to comply with the applicable vibration standards. Therefore, the alternative would not contribute to a significant adverse cumulative effect.

### 6.4.12 Public Services

#### Law Enforcement

As discussed in Section 4.12.1, Law Enforcement, of this EIS, the Aspen Road Alternative would not result in substantial adverse physical impacts associated with law enforcement due to increases in population demand or activities occurring at the landfill site. There is no residential development associated with the landfill, and it is expected that the majority of employees would be drawn from the existing labor pool in the region. Further, design features would enhance site security and reduce potential demand for law enforcement services. As such, the Aspen Road Alternative's incremental contribution to demand for law enforcement would not be cumulatively considerable. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to law enforcement. While notable population growth occurring in the County could require additional facilities to enhance protection, the Aspen Road Alternative contribution would be negligible, and the alternative would not contribute to a significant adverse cumulative effect.

### Fire Protection and Emergency Medical Services

As discussed in Section 4.12.1, Fire Protection and Emergency Medical Services, of this EIS, the Aspen Road Alternative would not result in significant adverse physical impacts associated with increases in population demand or activities occurring at the landfill site. Design features would limit the potential for fires to occur, would provide a first response capability on-site as a component of normal site operations, would pay fire mitigation fees to support firefighting facilities and would therefore, reduce potential demand for fire and emergency medical services from service providers in the area.

As indicated in the cumulative projects list for the Aspen Road Alternative site, a large number of cumulative projects are proposed in the vicinity of the site that would add population to the area or contributors to the employment base. The North County Fire Protection District (NCFPD) has indicated that District wide service levels are not satisfactory and new additional resources are required to fully meet the standards for urban and suburban areas, when such population uses/densities occur within the boundaries of the District. In addition, NCFPD indicated that improvements could be made by adding a second staffed company to Fire Station #1 or by adding another company at the eastern CAL FIRE station site. Additional company locations could further enhance service levels and some existing facilities are being improved, including a proposal to build a new facility at the existing Station #4 site. Future development projects would be evaluated on a project-by-project basis to determine potential impacts on the provision of fire and emergency medical services. Such projects would be subject to regulatory requirements and to plan check approval for compliance with both fire protection features and payment of fire mitigation fees, allowing the NCFPD to upgrade facilities, which could have an impact on the environment. However, the alternative would not add new population to the area, or site activities that would require notable calls for service. Therefore, the Aspen Road Alternative would not have a cumulative effect due to demand for new or physically altered facilities, the construction of which could cause significant adverse environmental effects, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services area.

### Schools

As discussed in Section, 4.12.3, Schools, of this EIS, the Aspen Road Alternative would not result in an impact to school facilities. Cumulative projects would be required to pay the appropriate school district developer fees based on the type and size of development proposed. Pursuant to SB 50, payment of fees to the appropriate school district is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios or other performance objectives for schools. Thus, the Aspen Road Alternative would not contribute to a significant adverse cumulative effect.

### Recreation

As discussed in Section 4.12.4, Recreation, of this EIS, the Aspen Road Alternative would not result in a substantial deterioration or acceleration of deterioration of recreational facilities or resources due to limited potential for a small number of employees to increase demand for recreational facilities. Payment of park in lieu fees and/or dedication of parkland pursuant to the County's PLDO by future cumulative projects would address incremental demand associated with population increases and therefore, such developments would not contribute to the County's existing parkland deficiency. With the relocation of the trails that are shown

to traverse the alternative site in the CTMP, the Aspen Road Alternative would not conflict with the CTMP. Therefore, the Aspen Road Alternative would not contribute to a significant adverse cumulative effect in regards to implementation of future trails in the CTMP.

## 6.4.13 Socioeconomics

### Population, Housing, and Employment

As discussed in Section 4.13, Socioeconomics, of this EIS, the Aspen Road Alternative would remove a few housing units. The approximately 35 jobs during initial construction and 22 employees during full operations would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. No significant adverse effects on demographic distribution would occur.

The SANDAG 2050 regional forecasts have been prepared in coordination with the development of the County's General Plan Update and accounting for the cumulative projects. Further, the projections are tied to development of the County's Regional Transportation Plan (RTP), which identifies future roadway projects, and which guides transportation funding that is provided through the County's Traffic Impact Fee and TransNet Programs.[17] As such, the regional forecasts reflect both expected, planned and future projected growth and infrastructure systems. Therefore, the Aspen Road Alternative would not contribute a significant adverse cumulative effect.

### Physical Environmental Effects

As discussed in Section 4.13, Socioeconomics, of this EIS, the Aspen Road Alternative would contribute financial benefits to the region. At the same time, the alternative would locate a landfill in an area with a few existing rural residential units, and limited agricultural activity. These socioeconomic impacts would be limited and would be off-set through the economic benefits of a landfill and land purchase agreements that would compensate current landowners within the boundaries of the alternative site. Therefore, the alternative would not lead to adverse effects on social activity or economic consequences.

For the most part, potential socioeconomic impacts are independent of cumulative development in the area. The residential relocation required and alterations to the local community would be a function of the alternative itself, without contribution from cumulative projects that are not located in the vicinity. Further, the aesthetic, noise and nuisance impacts from related projects would be located sufficiently distant from the Aspen Road Alternative site so as not to combine with landfill impacts resulting in cumulative impacts. Socioeconomic impacts on residential and agricultural uses in the vicinity of the alternative site would not be greater with additional cumulative development.

Socioeconomic impacts on uses along routes to the landfill due to cumulative traffic and noise impacts would be limited. The additional landfill traffic would not contribute to cumulatively considerable socioeconomic conditions along those roadways beyond those otherwise occurring with other development in the region. Section 4.11, Noise and Vibration, of this EIS, indicates that future noise due to traffic along the routes to the landfill would not substantially contribute to an exceedence of the CNEL noise levels. The majority of the

[17] *Further documentation regarding the cumulative projects, SANDAG modeling and the County's transportation funding programs is provided in the Traffic Impacts Analysis for the Aspen Road Alternative, Appendix M to this EIS.*

noise on most of the roads would come from other traffic sources, and traffic from the alternative would not add a discernible difference.

The contribution of the alternative to cumulative effects on socioeconomic conditions would only be notable at the intersections at I-15/Old Highway 395 and the Mission Road street segment linking those intersections to Rainbow Glen Road. This is the main route that provides access from the I-15 northerly and that carries the majority of landfill trips. As indicated in Section 4.15, Transportation, of this EIS, these intersections and roadway segment would not have significant adverse effects with the implementation of proposed mitigation measures that require physical improvements via the payment of TIF fees. With the added traffic and the proposed roadway improvements in the traffic analysis, roadway conditions would operate at acceptable LOS levels. There would be no substantial changes to the traffic setting from I-15 to the alternative access road.

However, the traffic analysis further concluded that the recommended physical mitigation improvements that are expected to be implemented cannot be guaranteed, in terms of the determination of improvements and the timing of implementation, even with the payment of the alternative's payment of fees for their construction. If the improvements are not implemented, traffic delays would increase as a component of a regional condition, caused mainly by traffic not associated with the alternative. The congestion would have a ubiquitous effect in the larger area and would not interfere with social activity or economic activity at individual properties along the Mission Road route to the landfill. The County would have the fees paid by the applicant for implementing traffic improvements. Hence, if the fees were not applied as expected in the Traffic Analysis, it is expected that they would be expended for regional transportation improvements of benefit to the County, pursuant to County priorities and procedures for the implementation of TIF fees.

In summary, the potential direct socioeconomic impacts on uses in the vicinity of the landfill operations would occur in a manner that is mostly independent of cumulative development in the area. Socioeconomic impacts on uses along routes to the landfill due to cumulative traffic and noise impacts would be limited. The additional landfill traffic would not contribute to cumulatively considerable adverse effects on socioeconomic conditions along those roadways beyond those otherwise occurring with other development in the region. Cumulative traffic conditions along the Mission Road route to the landfill would be similar to those occurring today, with the implementation of proposed mitigation measures. If the County is not timely in providing the proposed roadway improvements, even though receiving payments from the applicant, the additional traffic congestion would be typical of regional conditions and would not preclude the effective use of properties along the route. Further, the County would through its traffic programs be providing equivalent traffic improvements to address regional conditions. Therefore, the Aspen Road Alternative would not add a cumulatively considerable contribution to adverse effects on socioeconomic conditions.

## 6.4.14 Surface Hydrology

### Surface Water Quality

As discussed in Section 4.14, Surface Hydrology, of this EIS, with the implementation of BMPs, the construction and operation of the Aspen Road Alternative would not result in discharges that would create pollution, contamination or nuisance for the receiving water body (Rainbow Creek). The alternative and all new projects within the Santa Margarita River WMA and Rainbow Creek (a tributary of the Santa Margarita River) have the potential to expose the river and Rainbow Creek to greater pollution or nuisance and to

contribute to the existing impairment of Rainbow Creek. A TMDL program for Rainbow Creek has been prepared by the RWQCB to address water quality impairment due to nitrogen and phosphorous and would be implemented to identify and reduce existing and future pollutant sources. In order to address these issues on a region-wide basis, the RWQCB requires priority projects (the highest potential polluters) to prepare SWMPs to mitigate potential impacts associated with surface water runoff. A SWMP must identify pollutant sources and provide BMPs, BMP maintenance programs, and other pertinent procedures related to the control of surface water runoff and pollution sources. As with the alternative, high priority cumulative projects would be required under the San Diego County Watershed Protection Ordinance to prepare a SWMP and applicable construction and operation BMPs in compliance with RWQCB regulations. With the implementation of required BMPs, the alternative and cumulative projects would not result in significant adverse cumulative effects with regard to water quality.

### Flood Hazard

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Aspen Road Alternative site is not located within a 100-year floodplain, and the alternative would not have an adverse effect with regard to flooding. In addition, the San Diego County Flood Damage Prevention Ordinance restricts new development in flood areas. With the enforcement of this ordinance, new cumulative projects would not contribute to flood hazards in the area. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to flood hazard.

### Water Surface Elevation

As discussed in Section 4.14, Surface Hydrology, of this EIS, a culvert to allow the access road to cross Rainbow Creek would be designed to accommodate a 100-year storm. With this level of design, the alternative would not impede or redirect flow in Rainbow Creek floodway that would cause an increase in surface water elevation. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects in floodways that could, otherwise, cause a potential increase in water surface levels. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects related to water surface elevation.

### Floodway Alteration (Hydromodification)

As discussed in Section 4.14, Surface Hydrology, of this EIS, with implementation of construction and operation BMPs, the Aspen Road Alternative would not impede or redirect flows in Rainbow Creek in a manner that would cause downstream flooding or exceed the area's drainage system capacity. The enforcement of BMPs for priority projects, including larger cumulative projects, under the San Diego County Watershed Protection Ordinance would control runoff and reduce storm runoff and alteration of downstream floodways. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the alteration of floodways.

### Scour

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Aspen Road Alternative would not alter Rainbow Creek in a manner that would result in scouring or channel morphology changes. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention

Ordinance, would restrict or prohibit cumulative projects within floodplains that might, otherwise, result in scouring of a river or stream. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects relatedto scour.

## 6.4.15 Transportation

Section 4.15, Transportation, concludes that that the Aspen Road Alternative would add new traffic to the roadway network, with the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Rainbow Glen Road and Old Highway 395. Of the two cumulative scenarios analyzed (Near-Term Conditions and Buildout Conditions), the analysis concludes that cumulatively significant adverse traffic effects could be avoided through mitigation measures that would be implemented through the payment of TIF fees. However, while payment of TIF fees would generally be considered full mitigation by the County, due to the uncertainty of the timing of implementation of the improvements it is conservatively concluded that the alternative could contribute to significant adverse cumulative conditions at two intersections and two roadway segments under the Near-Term Conditions Scenario.

## 6.4.16 Utilities

### Water Supply

#### New Water Facilities

As discussed in Section 4.16.1, Water Supply, of this EIS, the Aspen Road Alternative would rely on water from the FPUD and/or RMWD in quantities that would not require the construction of new water facilities, or the expansion of existing facilities to accommodate these needs. Future water demand for the FPUD and RMWD is addressed in their respective 2010 UMWPs. The UWMPs prepared by these districts account for existing development within the service boundaries, as well as projected growth anticipated to occur through redevelopment of existing uses and development of new uses. Specifically, future population projections were provided by the SANDAG. Both water providers concluded in their UWMPs that they could provide adequate water supply to meet anticipated water demand through the Year 2035, with voluntary and mandatory reduction measures identified to assist in meeting demand in multiple dry years or in the event of a catastrophic water shortage. As the Aspen Road Alternative would constitute a small portion of the cumulative increase in demand in either of these water suppliers, the Aspen Road Alternative would not result in a significant adverse cumulative effect with respect to water facilities.

#### Groundwater Supply and Recharge

As discussed in Section 4.16.1, Water Supply, of this EIS, the Aspen Road Alternative would not use groundwater and would occupy a small portion of the Gavilan Hydrologic Subarea. Therefore, no significant adverse effects would result to groundwater supplies or groundwater recharge from the Aspen Road Alternative.

The Aspen Road Alternative site is located within the Santa Margarita Hydrologic Unit within the Gavilan Hydrologic Subarea of the DeLuz Hydrologic Area. The San Diego County General Plan Final EIR concluded that no groundwater basins within the Santa Margarita Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan. As the Aspen Road Site Alternative would not utilize groundwater in the initial construction, operation, or closure, the alternative would not contribute to an overdraft of

groundwater resources within the Santa Margarita Hydrologic Unit. Therefore, the Aspen Road Alternative would not be anticipated to contribute to a significant adverse cumulative impact with respect to groundwater supplies. In addition, as the Aspen Road Alternative would not substantially alter the groundwater recharge, the alternative would not contribute to a significant adverse cumulative effect with regard to groundwater recharge.

#### Recycled Water

As discussed in Section 4.16.1, Water Supply, of this EIS, the Aspen Road Alternative would primarily rely on potable water from the FPUD and/or RMWD. However, if recycled water were required, the quantity of recycled water used would not compromise the ability of the SGVWC to provide water to other users. At 80,000 gpd (75 AFY), the contract with the SGVWC would constitute a small portion of the cumulative growth in the use of SGVWC recycled water, and would not contribute to demand exceeding the capacity for delivery. Therefore, the Aspen Road Alternative would not contribute to a significant adverse cumulative effect with respect to existing recycled water users.

#### Wastewater

As discussed in Section 4.16.2, Wastewater, of this EIS, the Aspen Road Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the Aspen Road Alternative would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities and impacts to wastewater services.

Individual developments would be reviewed by the County of San Diego DEH on a project-by-project basis to determine if sufficient wastewater services and treatment capacity exists to serve the specific development. The County requires new developments to pay a sewer service charge to maintain sewer systems. The County charges fees for the privilege of connecting to its sewerage system or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. The fees are required to construct new sewer infrastructure and/or incremental expansions to the existing sewerage system to accommodate individual development, which would mitigate the cumulative impact of the development on the sewerage system. The County would only allow new developments to connect to its sewer systems if there is sufficient capacity or planned expansions of its facilities to accommodate new developments proposed. Therefore, future development would not be permitted to exceed the capacity of wastewater conveyance systems or treatment facilities, since adequate capacity must be demonstrated in order to contribute flows to the system.

The additional wastewater generated by the Aspen Road Alternative would be negligible in contrast to that generated by other development occurring in the region. While notable population growth occurring in the County could require additional wastewater services and facilities, the Aspen Road Alternative's demand would not be cumulatively considerable. Thus, the Aspen Road Alternative would not have a significant adverse cumulative effect with regard to wastewater.

### Gas and Electric

As discussed in Section 4.16.3, Gas and Electricity Service, of this EIS, the Aspen Road Alternative would not result in an increase in consumption of energy that is above the service provider's planned service capacity, or use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Natural gas and electricity are provided via planning activities based on growth and demand projections of the service providers that demonstrate an ability to meet future demand for services, thus accounting for cumulative development. Further, the plans are updated periodically to account for changes in growth rates. The Aspen Road Alternative's incremental contribution to demand for gas and electricity services would be negligible, and represented within current estimates of demand for service. The cumulative projects would generate additional demand for gas and electricity. Future development projects would be evaluated on a project-by-project basis, and evaluated against planned demand. Future development that requires new infrastructure/gas main extensions or electrical service would be required to pay all applicable fees assessed by SDG&E necessary to accommodate the specific project. New development projects would not be allowed to connect to existing gas mains and would not provide electrical service unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service. Thus, the Aspen Road Alternative would not result in a significant adverse cumulative effect on gas and electrical services as supply would be managed to meet demand.

## 6.5 GOPHER CANYON ROAD ALTERNATIVE

Table 6-5, *Gopher Canyon Road and Merriam Mountain Alternatives – Cumulative Projects,* provides the list of projects in the vicinity of the Gopher Canyon Road Alternative. Figure 6-3, *Gopher Canyon Road and Merriam Mountain Alternatives - Locations of Cumulative Projects,* shows the locations of these projects.

### 6.5.1 Aesthetics

#### Natural Landform Character

As concluded in Section 4.1, Aesthetics, of this EIS, the Gopher Canyon Alternative would potentially impact natural landform character because of the dominance of the landfill with respect to natural landforms in the area. However, with the implementation of a mitigation measure to provide contouring and blending of the landfill with natural topography, the alternative would not result in a permanent significant adverse change in the natural landform character of a scenic area. None of the cumulative projects in the area would result in alterations of the landform within the view field of the alternative site. Therefore, the alternative and cumulative projects would not result in significant adverse cumulative effects with respect to the area's natural landform character.

#### Visual Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the Gopher Canyon Road Alternative would contrast with the existing visual elements of a high quality landscape. With the implementation of mitigation measures, such as landscape screening, revegetation with native plants, contrast and color matching, texture matching and other measures, this alternative would not have a significant adverse effect with respect to visual quality. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the Gopher Canyon Road Alternative and cumulative projects would not cause significant adverse cumulative effects in the area's visual quality.

**Table 6-5**

**Gopher Canyon Road and Merriam Mountain Alternatives – Cumulative Projects**

| No. | Project Name | Project No. |
|---|---|---|
| 1 | San Luis Rey Highlands | TM 4480 |
| 2 | VVCC Villas Phase III | TM4604 |
| 3 | N/A | TM 4665 |
| 4 | Country Estates | TM 4700 |
| 5 | Polo Club at Vista Valley | TM 4736 |
| 6 | Ashok Israni PRD | TM 4967 |
| 7 | Bonsall Rancho Camargo | TM 5037 |
| 8 | San Luis Rey Ranch | TM 5079 |
| 9 | Tuluie-Braun Ranch | TM 5097 |
| 10 | Vista Grove Estates | TM 5111 |
| 11 | Black TM | TM 5113 |
| 12 | The Welk Group – Garden Villas | TM 5134 |
| 13 | Palisades Estates | TM 5158 |
| 14 | Welk Village | TM 5167 |
| 15 | The Oaks | TM 5174 |
| 16 | Hidden Meadows – Oak Woodlands | TM 5175 |
| 17 | Mountain Gate | TM 5193 |
| 18 | Courtyards at Treasures | TM 5211 |
| 19 | San Luis Rey Estates | TM 5234 |
| 20 | N/A | TM 5238 |
| 21 | Choi TM | TM 5264 |
| 22 | Merriam West Ranch | TM 5283 |
| 23 | Fredas Hill | TM 5308 |
| 24 | Canyon Villas Welk | TM 5313 |
| 25 | Waldman TM | TM 5320 |
| 26 | Welk Villas on the Green | TM 5326 |
| 27 | Washington Meadows | TM 5335 |
| 28 | Merriam Mountains | TM 5381 |
| 29 | Circle Lane TM | TM 5468 |
| 30 | Brisa Del Mar | TM 5492 |
| 31 | Castle Creek Condominiums | TM 5514 |
| 32 | Rimmelspach Subdivision | TM 5523 |
| 33 | N/A | TPM 19916 |
| 34 | N/A | TPM 19969 |
| 35 | Van Cleave TPM | TPM 20033 |
| 36 | N/A | TPM 20073 |
| 37 | N/A | TPM 20076 |
| 38 | Robert Pettito TPM | TPM 20205 |
| 39 | Welk Group | TPM 20225 |
| 40 | N/A | TPM 20226 |
| 41 | Sherwood TPM | TPM 20239 |
| 42 | N/A | TPM 20258 |

**Table 6-5 (Continued)**

**Gopher Canyon Road and Merriam Mountain Alternatives –Cumulative Projects**

| No. | Project Name | Project No. |
|---|---|---|
| 43 | Raisigel/Fejeran | TPM 20290 |
| 44 | Giesler TPM | TPM 20316 |
| 45 | Brouwer TPM | TPM 20327 |
| 46 | McCarthy Trust | TPM 20390 |
| 47 | Van de Roo Farms | TPM 20395 |
| 48 | Meadows 35 | TPM 20398 |
| 49 | Odell TPM | TPM 20409 |
| 50 | Lantis TPM | TPM 20420 |
| 51 | Koutsoukos TPM | TPM 20425 |
| 52 | Pruitt TPM | TPM 2029 |
| 53 | Phillips/Askew/Lee at Hidden Meadows | TPM 20441 |
| 54 | The Oaks | TPM 20453 |
| 55 | Plamondon TPM | TPM 20469 |
| 56 | Divine TPM | TPM 20526 |
| 57 | Fitzgerald TPM | TPM 20527 |
| 58 | Estes TPM | TPM 20529 |
| 59 | Piro Inc. | TPM 20558 |
| 60 | Steinbeck TPM | TPM 20563 |
| 61 | SCIBA | TPM 20566 |
| 62 | Steinbeck TPM | TPM 20573 |
| 63 | Thuen TPM | TPM 20585 |
| 64 | N/A | TPM 20620 |
| 65 | Jansen TPM | TPM 20629 |
| 66 | Collins TPM | TPM 20640 |
| 67 | Rimsa TPM | TPM 20660 |
| 68 | Dienhart TPM | TPM 20664 |
| 69 | Escalona | TPM 20723 |
| 70 | Gordon TPM | TPM 20776 |
| 71 | Cunningham TPM | TPM 20788 |
| 72 | Boyer TPM | TPM 20794 |
| 73 | Tran TPM | TPM 20835 |
| 74 | Biernacki TPM | TPM 20836 |
| 75 | JLP Properties | TPM 20838 |
| 76 | Pizzuto Property | TPM 20846 |
| 77 | NorthcuttTPM | TPM 20860 |
| 78 | Job No. 108-04 | TPM 20943 |
| 79 | Twin Oaks TPM | TPM 20954 |
| 80 | Kirkorowicz | TPM 20986 |
| 81 | Stouffer TPM | TPM 21084 |
| 82 | Rimsa TPM | TPM 21095 |
| 83 | Turner TPM | TPM 21113 |
| 84 | Weber TPM | TPM 21128 |

**Table 6-5 (Continued)**

**Gopher Canyon Road and Merriam Mountain Alternatives – Cumulative Projects**

| No. | Project Name | Project No. |
|---|---|---|
| 85 | Arabshai TPM | TPM 21136 |
| 86 | Bachman TPM | TPM 21165 |
| 87 | Wild TPM | TPM 21170 |
| 88 | Matheson TPM | TPM 21173 |
| 89 | Accretive | PAA 09-007 |
| 90 | Segal Ranch | TM 5173 |

*Source: Linscott, Law and Greenspan, 2012*

## Visual Resources

As concluded in Section 4.1, Aesthetics, of this EIS, the Gopher Canyon Road Alternative would impact the area's natural visual resources, including native vegetation and rock outcrops. However, the implementation of mitigation measures to require replanting with native vegetation and replacement of rock outcrops, would avoid significant adverse effects occurring with respect to the degradation of a substantial amount of the physical resources that make up the local visual character. Further, there are no cumulative projects that are not already existing contributors to the visual character of the area that would be located within the same or continuous view field as the alternative. Therefore, the alternative and cumulative projects would not have a significant adverse cumulative effect on the area's visual resources.

## View Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the Gopher Canyon Road Alternative would not interrupt a viewing corridor of a regionally significant viewing scene. Therefore, significant adverse view quality effects would not occur. No cumulative projects would extend into alternative site's view corridors or would cause view blockage across the site or immediate area. Thus, the alternative and cumulative projects would not result in significant adverse cumulative effects on view quality.

## Neighborhood Character

As concluded in Section 4.1, Aesthetics, of this EIS, the Gopher Canyon Road Alternative not be consistent with the community character objectives of the Bonsall Community Plan or with the General Plan's designated Specific Plan, Rural Lands (RL20), and Semi-Rural Residential (SR-4) designations, which are intended to encourage residential and agricultural uses. This is a significant adverse effect of the alternative. However, cumulative projects would be consistent with the rural character policies of the Bonsall Community Plan. Therefore, the alternative and cumulative projects would not result in significant adverse cumulative effects with respect to neighborhood character policies.

### Dark Skies

As concluded in Section 4.1, Aesthetics, of this EIS, the Gopher Canyon Alternative would operate during daytime hours and would comply with the County's Light Pollution Code, which requires shielding and downward direction of exterior lighting. Therefore, the alternative would not create a new source of substantial light or glare that would adversely affect nighttime views in the area. Cumulative projects in the area would also be required to comply with the County's Light Pollution Code, which requires that all new exterior lighting must be shielded. Because all new development would be required to comply with the Light Pollution Code, the alternative and cumulative projects would not result in adverse cumulative effects with respect to dark skies.

## 6.5.2 Agricultural Resources

As concluded in Section 4.2, Agricultural Resources, of this EIS, the Gopher Canyon Road Alternative would not directly or indirectly impair agricultural activities on adjacent farmlands or cause farmland to convert to non-agricultural uses. Further, the Gopher Canyon Road Alternative would not directly or indirectly impair the productivity of an on-site Land Conservation Act (Williamson) contracted tract in a manner that would inhibit agricultural activities. Cumulative projects are generally low density and rural in character and would not generally cause the loss or conversion areas used for agricultural purposes. Therefore, the Gopher Canyon Alternative and cumulative projects would not result in adverse cumulative effects on agricultural resources.

## 6.5.3 Air Quality

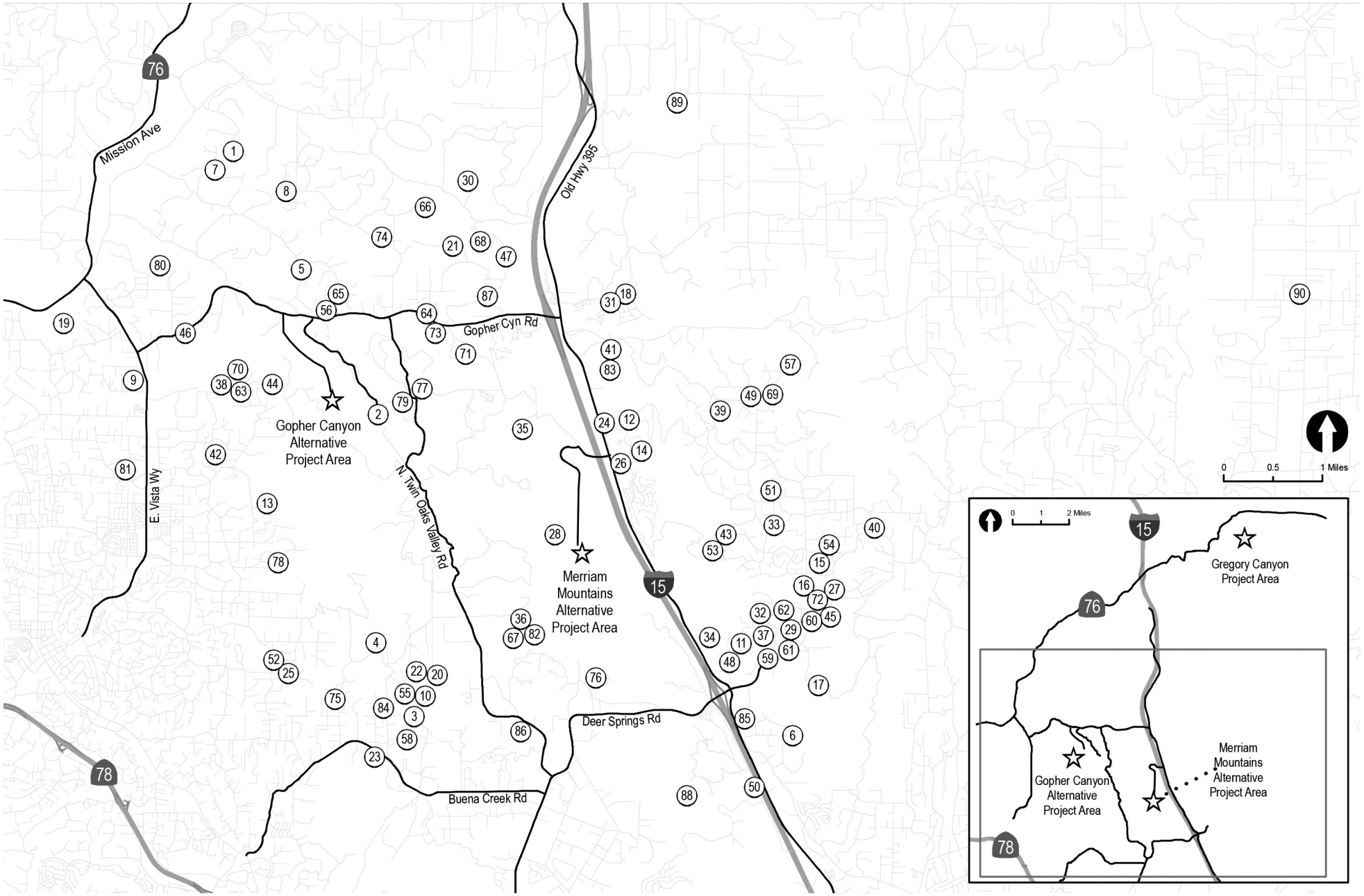
### Air Quality Plans

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Gopher Canyon Road Alternative would not conflict with implementation of the RAQS or the adverse portions of the SIP as it is consistent with growth anticipated by the County and SANDAG. Significant cumulative effects would not occur.

Cumulative projects identified in the Gopher Canyon Road Alternative area would have the potential to result in a cumulative impact to air quality plans if, in combination they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Projects that are inconsistent with the regional planning documents that the RAQS and SIP are based on would have the potential to result in cumulative impacts if they would include development beyond regional projections. The nearest cumulative projects are located along Gopher Canyon Road to both the east and west and include residential and commercial development. These cumulative projects would generally be consistent with the SIP and the RAQS because the projects would be required to be consistent with adopted general plans or other planning documents accounted for in the RAQS growth projections. Therefore, the Gopher Canyon Road Alternative, in combination with the cumulative projects in the Gopher Canyon Road project area, would have no significant adverse cumulative effects.

### Air Quality Standards

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, Gopher Canyon Road Alternative would likely result in emissions of VOC and $NO_x$ from the construction and operation that would cause

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**Gopher Canyon Road Alternative and Merriam Mountain Alternative - Locations of Cumulative Projects**

**Gregory Canyon**

Source: Linscott Law & Greenspan, 2012.

FIGURE

**6-3**

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significant adverse effects. The Gopher Canyon Road Alternative and cumulative projects located in the SDAB would have the potential to result in a significant adverse cumulative impact as they would violate air quality standards and/or contribute to existing or projected air quality violations.

### Cumulatively Considerable Criteria Pollutants

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Gopher Canyon Road Alternative would result in the emission of criteria pollutants for which the area is in non-attainment during both construction and operation. A significant adverse effect may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. The SDAB is currently in non-attainment for the federal ozone standard.

Construction and operation of the Gopher Canyon Road Alternative would exceed the AQIA threshold criteria for VOC and $NO_x$ and would have a cumulatively considerable and adverse effect on ozone in the region. Cumulative projects would also emit ozone precursors during construction and operation. Therefore, the Gopher Canyon Road Alternative would contribute to a significant adverse cumulative ozone effect in the Gopher Canyon Road area, even after incorporation of design features.

The Gopher Canyon Road Alternative would result in maximum emissions of VOCs and $NO_x$ that would exceed the corresponding AQIA threshold levels. Cumulative projects would also emit ozone precursor emissions during construction and operation. Therefore, the Gopher Canyon Road Alternative would contribute to a significant adverse cumulative ozone impact, even after incorporation of design features.

### Health Risk and Microclimate

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the Gopher Canyon Road Alternative would not expose sensitive receptors to substantial pollutant concentrations. The alternative would also not result in air pollutant emissions or changes in microclimate that would to affect the surrounding agricultural uses. Therefore, the Gopher Canyon Road Alternative would not result in a significant adverse effect to human health, avocado and citrus trees, or microclimate.

Cumulative projects in the site vicinity could also emit TAC emissions. However, the Gopher Canyon Road Alternative is located a substantial distance from any cumulative projects. Since the Gopher Canyon Road Alternative would not result in significant adverse effects from TAC emissions, then significant adverse cumulative would not occur to human health. In addition, no significant adverse cumulative effects would occur to avocado and citrus trees, or microclimate from cumulative projects.

### Objectionable Odors

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the Gopher Canyon Road Alternative has the potential to cause odors, but the use of a gas recovery system and daily cover would result in no significant adverse odor impacts. Cumulative projects in the vicinity also have the potential to generate odors. The existing off-site National Quarries operation is located to the southeast of the Gopher Canyon Road alternative and could contribute to odors in the local area. The quarry is located approximately 500 feet from a residential property line to the east. The Gopher Canyon Road alternative is located approximately 1,600 feet from this property line. However, since it has been determined that the

alternative would not cause significant adverse odor impacts, the Gopher Canyon Road Alternative would not contribute to an increase in odor from the closer mining operation or cause any overlap of odors. Therefore, there would be no significant adverse cumulative effects from odors from cumulative projects.

#### Visibility Impacts

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Gopher Canyon Road Alternative and cumulative projects located in the vicinity would have the potential to result in an adverse cumulative visibility impacts to the Agua Tibia Wilderness Area, if in combination, they would cause visibility impacts. Since there would be no significantadverse visibility occurring from this alternative, the other cumulative projects in the vicinity of the site would not be expected to contribute to significant adverse cumulative effect.

#### Greenhouse Gases

Because of the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that an emissions increase resulting from the alternative and cumulative projects could actually cause a measurable increase in global GHG emissions sufficient to force global climate change. The Gopher Canyon Road Alternative would include design features to reduce GHG emissions, such as implementing a landfill gas recovery and flaring system, as well as features that address strategies consistent with the state and county regulations for reducing GHG emissions. The Gopher Canyon Road Alternative would be consistent with state and county goals, and, therefore, would be consistent with the AB 32 reduction targets. It is likely that the cumulative projects would also meet or exceed applicable local and state laws and policies aimed at reducing GHG emissions, in support of AB 32. Implementation of design features would ensure that impacts from GHG emissions are minimized.

### 6.5.4 Biological Resources

#### Waters of the U.S.

As discussed in Section 4.4, Biological Resources, of this EIS, the Gopher Canyon Road Alternative would result in permanent impacts to 1.1 acres of potentially jurisdictional non-wetland waters of the U.S., specifically tributaries to Gopher Creek supporting mixed chaparral, live oak/sycamore riparian woodland, southern willow scrub, and sycamore. No temporary impacts to potential jurisdictional non-wetland waters are proposed, and no potential jurisdictional wetlands occur on site. Direct and/or indirect permanent impacts to jurisdictional waters of the U.S. would be addressed through compliance with existing regulations including water quality standards and the no-net-loss policy of the CWA, subject to approval and regulatory permitting from the USACE and RWQCB, as well as a compensatory mitigation plan. With these measures, the Gopher Canyon Road Alternative would not result in significant adverse effects to jurisdictional waters of the U.S.

The EIR for the County of San Diego General Plan Update identifies a total of approximately 12,318.53 acres of vegetation communities potentially containing jurisdictional wetland waters of the U.S. within the Draft North County Plan area, including a range of habitats from open water, to various meadows/seeps, riparian forests, riparian woodlands, and riparian scrub habitats. Of the 12,318 acres, 926 acres are identified for potential impacts, which represents 7.5 percent of the total acreage. The County of San Diego General Plan Update EIR states that cumulative projects would be required to comply with applicable federal regulations

for wetlands, such as Sections 401 and 404, which require compensatory mitigation to reduce impacts to the extent feasible to achieve the no-net-loss standard. In addition, the County of San Diego's Resource Protection Ordinance restricts, to varying degrees, impacts to natural resources including wetlands, wetland buffers, and floodplains, and requires mitigation of wetlands at a 3:1 ratio. Therefore, the Gopher Canyon Road Alternative would not contribute to a cumulatively considerable loss of jurisdictional waters of the U.S. Therefore, no significant adverse cumulative effects would occur.

### Native Vegetation, Sensitive Plant Populations, Regionally Limited Sensitive Habitat

As discussed in Section 4.4, Biological Resources, of this EIS, the Gopher Canyon Road Alternative would result in the removal of native vegetation, including 6.4 acres of live oak/sycamore riparian woodland, 216.1 acres of mixed chaparral, and 1 acre of riparian habitat. The alternative is known to support Parry's tetracoccus, a sensitive plant on List A of the County of San Diego Sensitive Plant List. However, since no information is available on the location of this species on site, potential impacts could not be assessed. The site does not support sensitive habitat that is regionally limited. With implementation of the proposed mitigation measures resulting in a minimum no net loss or, in most cases, a net gain of habitat, the Gopher Canyon Road Alternative would not result in significant adverse effects to native vegetation or sensitive plant populations. No effects would occur to regionally to limited sensitive habitat due to absence on site.

The EIR for the County of San Diego General Plan Update identifies impacts ranging from approximately 7.5 percent to approximately 42 percent of the total acreage of oak woodland, coastal sage scrub, native grasslands, chaparral and riparian habitats identified in the Draft North County Plan area. The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts to sensitive natural communities under the General Plan Update would be cumulatively considerable. Although the Draft North County Plan has not yet been adopted, it is assumed for this analysis that the Gopher Canyon Road Alternative's compliance with the proposed conservation and mitigation requirements would address impacts on native vegetation such that they would not result in significant adverse cumulative effects.

Since the mitigation measures under the Gopher Canyon Road Alternative would result in a net increase in oak and riparian habitats, and a no net loss of chaparral habitat, all of which would be preserved in perpetuity and would comply with the Draft North County Plan, the alternative would not contribute to a cumulatively considerable loss of native vegetation within the Draft North County Plan area. A mitigation measure is also proposed to avoid loss of more than 20 percent of sensitive plants. Therefore, no significant adverse cumulative effects would occur to native vegetation or sensitive plant populations. The site does not support regionally limited sensitive habitat, therefore no cumulative effects would occur to such plant populations.

### Designated Critical Habitat

As discussed in Section 4.4 Biological Resources, of this EIS, the Gopher Canyon Road Alternative would result in direct impacts to designated critical habitat for coastal California gnatcatcher. Mitigation measures are proposed by the Gopher Canyon Alternative to compensate for impacts to native chaparral habitat, which is potentially suitable habitat for coastal California gnatcatcher. The habitat compensation would be preserved in perpetuity pursuant to a conservation easement either on site as part of open space that would ultimately contribute to the PAMA of the Draft North County Plan, or off site and managed by a habitat manager, environmental group, or as part of an established mitigation bank. Long-term protection of these habitats would avoid potential future losses.

The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts under the General Plan Update to sensitive natural communities supporting special status species would be cumulatively considerable. Projects would be required to comply with applicable federal and/or state regulations that provide protections for designated critical habitat and sensitive vegetation communities such as riparian habitats, including FESA, CESA, the NCCP, and the CDFG SAA, which would reduce impacts to the extent feasible. However, the County of San Diego General Plan Update EIR states that without a comprehensive NCCP in place for long-term protection of sensitive natural communities for the entire southern California region, a cumulative loss would occur even after mitigation has been implemented for individual projects.

Since the mitigation measures for the Gopher Canyon Road Alternative are in compliance with the policies and regulations outlined in the Draft North County Plan, and compliance would be required with existing regulations such as FESA and the NCCP, the alternative would not contribute to a cumulatively considerable loss of designated critical habitat within the Draft North County Plan area.

### Wildlife Movement

As discussed in Section 4.4, Biological Resources, of this EIS, the Gopher Canyon Road Alternative is not within any major identified regional wildlife linkage. However, since the alternative would result in development throughout the site, including impacts to the majority of the onsite watercourses, it could result in disruption over a minimum 25-year period to local wildlife movement. As such, the alternative would contribute to significant adverse cumulative effects to wildlife movement.

### State and Federal Listed Species

As discussed in Section 4.4 Biological Resources, of this EIS, the Gopher Canyon Road Alternative would comply with federal and state policies and regulations for listed species and their habitats, and with the Draft North County Plan. In addition, the Gopher Canyon Road Alternative would not jeopardize the continued existence of these species on the site. Surveys would be required to determine the presence of arroyo toad, least Bell's vireo, southwestern willow flycatcher, or coastal California gnatcatcher, in addition to Quino checkerspot butterfly, San Diego ambrosia, and San Diego thorn mint, pursuant to proposed mitigation measures.

The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts under the General Plan Update to special status species would be cumulatively considerable. Compliance with applicable federal and/or state regulations that provide protections for special status plant and wildlife species, including FESA, CESA, and the NCCP, that typically require approval from USFWS and CDFG, would reduce impacts to the extent feasible. However, the County of San Diego General Plan Update EIR states that without a comprehensive NCCP in place for long-term protection of special status plant and wildlife species for the entire southern California region, a cumulative loss would occur even after mitigation has been implemented for individual projects.

Since the mitigation measures proposed by the Gopher Canyon Road Alternative would avoid direct loss of arroyo toad, least Bell's vireo, southwestern willow flycatcher, and coastal California gnatcatcher, if any of these species are determined present on site, and compliance would be required with existing regulations such as FESA and CESA, the alternative would not contribute to a cumulatively considerable loss of state- or federal-listed species within the Draft North County Plan area, and no significant adverse cumulative effects would occur.

### Golden Eagles

As discussed in Section 4.4, Biological Resources, of this EIS, golden eagles are not known to occur on or near the Gopher Canyon Road Alternative. Therefore, the alternative would not contribute to cumulative effects on golden eagles.

### Long-Term Regional and Sub-Regional Conservation Goals

As discussed in Section 4.4, Biological Resources, of this EIS, the Gopher Canyon Road Alternative would comply with conservation requirements pursuant to the County of San Diego biological resource guidelines and the Draft North County Plan pending its approval. Therefore, it is anticipated that no conflicts would occur with long-term regional or sub-regional conservation goals pending approval by regulatory agencies under these existing regulations. Since the Gopher Canyon Road Alternative proposes mitigation measures and would require agency approvals pursuant to existing regulations, the alternative is not expected to contribute to significant adverse cumulative effects to any long-term regional or sub-regional conservation goals.

## 6.5.5 Cultural Resources

### Historic and Archaeological Resources

As discussed in Section 4.5.1, Historical and Archeological Resources, of this EIS, based on available information to date, it appears the Gopher Canyon Road Alternative would not have a significant adverse effect on historic properties. The Gopher Canyon Road Alternative, in combination with the identified cumulative projects, would have the potential to result in a cumulative impact associated with historical and archaeological resources. However, it can be reasonably assumed that similar mitigation measures to those recommended for the alternative (i.e., data recovery, avoidance, documentation and recordation, treatment in accordance with the Secretary of Interior's *Standards*, construction monitoring, etc.) would be implemented for the cumulative projects, thus avoiding significant adverse cumulative effects.

### Traditional Cultural Properties

As discussed in Section 4.5.2, Traditional Cultural Properties, of this EIS, it is known that prehistoric archaeological sites representing seasonal use or permanent habitation are present in the area of the Gopher Canyon Road Alternative site. Nonetheless, mitigation measures are proposed to reduce the potential significant adverse effects of the alternative on TCPs. Specifically, Mitigation Measure Gopher-TCP-1a requires the applicant conduct an updated and expanded alternative-specific Luiseño Indian ethnohistory study with the purpose of identifying NRHP-eligible Luiseño TCPs within the APE prior to the issuance of a permit. Similarly, Mitigation Measure Gopher-TCP-1b requires that the Gopher Canyon Road Alternative would avoid impacts to NRHP-eligible TCPs and would preserve NRHP-eligible TCPs. With implementation of proposed mitigation, the Gopher Canyon Road Alternative would not contribute to significant adverse cumulative effects on NRHP-eligible TCPs.

## 6.5.6 Environmental Justice

Section 4.6, Environmental Justice, identifies the significant adverse direct/individual and cumulative effects that would result from an alternative and evaluates whether those significant adverse effects would fall disproportionately on minority, low-income or tribal populations. This alternative does not have significant

adverse cumulative effects that would be borne disproportionately by such populations. However, the Section 4.6 analysis identified one significant adverse cumulative effect that may be borne disproportionately, that topic pertaining to air quality. The uncertainty regarding the affected population is due to the impact's regionally oriented, large scale effect with varying directionality.

## 6.5.7 Geology and Soils

### Fault Rupture

As discussed in Section 4.7, Geology and Soils, of this EIS, there are no faults located on the Gopher Canyon Road Alternative site, and the site is not located within an Alquist-Priolo Fault Zone. No active faults have been identified within the area, and, therefore, no significant adverse effects from ground rupture would occur. Thus, development of a landfill at the Gopher Canyon Road site would not be subject to fault impacts and therefore would not contribute to significant adverse cumulative effects regarding ground rupture.

### Site Stability

As discussed in Section 4.7, Geology and Soils, of this EIS, the conceptual excavation plan prepared for the Gopher Canyon Road Alternative includes acceptable cut slope inclinations. In addition, grading operations at the site would remove all loose soils from the footprint of the landfill, liquefaction or potential harm associated with expansive soils, should such potential be present, would not occur within the landfill footprint. Therefore, appropriate design measures are required to ensure the public safety; and adverse impacts to public would be avoided, as would be demonstrated in the JTD for a landfill at the Gopher Canyon Road site. Impacts related to site stability would be site specific and would not occur in concert with, nor be exacerbated by combined effects of other land use activities in the vicinity. The Gopher Canyon Road Alternative would not contribute to significant adverse cumulative effects associated with slope stability/landsliding.

### Rockfalls

As discussed in Section 4.7, Geology and Soils, of this EIS, the Gopher Canyon Road Alternative would include design features to protect on-site components from rockfalls such that rockfalls would not create a safety risk to workers and equipment, or to the landfill development. Adverse rockfall impacts at the alternative site would not occur. Additional rockfall would not be expected on the Gopher Canyon Road site from other cumulative project sites. Therefore, the Gopher Canyon Road Alternative would not contribute to significant adverse cumulative rockfall effects.

### Debris Flow

As discussed in Section 4.7, Geology and Soils, of this EIS, The Gopher Canyon Road Alternative would include design features to protect landfill components and workers from debris flows. Therefore, debris flow would not create an adverse effect regarding safety. Potential debris flow is a site specific potential that would not be affected by other off-site development. No adverse effects related to debris flow for the alternative would occur. Therefore, the alternative would not contribute with other projects to create a significant adverse cumulative threat from debris flow.

### Settlement

As discussed in Section 4.7, Geology and Soils, of this EIS, impacts regarding the design of the final cover would be site specific and would not have significant adverse effects on drainage or landfill control systems. There are no cumulative projects located adjacent to the site that could cause drainage onto the site, nor combine with the site in causing joint drainage effects in the area. Therefore, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect resulting from the design of the final cover.

### Public Safety

As discussed in Section 4.7, Geology and Soils, of this EIS, the structures associated with a landfill at the Gopher Canyon Road Alternative site would be developed in accordance with applicable requirements for the public safety. Potential impacts regarding geological conditions would be based on the design of the new structures and their immediate geological/soil surroundings. There are no cumulative project structures that would affect the structural conditions at the sites of these facilities. Thus, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect.

### Mineral Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, implementation of the landfill at the Gopher Canyon Road Alternative site may affect access to the mining of valued mineral resources. Mitigation measures are proposed to minimize loss of mineral resources; however it may not be possible to avoid adverse effects on utilization of such resources.

The EIR for the County's General Plan Update identified a considerable amount of new growth in the County, some of it locating in areas known to contain valued resources (MRZ-2 zones). As such development precludes access to the mineral resources; the EIR concluded that the growth in the County is causing a significant adverse effect on access to mineral resources. As implementation of the proposed mitigation measures may not result in the maximum utilization of mineral resources the impact of the Gopher Canyon Road Alternative on valued resources would be considered to be a significant adverse cumulative effect.

### Soil Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, potential consumption of soil resources would be limited due to limited demand, the processing of on-site materials and/or the use of alternative daily cover (ADC). Operation of the Gopher Canyon Road Alternative would not have a significant adverse effect on the availability of soil resources. The use of imported soil at the Gopher Canyon Road Alternative site would contribute to the overall consumption of such resources that is occurring within the region. However, the consumption of such resources would be reduced due to the use of on-site materials and use of ADCs; and the alternative would not add a considerable contribution to a shortfall in the availability of such resources.

## 6.5.8 Human Health and Safety

### Hazard to Public or the Environment

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Gopher Canyon Road Alternative would provide a Class III landfill, which would accept only non-hazardous solid wastes and inert wastes. Landfill

operations would include a HWEP intended to preclude hazardous materials from entering the landfill site, and disposing of hazardous materials inadvertently brought to the site in a safe manner per state regulations. The alternative would comply with applicable regulations and would implement design features that would eliminate, minimize or identify potential environmental impacts and/or nuisances. Therefore, landfill operations would not create significant adverse effects to the public or the environment through the transport, use, production, or disposal or release of hazardous materials.

There are no cumulative projects within the area that would require the generation or handling of hazardous wastes other than standard hazardous household waste items. Future development projects would be evaluated on a project-by-project basis to determine impacts to human health and safety. Cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination or exposure to hazardous substances is avoided or controlled to minimize the risk to the public and environment on a case-by-case basis. Therefore, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect.

### Landfill Hazards

As discussed in Section 4.8, Human Health and Safety, of this EIS, the analysis of health impacts focuses on the health effects on population in the vicinity of the landfill site that would arise from dispersion of hazardous materials associated with landfill activity; and on population concentrated at congested intersections that haul vehicles pass by. The analysis indicated that landfill operations would not result in significant adverse effects on these populations that would be associated with contamination carried by air, water, vectors or litter. Therefore, there would be no significant adverse effects on human population from landfill contamination.

There are no cumulative projects in the vicinity of the landfill site that would cause additional concentration of contaminants at these locations from air or vector transmittal. The analysis of the CO concentration effects at congested intersections, concluding that adverse effects would be less than significant, are based on an analysis that is inclusive of cumulative traffic. Due to the design features for the protection of water resources, the alternative is expected to generate no contamination on water resources and therefore would not contribute to significant adverse cumulative water effects. Further, cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination to local populations is avoided. Therefore, the alternative would not contribute to significant adverse cumulative effects.

### Existing On-site Hazardous Materials

As discussed in Section 4.8, Human Health and Safety, of this EIS, the alternative would follow procedures that fully protect site workers from exposure to ACM and LBP materials. As such, the alternative would not add a cumulatively considerable contribution to public safety from such effects. The analysis of these safety effects addresses potential risk to local populations in the vicinity of the landfill site. There are no cumulative projects that would be located in the local area so as to contribute to cumulative risk from these activities. Therefore, cumulative projects would not result in a significant adverse cumulative effect.

### Accident Conditions

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Gopher Canyon Road Alternative would not create safety hazards due to concentrations of landfill gas, flooding, fire, rockfall, site security, waste disposal operation, or roadway safety. As such, the alternative would not add a cumulatively considerable contribution to public safety from these landfill activities. The analysis of these safety effects addresses potential risk to local populations in the vicinity of the landfill site. There are no cumulative projects that would be located in the local area so as to contribute to a cumulative risk. Therefore, this alternative would not contribute to a significant adverse cumulative public safety effect with regard to accident/risks.

### Emergency Response Plans and Emergency Evacuation Plans

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Gopher Canyon Road Alternative would not impair implementation of or physically interfere with the County of San Diego OES Operational Area Emergency Plan. This plan has been developed with thought for future development and needs of the County. There is no residential development associated with the landfill, and it is expected that the majority of construction workers and employees would be drawn from the existing labor pool in the region. As such, this alternative's incremental contribution to demand for increased emergency services would not be cumulatively considerable. A number of the cumulative projects would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to emergency plans. Development projects would be required to address emergency access issues and to provide site emergency provisions. The Gopher Canyon Road Alternative would not have significant adverse effects on emergency plan implementation and therefore would not add a cumulatively considerable contribution to implementation of emergency response and evacuation plans.

## 6.5.9 Hydrogeology

### Groundwater Withdrawal and Recharge

As discussed in Section 4.9, Hydrogeology, of this EIS, the Gopher Canyon Road Alternative would implement design features to limit groundwater withdrawal to sustainable levels and would occupy a small portion of the Bonsall Hydrologic Subarea. Therefore, the Gopher Canyon Road Alternative would not result in significant adverse effects with respect to groundwater supplies or groundwater recharge.

Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR, concluded that no groundwater basins within the San Luis Rey Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan. As with the Applicant's Proposed Alternative, groundwater use at the Gopher Canyon Road Alternative site would be regulated to safe yield levels to prevent overdraft from occurring underlying groundwater sources. Therefore, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater resources.

### Groundwater Quality

As discussed in Section 4.9, Hydrogeology, of this EIS, since the Gopher Canyon Road Alternative would be developed in accordance with all applicable regulations and design features to prevent groundwater contamination, no significant adverse effects would occur with regard to groundwater quality.

Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR did not identify the Bonsall Basin as a groundwater basin having the potential for significant water quality impacts under full buildout. The Gopher Canyon Road Alternative would be designed to minimize leakage and to address any unforeseen leaks prior to reaching underlying groundwater resources. All cumulative projects would be required to comply with applicable federal, state, and local regulations protecting groundwater. Thus, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater quality or discharge requirements.

## 6.5.10 Land Use and Planning

### Consistency With Land Use Plans

As discussed in Section 4.10, Land Use and Planning, of this EIS, the Gopher Canyon Road Alternative would introduce elements that would not conserve topography and would, thus, not be consistent with the General Plan's designated rural and semi-use of the site and the surrounding area or with the objective of the Bonsall Community Plan to balance agriculture, rural, estate lots, and open space uses that conserve topography. Therefore, this alternative would have a significant adverse effect with respect to land use plans.

Several active or recently completed cumulative projects have been identified in the vicinity of the Gopher Canyon Road Alternative between I-15 and SR 76 (Mission Avenue). All of the cumulative projects consist of one- to three-lot residential parcel maps. At maximum, a parcel map may allow a land division of up to four lots.

| Cumulative Project Name | Type of Project |
|---|---|
| ▪ Van de Roo Farms | Parcel Map for 2 residential lots |
| ▪ Plamondon | Parcel Map for 3 residential lots |
| ▪ Fitzgerald | Parcel Map (not known) |
| ▪ Collins | Parcel Map for 2 residential units |
| ▪ Boyer | Parcel Map (not known) |
| ▪ Biernacki | Parcel Map for 2 residential units |
| ▪ Job No. 108-04 | One single-family residence |
| ▪ Kirkorowicz | Parcel Map for 2 residential units |
| ▪ Matheson | Parcel Map for 1 residential unit |

The cumulative projects are consistent with the low density character of the Bonsall community and would not conflict with the General Plan or the Bonsall Community Plan. Although the alternative and other uses, such as mining operations would not be consistent with the predominant character of the community, the cumulative projects would not contribute to a meaningful change in land use in combination with the alternative. The alternative and cumulative projects are not expected to result in additional inconsistencies with applicable plan policies. Therefore, the alternative and cumulative projects would have no significant adverse cumulative effects with respect to this criterion.

### Consistency With Resource Conservation Area Designation

As discussed in Section 4.10, Land Use and Planning, of this EIS, the Gopher Canyon Road Alternative would introduce elements that would not conserve resources in the Gopher Canyon RCA. However, impacts would be reduced through implementation of mitigation measures and, therefore, the alternative would be consistent with the conservation policies of the community plan. The alternative would not have a significant adverse effect with respect to the Gopher Canyon RCA.

In addition to the Gopher Canyon RCA (#20), the Bonsall Community Plan area contains the Mission Road RCA (#12) and San Marcos Mountains RCA (#22). The Community Plan defines RCA's as areas that possess some significant natural resource that requires special attention in order that it may be preserved or conserved for long-term managed utilization. The San Diego County Resource Protection Ordinance (Sensitive Resource Area regulations) is intended to increase the protection and preservation of the County's unique natural resources through development within RCAs through such implementation actions such as open space easements and special land use controls, including cluster zoning, large lot zoning, scenic or natural resource preservation overlay zones, or by incorporating special design considerations into subdivision maps or special use permits. Cumulative projects in the region are generally dispersed and are not large-scale in character and, as such, it is anticipated that these projects would feasibly avoid adverse effects on natural and aesthetic resources through clustering of development or other devices that would preserve open space and mitigate effects on natural resources. As with the expected consistency of cumulative projects with the conservation policies of the RCAs within the community planning area, the Gopher Canyon Road Alternative would be consistent with RCA policies. Therefore, effects with respect to consistency with the RCAs in the Bonsall Community Plan area would not result in significant adverse cumulative effects with respect to this criterion.

## 6.5.11 Noise and Vibration

### Initial Construction

As discussed in Section 4.11, Noise and Vibration, of this EIS, initial construction activity associated with the Gopher Canyon Road Alternative would result in noise levels in excess of applicable standards at the nearest residential property line. The maximum construction noise levels at the nearest residential property line with implementation of design features is estimated to be 64 dBA, which is greater than the 62.5 dBA noise standard. To compensate for this impact, mitigation would be required to construct and maintain a 15-to 20-foot high berm along the eastern edge of the borrow/stockpile areas located near Receptor G2 during initial construction and during future operations. With implementation of this mitigation measure, no significant adverse noise effects would occur.

Cumulative projects in the region would produce temporary construction noise. As with the alternative, construction schedules and construction noise equipment levels would vary depending on the type of equipment and its duration of use. However, construction associated with the alternative would generally occur in a location far removed from the other cumulative projects. As a result, no actual noise ordinance impact would occur. Although the nearby noise-sensitive receptors could be exposed to construction noise from other closer projects in the vicinity, cumulative construction noise is not anticipated to result in significant adverse cumulative effects because such projects are disperse with varied construction schedules and each project would be required to comply with the applicable standards.

The existing off-site National Quarries operation is located to the southeast of the Gopher Canyon Road alternative and would contribute noise in the local area. The quarry is located approximately 500 feet from a residential property line to the east. However, the Gopher Canyon Road alternative is located approximately 1,600 feet from this property line and would not contribute to an increase in noise levels from the closer mining operation. The nearest construction activity from the Gopher Canyon Road alternative would be 600 feet from residential property lines to the east. However, the existing quarry is approximately 1,500 feet from these property lines and would not contribute to an increase in noise levels from initial construction activity.

Therefore, with the mitigation measures to reduce noise levels resulting from initial construction of the Gopher Canyon Road Alternative, noise levels at the property lines of noise sensitive receptors would not exceed the applicable standards. Therefore, the Gopher Canyon Road alternative would not contribute to a significant adverse cumulative effect.

### Operation

As discussed in Section 4.11, Noise and Vibration, of this EIS, long-term operational noise associated with the Gopher Canyon Road Alternative would expose nearby residential uses to noise levels of 67.5 dBA with implementation of the design features, which would exceed the noise standard of 62.5 dBA. To reduce this significant impact, mitigation would be required to monitor, reduce the size or number of construction equipment, and install a berm or sound barrier, as necessary to reduce noise levels to 62.5 dBA. With implementation of the mitigation measures, no significant adverse noise effects from periodic construction and landfill operations would occur. Blasting would be infrequent, but may cause noise levels to exceed 62.5 dBA at the nearest residential property line, which is considered a significant adverse effect.

Cumulative projects in the region would produce noise once projects in the region become operational. However, operational noise associated with the alternative would generally occur in a location far removed from the other cumulative projects. In addition, other cumulative projects would comply with the applicable standards or require implementation of project-specific mitigation. As a result, no significant adverse noise ordinance effect would be expected to occur.

The previously mentioned National Quarries mining operation is located to the southeast of the Gopher Canyon Road alternative. However, the Gopher Canyon Road alternative and existing off-site mining operation would not contribute to an increase in noise levels due to the distances of the residential property lines from these facilities. Therefore, with the mitigation measures to reduce noise levels resulting from operation of the Gopher Canyon Road Alternative, noise levels at the property lines of noise sensitive receptors would not exceed the applicable standards. Therefore, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect.

### Traffic Noise

As discussed in Section 4.11, Noise and Vibration, of this EIS, traffic noise associated with the Gopher Canyon Road Alternative would increase the noise levels at residences with existing exterior noise levels in excess of 60 dBA CNEL. Although the majority of the noise on most of the roads would come from other traffic sources, the Gopher Canyon Road Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. While the noise level increases would be less than 3 dBA, the Gopher Canyon

Road corridor is an existing degraded noise environment with noise levels exceeding 60 CNEL at existing residences. As the alternative would increase the noise levels, even by a small margin, the alternative would contribute to a significant adverse cumulative effect relative to traffic noise.

#### Blasting

As discussed in Section 4.11, Noise and Vibration, of this EIS, blasting associated with the Gopher Canyon Road Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards, with the exception of the water tank located on the western portion of the site. Implementation of mitigation measures would prohibit blasting within the influence zone of the water tank and would require monitoring to ensure compliance with vibration standards. Therefore, no significant adverse vibration effects to nearby residences and infrastructure would occur.

A source-receptor separation distance of approximately 500 feet is sufficient to reduce impacts for the residential receptors and implementation of mitigation measures would reduce impacts to the water tank. While cumulative projects in the region may produce vibration from construction activities, vibration from blasting associated with the alternative would be infrequent and short-term and would generally occur in a location far removed from the other cumulative projects. The quarry on the eastern side of the site is located at a far enough distance that it would not contribute to vibration from the alternative at residential property lines or at the water tank. Furthermore, significant adverse cumulative vibration is not anticipated to occur because any vibration-generating activities of the various cumulative projects would not overlap or would not occur in the vicinity of blasting activities and each cumulative project would be required to comply with the applicable vibration standards. Therefore, the alternative would not contribute to a significant adverse cumulative effect.

### 6.5.12 Public Services

#### Law Enforcement

As discussed in Section 4.12.1, Law Enforcement, of this EIS, the Gopher Canyon Road Alternative would not result in significant adverse physical impacts associated with law enforcement due to increases in population demand or activities occurring at the landfill site. There is no residential development associated with the landfill, and it is expected that the majority of employees would be drawn from the existing labor pool in the region. Further, design features would enhance site security and reduce potential demand for law enforcement services. As such, the Gopher Canyon Road Alternative's incremental contribution to demand for law enforcement would not be cumulatively considerable. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to law enforcement. While notable population growth occurring in the County could require additional facilities to enhance protection, the Gopher Canyon Road Alternative contribution would be negligible, and would not contribute to a significant adverse cumulative effect.

#### Fire Protection and Emergency Medical Services

As discussed in Section 4.12.1, Fire Protection and Emergency Medical Services, of this EIS, the Gopher Canyon Road Alternative would not result in significant adverse physical impacts associated with increases in population demand or activities occurring at the landfill site. Design features would limit the potential for fires to occur, would provide a first response capability on-site as a component of normal site operations,

would pay mitigation fees to support the provision of fire services and would therefore reduce potential demand for fire and emergency medical services from service providers in the area. As such, the Gopher Canyon Road Alternative's incremental contribution to demand for fire and emergency medical services would not be cumulatively considerable.

A number of the cumulative projects in the area would include residential development that would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts on the provision of fire and emergency medical services. Such projects would be subject to regulatory requirements to reduce fire impacts, including implementation of fire protection features and required fees, under the County's mitigation fee program for the provision of new services. Therefore, the Gopher Canyon Road Alternative would not add to the incremental impact to fire protection and emergency medical services so as to require new or physically altered facilities, the construction of which could cause significant adverse environmental effects, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.

#### Schools

As discussed in Section, 4.12.3, Schools, of this EIS, the Gopher Canyon Road Alternative would not result in a significant adverse effect on school facilities. Related development projects would be required to pay the appropriate school district developer fees based on the type and size of development proposed. Pursuant to SB 50, payment of fees to the appropriate school district is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, the construction of which could cause significant adverse environmental effects in order to maintain acceptable service ratios or other performance objectives for schools. Thus, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect.

#### Recreation

As discussed in Section 4.12.4, Recreation, of this EIS, the Gopher Canyon Road Alternative would not result in a significant adverse impact on recreational facilities or resources. Payment of park in lieu fees and/or dedication of parkland pursuant to the County's PLDO by future cumulative developments would address increased demand on parks and recreational facilities from associated population growth, and therefore, such developments would not contribute to the County's existing parkland deficiency. Thus, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect.

### 6.5.13 Socioeconomics

#### Population, Housing, and Employment

As discussed in Section 4.13, Socioeconomics, of this EIS, the Gopher Canyon Road Alternative would require relocation of a few residential units and would convert an approved, not yet built, 35 unit subdivision to a landfill. The alternative would not generate notable new population or housing in the region. It would include approximately 35 jobs during initial construction and 22 employees during full operations. This increase in employment would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. No significant adverse effects would occur on demographic distribution.

The SANDAG 2050 regional forecasts cited in the analysis of socioeconomic impacts have been prepared in coordination with the development of the County's General Plan Update; and accounting for the cumulative projects identified above. Further, the projections are tied to development of the County's Regional Transportation Plan (RTP), which identifies future roadway projects, and which guides transportation funding that is provided through the County's Traffic Impact Fee and TransNet Programs.

As such, the regional forecasts reflect both expected, planned and future projected growth and infrastructure systems. As noted above, the Gopher Canyon Road Alternative would add a negligible contribution to expected growth, and would have only small effects on otherwise forecasted growth and distribution of population, housing and employment. The Applicant's Proposed Alternative contribution would not result in a significant adverse cumulative effect.

### Physical Environmental Effects

As discussed in Section 4.13, Socioeconomics, of this EIS, the Gopher Canyon Road Alternative would contribute financial benefits to the region. At the same time, the alternative would locate the landfill in an area with a few residential units, an approved subdivision, and land that might potentially be mined. These adverse socioeconomic impacts would be limited and would be off-set through the economic benefits of a landfill and land purchases that would compensate current landowners within the boundaries of the alternative site. Therefore, the alternative would not result in adverse effects on social activity or economic conditions.

For the most part, potential socioeconomic impacts are independent of cumulative development in the area. The residential relocation required and alterations to the local community would be a function of the alternative itself, without contribution from cumulative projects. Further, the aesthetic, noise and nuisance impacts from cumulative projects would be located sufficiently distant from the Gopher Canyon Road Alternative site so as not to combine with landfill impacts resulting in cumulative impacts. Socioeconomic impacts on residential, spa and golf course uses in the vicinity of the alternative site would not be greater with additional cumulative development.

Socioeconomic impacts on uses along Gopher Canyon Road due to cumulative traffic and noise impacts would be limited. The additional landfill traffic would not contribute to cumulatively considerable socioeconomic conditions along those roadways beyond those otherwise occurring with other development in the region. Section 4.11, Noise and Vibration, of this EIS, indicates that future noise due to traffic along Gopher Canyon Road would not substantially contribute to an exceedence of the CNEL noise levels. The majority of the noise on most of the roads would come from other traffic sources, and traffic from the alternative would not add a discernible difference.

The traffic analysis in Section 4.15, Transportation, of this EIS, indicates that intersection and roadway segment impacts would not have significant adverse effects with the implementation of proposed mitigation measures that require physical improvements via the payment of TIF fees. With the added traffic and the proposed roadway improvements, roadway segments would operate at acceptable LOS B levels. However, since the mitigation measures are based on the payment of TIF fees, and the traffic analysis concludes that the recommended physical mitigation improvements cannot be guaranteed, in terms of the determination of improvements and the timing of implementation, the cumulative impacts could potentially remain significant. If the improvements are implemented, the combination of cumulative traffic with the

improvements would result in operating conditions that are better than those currently occurring. If the improvements are not implemented, significant adverse effects would remain. However, the additional time delays would be part of a regional congestion pattern. Further, the County would have in its possession the fees paid by the applicant for implementing traffic improvements. Hence, if the fees were not applied as indicated in the Traffic Analysis, it is expected that they would be expended for regional transportation improvements of benefit to the County, pursuant to County priorities and procedures for the implementation of TIF fees. The increase in delay time would not be sufficient to alter land use activities along the corridor.

In summary, the potential direct socioeconomic impacts on uses in the vicinity of the landfill operations discussed above would occur in a manner that is mostly independent of cumulative development in the area. Socioeconomic impacts on uses along routes to the landfill due to cumulative traffic and noise impacts would be limited. The additional landfill traffic would not contribute to cumulatively considerable socioeconomic conditions along those roadways beyond those otherwise occurring with other development in the region. Cumulative traffic conditions along the Gopher Canyon Road to the landfill would be similar to those occurring today, with the implementation of proposed mitigation measures. If the County is not timely in providing the proposed roadway improvements, even though receiving payments from the applicant, the additional traffic congestion would be typical of regional conditions and would not preclude the effective use of properties along the route. Further, the County would through its traffic programs be providing equivalent traffic improvements to address regional conditions. Therefore, the Gopher Canyon Road Alternative would not add a cumulatively considerable contribution to adverse effects on socioeconomic conditions.

## 6.5.14 Surface Hydrology

### Surface Water Quality

As discussed in Section 4.14, Surface Hydrology, of this EIS, with the implementation of BMPs, the construction and operation of the Gopher Canyon Road Alternative would not result in discharges that would create pollution, contamination or nuisance for the water bodies in the area. Therefore, the alternative would not result in discharges that create pollution, contamination or nuisance for a receiving water body.

The alternative and all new projects within the San Luis Rey River WMA and Bonsall Hydrologic Subarea, including Gopher Canyon Creek and its tributaries, have the potential to expose the these water bodies to pollution or nuisance and to contribute to the San Luis Rey River's existing impairment. Construction activities and increased impermeability of development sites could also expose the San Luis Rey River WMA to increased surface runoff. Under the San Diego County Watershed Protection Ordinance, a SWMP must be prepared that identifies pollutant sources and provide BMPs, BMP maintenance programs, and other pertinent procedures related to the control of surface water runoff and pollution sources. As with the alternative, cumulative projects would be required to prepare a SWMP and to design applicable construction and operation BMPs. With the implementation of BMPs, the alternative and cumulative projects would not result in significant adverse cumulative water quality effects.

### Flood Hazard

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Gopher Canyon Road Alternative is not located within a floodway. In addition, the San Diego County Flood Damage Prevention Ordinance restricts new development in flood areas. With the enforcement of this ordinance, new cumulative projects would

not contribute to flood hazards in the area. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to flood hazard.

#### Water Surface Elevation

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Gopher Canyon Road Alternative would not cause an increase in surface water elevation. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects in floodways that could, otherwise, cause a potential increase in water surface levels. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects related to water surface elevation.

#### Floodway Alteration (Hydromodification)

The Gopher Canyon Road Alternative would not impede water flows in a way that would cause downstream flooding or exceed the capacity of drainage systems. The enforcement of BMPs for priority projects, including larger cumulative projects, under the San Diego County Watershed Protection Ordinance would control runoff and reduce storm runoff and alteration of downstream floodways. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the alteration of floodways.

#### Scour

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Gopher Canyon Road Alternative would not alter a floodway in a manner that would change channel morphology. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects within floodplains that might, otherwise, result in scouring of a river or stream. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects relatedto scour.

### 6.5.15 Transportation

Section 4.15, Transportation, concludes that that the Gopher Canyon Road Alternative would add new traffic to the roadway network, with the greatest impacts along Gopher Canyon Road, linking to I-15, and to a lesser extent, East Vista Way. Of the two cumulative scenarios analyzed (Near-Term Conditions and Buildout Conditions), the analysis concludes that cumulatively significant adverse traffic effects could be avoided through mitigation measures that would be implemented through the payment of TIF fees. However, while payment of TIF fees would generally be considered full mitigation by the County, due to the uncertainty of the timing of implementation of the improvements it is conservatively concluded that the alternative could contribute to significant adverse cumulative conditions at six intersections and four roadway segments under the Near-Term Conditions Scenario.

## 6.5.16 Utilities

### Water Supply

#### New Water Facilities

As discussed in Section 4.16.1, Water Supply, of this EIS, the Gopher Canyon Alternative would likely rely on groundwater wells to meet on-site water demands. As a result, the alternative would not result in an increase in demand to water service providers and would not necessitate the construction of new off-site water facilities, or the expansion of existing water facilities, the construction of which would result in significant adverse effects. Therefore, the Gopher Canyon Alternative would not contribute to a significant adverse cumulative effect with regard to water facilities.

#### Groundwater Supply and Recharge

As discussed in Section 4.16.1, Water Supply, of this EIS, the Gopher Canyon Road Alternative would implement design features to limit groundwater withdrawal to sustainable levels and would occupy a small portion of the Bonsall Hydrologic Subarea. Therefore, the Gopher Canyon Road Alternative would not result in significant adverse effects with respect to groundwater supplies or groundwater recharge.

The San Diego County General Plan Final EIR concluded that no groundwater basins within the San Luis Rey Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan. As with the Applicant's Proposed Alternative, groundwater use at the Gopher Canyon Road Alternative site would be regulated to safe yield levels to prevent overdraft from occurring to the underlying groundwater sources. Therefore, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater resources.

#### Recycled Water

As discussed in Section 4.16.1, Water Supply, of this EIS, the Gopher Canyon Road Alternative would primarily rely on groundwater withdrawn from on-site groundwater wells. If recycled water were to be utilized, it would likely be supplied from the SGVWC, which has adequate capacity to accommodate the landfill without impacting existing users. At 80,000 gpd (75 AFY), the contracted quantity of recycled water would constitute a small portion of the cumulative growth in the use of SGVWC recycled water, and would not contribute to demand exceeding the capacity for delivery. Therefore, the Gopher Canyon Road Alternative would not contribute to a significant adverse cumulative effect with respect to existing recycled water users.

### Wastewater

As discussed in Section 4.16.2, Wastewater, of this EIS, the Gopher Canyon Road Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the landfill would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities and impacts to wastewater services. The alternative would not have a significant adverse effect relative to wastewater.

Individual developments would be reviewed by the County of San Diego DEH on a project-by-project basis to determine if sufficient wastewater services and treatment capacity exists to serve the specific development. The County requires new developments to pay a sewer service charge to maintain sewer systems. The County charges fees for the privilege of connecting to its sewerage system or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. The fees are required to construct new sewer infrastructure and/or incremental expansions to the existing sewerage system to accommodate individual development, which would mitigate the cumulative impact of the development on the sewerage system. The County would only allow new developments to connect to its sewer systems if there is sufficient capacity or planned expansions of its facilities to accommodate new developments proposed. Therefore, future development would not be permitted to exceed the capacity of wastewater conveyance systems or treatment facilities, since adequate capacity must be demonstrated in order to contribute flows to the system.

While notable population growth occurring in the County could require additional wastewater services and facilities, demand associated with the Gopher Canyon Road Alternative would not result in a significant adverse cumulative effect with regard to wastewater.

### Gas and Electric

As discussed in Section 4.16.3, Gas and Electricity Service, of this EIS, the Gopher Canyon Road Alternative would not result in an increase in consumption of energy that is above the service provider's planned service capacity, or use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Natural gas and electricity are provided via planning activities based on growth and demand projections of the service providers that demonstrate an ability to meet future demand for services, thus accounting for cumulative development. Further, the plans are updated periodically to account for changes in growth rates. The Gopher Canyon Road Alternative's incremental contribution to demand for gas and electricity services would be negligible, and represented within current estimates of demand for service. The cumulative projects would generate additional demand for gas and electricity. Future development projects would be evaluated on a project-by-project basis, and evaluated against planned demand. Future development that requires new infrastructure/gas main extensions or electrical service would be required to pay all applicable fees assessed by SDG&E necessary to accommodate the specific project. SDG&E would not allow new development projects to connect to existing gas mains and would not provide electrical service unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service. Thus, the Gopher Canyon Road Alternative would not result in a significant adverse cumulative effect on gas and electrical services as the supply would be managed to meet demand.

## 6.6 MERRIAM MOUNTAIN ALTERNATIVE

Table 6-5, *Gopher Canyon Road and Merriam Mountain Alternatives – Cumulative Projects,* above provides the list of projects in the vicinity of the Merriam Mountain Alternative. Figure 6-3, *Gopher Canyon Road and Merriam Mountain Alternatives - Locations of Cumulative Projects,* above, shows the locations of these projects.

## 6.6.1 Aesthetics

### Natural Landform Character

As concluded in Section 4.1, Aesthetics, of this EIS, the Merriam Mountain Alternative would have a significant adverse effect on natural landform character because of the dominance of the landfill with respect to natural landforms in the area. Even with the implementation of a mitigation measure to provide contouring and blending of the landfill with natural topography the impact to landform character would remain a significant adverse effect. However, none of the cumulative projects in the area would result in alterations of the landform within the view field of the alternative site. Therefore, the alternative and cumulative projects would not result in significant adverse cumulative effects with respect to the area's natural landform character.

### Visual Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the Merriam Mountain Alternative would contrast with the existing visual elements of a high quality landscape. However, significant adverse effects would not occur due to implementation of mitigation measures, such as landscape screening, revegetation with native plants, contrast and color matching, texture matching and other measures. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the alternative and cumulative projects would not cause significant adverse cumulative effects in the area's visual quality.

### Visual Resources

As concluded in Section 4.1, Aesthetics, of this EIS, the Merriam Mountain Alternative would impact the area's natural visual resources, including native vegetation and rock outcrops. However, with the implementation of mitigation measures to require replanting with native vegetation and replacement of rock outcrops, the alternative would not have a significant adverse effect with respect to visual resources that make up the local visual character. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the alternative and cumulative projects would not have a significant adverse cumulative effect on the area's visual resources.

### View Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the Merriam Mountain Alternative would cause a significant adverse effect on view resources by blocking an existing ridgeline and portions of views of the sky, and by creating a new ridgeline that dominates the viewing scene in a natural setting. No cumulative projects would extend into alternative site's view corridors or would cause view blockage across the site or immediate area. Thus, the alternative and cumulative projects would not result in significant adverse cumulative effects on view quality.

### Neighborhood Character

As concluded in Section 4.1, Aesthetics, of this EIS, the Merriam Mountain Alternative would not be fully consistent with the goals of the North Metro Subregional Plan's designated Resource Conservation Area, the I-15 Subregional Plan, and the County General Plan with respect to the preservation of ridgelines. Therefore,

the alternative would have a significant adverse effect with respect to an aesthetic goal that is part of an adopted community plan or other County approved document. However, cumulative projects would be consistent with the rural character policies of the North Metro Subregional Plan and other plans for the area. Therefore, the alternative and cumulative projects would not result in significant adverse cumulative effects with respect to the neighborhood character policies.

#### Dark Skies

As concluded in Section 4.1, Aesthetics, of this EIS, the Merriam Mountain Alternative would operate during daytime hours and would be consistent with County's Light Pollution Code (Code Section 59.101), which requires shielding and downward direction of exterior lighting. Cumulative projects in the area would also be required to comply with the County's Light Pollution Code, which requires that all new exterior lighting must be shielded. Because all new development would be required to comply with the Light Pollution Code, the alternative and cumulative projects would not result in adverse cumulative effects with respect to dark skies.

### 6.6.2 Agricultural Resources

As concluded in Section 4.2, Agricultural Resources, of this EIS, the Merriam Mountain Alternative would not directly or indirectly impair agricultural activities on adjacent farmlands or cause farmland to convert to non-agricultural uses. Further, the Merriam Mountain Alternative would not directly or indirectly impair the productivity of an on-site Land Conservation Act (Williamson) contracted tract in a manner that would inhibit agricultural activities. Cumulative projects are generally low density and rural in character and would not generally cause the loss or conversion areas used for agricultural purposes. Therefore, the Merriam Mountain Alternative and cumulative projects would not result in adverse cumulative effects on agricultural resources.

### 6.6.3 Air Quality

#### Air Quality Plans

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Merriam Mountain Alternative would not conflict with implementation of the RAQS or the applicable portions of the SIP as it is consistent with growth anticipated by the County and SANDAG. Cumulative projects identified in the Merriam Mountain Alternative area would have the potential to result in a cumulative impact to air quality plans if, in combination, they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Projects that are inconsistent with the regional planning documents that the RAQS and SIP are based on would have the potential to result in cumulative impacts if they would include development beyond regional projections. The nearest cumulative projects are located along I-I5 to both the east and west and include residential and commercial development. These cumulative projects would generally be consistent with the SIP and the RAQS because the projects would be required to be consistent with adopted general plans or other planning documents accounted for in the RAQS growth projections. Therefore, the Merriam Mountain Alternative, in combination with the cumulative projects in the Merriam Mountain project area, would not have a significant adverse cumulative adverse effect associated with this criterion.

### Air Quality Standards

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the Merriam Mountain Alternative would exceed the AQIA threshold criteria for VOC and $NO_x$ and would have a significant adverse cumulative effect on ozone in the region. Cumulative projects would also emit ozone precursors during construction and operation. Therefore, the Merriam Mountain Alternative would contribute to a significant adverse cumulative ozone effect in the SDAB, even after incorporation of design features.

### Cumulatively Considerable Criteria Pollutants

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Merriam Mountain Alternative would result in maximum emissions of VOCs and $NO_x$ that would exceed the corresponding AQIA threshold levels. Cumulative projects would also emit ozone precursor emissions during construction and operation. Therefore, the Merriam Mountain Alternative would contribute to a significant adverse cumulative ozone effect, even after incorporation of design features.

### Health Risk and Microclimate

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the Merriam Mountain Alternative would not expose sensitive receptors to substantial pollutant concentrations. Therefore, the Merriam Mountain Alternative would not result in a significant adverse effect on human health, avocado and citrus trees, or microclimate. Cumulative projects in the site vicinity could also emit TAC emissions. However, the Merriam Mountain Alternative is located a significant distance from any cumulative projects. Since the Merriam Mountain Alternative would not result in significant adverse effects from TAC emissions, then cumulatively there would be no significant adverse effects on human health or avocado and citrus trees. In addition, no significant adverse impacts would occur due to microclimate changes from cumulative projects.

### Objectionable Odors

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the Merriam Mountain Alternative has the potential to cause odors, but the use of a gas recovery system and daily cover would result in no significant adverse odor effects occurring. Cumulative projects in the vicinity also have the potential to generate odors. However, construction associated with the alternative would generally occur in a location far removed from the other cumulative projects, and there would be no overlap of odors. Therefore, there would be no significant adverse cumulative effects from odors from cumulative projects.

### Visibility Impacts

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Merriam Mountain Alternative and cumulative projects located in the vicinity would have the potential to result in a significant adverse cumulative visibility effects on the Agua Tibia Wilderness Area, if in combination, they would cause visibility impacts. Since no adverse visibility effect would occur from this alternative, the other cumulative projects in the vicinity of the site would not be expected to result in significant adverse cumulative visibility effect either.

### Greenhouse Gases

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, because of the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that an emissions increase resulting from the alternative and cumulative projects could actually cause a measurable increase in global GHG emissions sufficient to force global climate change. The Merriam Mountain Alternative would include design features to reduce GHG emissions, such as implementing a landfill gas recovery and flaring system, as well as features that address strategies consistent with the state, County and City regulations for reducing GHG emissions. The Merriam Mountain Alternative would be consistent with state, County, and City goals, and, therefore, would be consistent with the AB 32 reduction targets. It is likely that the cumulative projects would also meet or exceed applicable local and state laws and policies aimed at reducing GHG emissions, in support of AB 32. Implementation of design features would ensure that impacts from GHG emissions are minimized.

## 6.6.4 Biological Resources

### Waters of the U.S.

As discussed in Section 4.4, Biological Resources, of this EIS, the Merriam Mountain Alternative would result in permanent impacts to 1.2 acres of potentially jurisdictional non-wetland waters of the U.S. supporting mixed chaparral and live oak riparian woodland. No temporary impacts to potential jurisdictional non-wetland waters are proposed, and no potential jurisdictional wetlands occur on site. Direct and/or indirect permanent impacts to jurisdictional waters of the U.S. would be addressed through compliance with existing regulations including water quality standards and the no-net-loss policy of the CWA, subject to approval and regulatory permitting from the USACE and RWQCB. A compensatory mitigation plan would also be required in compliance with the Mitigation Rule, to offset environmental losses resulting from unavoidable impacts to waters of the U.S.

The EIR for the County of San Diego General Plan Update identifies a total of approximately 12,318.53 acres of vegetation communities that potentially contain jurisdictional wetland waters of the U.S. within the Draft North County Plan area, including a range of habitats from open water, to various meadows/seeps, riparian forests, riparian woodlands, and riparian scrub habitats. Of the 12,318.53 acres, 926 acres are identified for potential impacts, which represents 7.5 percent of the total acreage. The County of San Diego General Plan Update EIR states that cumulative projects would be required to comply with applicable federal regulations for wetlands, such as Sections 401 and 404 of the CWA, which require compensatory mitigation to reduce impacts to the extent feasible to achieve the no-net-loss standard. In addition, the County of San Diego's Resource Protection Ordinance restricts, to varying degrees, impacts to natural resources including wetlands, wetland buffers, and floodplains, and requires mitigation of wetlands at a 3:1 ratio. Therefore, the Merriam Mountain Alternative would not contribute to a cumulatively considerable loss of jurisdictional waters of the U.S. Therefore, no significant adverse cumulative effects would occur.

### Native Vegetation, Sensitive Plant Populations, Regionally Limited Sensitive Habitat

As discussed in Section 4.4, Biological Resources, of this EIS, the Merriam Mountain Alternative would result in the removal of native vegetation, including 3.5 acres of live oak riparian woodland and 252.8 acres of mixed chaparral, in addition to potential impacts to Diegan coastal sage scrub that could not be confirmed. The alternative is known to support summer holly and Ramona horkelia, sensitive plants on List A of the County of San Diego Sensitive Plant List. Based on available information, it appears that areas supporting

these plants would be impacted by the Merriam Mountain Alternative. The site does not support sensitive habitat that is regionally limited. With implementation of the mitigation measures resulting in a minimum no net loss or, in most cases, a net gain of habitat and avoidance of sensitive plants in compliance with the Draft North County Plan, the Merriam Mountain Alternative would not result in significant adverse effects to native vegetation or sensitive plant populations. No effects would occur to regionally limited sensitive habitat due to absence on site.

The EIR for the County of San Diego General Plan Update identifies impacts ranging from approximately 7.5 percent to approximately 42 percent of the total acreage of oak woodland, coastal sage scrub, native grasslands, chaparral and riparian habitats identified in the Draft North County Plan area. The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts to sensitive natural communities under the General Plan Update would be cumulatively considerable. Although the Draft North County Plan has not yet been adopted, it is assumed for this analysis that the Merriam Mountain Alternative's compliance with the proposed conservation and mitigation requirements would address impacts on native vegetation such that they would not result in significant adverse cumulative effects.

Since the mitigation measures under the Merriam Mountain Alternative would result in a net increase in oak and Diegan coastal sage scrub habitats, if present, and a no net loss of chaparral habitat, all of which would be preserved in perpetuity and would comply the Draft North County Plan, the alternative would not contribute to a cumulatively considerable loss of native vegetation within the Draft North County Plan area. Therefore, no significant adverse cumulative effects would occur to native vegetation or sensitive plant populations. The site does not support regionally limited sensitive habitat, therefore no cumulative effects would occur.

### Designated Critical Habitat

As discussed in Section 4.4 Biological Resources, of this EIS, the Merriam Mountain Alternative would result in direct impacts to designated critical habitat for coastal California gnatcatcher. Mitigation measures are proposed by the Gopher Canyon Alternative to compensate for impacts to mixed chaparral and Diegan coastal sage scrub, if present, which are potentially suitable habitats for coastal California gnatcatcher. The habitat compensation would be preserved in perpetuity pursuant to a conservation easement either on site as part of open space that would ultimately contribute to the PAMA of the Draft North County Plan, or off site and managed by a habitat manager, environmental group, or as part of an established mitigation bank. Long-term protection of these habitats would avoid potential future losses.

The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts under the General Plan Update to sensitive natural communities supporting special status species would be cumulatively considerable. Compliance with applicable federal and/or state regulations that provide protections for designated critical habitat and sensitive vegetation communities such as riparian habitats, including FESA, CESA, the NCCP, and the CDFG SAA, would reduce impacts to the extent feasible. However, the County of San Diego General Plan Update EIR states that without a comprehensive NCCP in place for long-term protection of sensitive natural communities for the entire southern California region, a cumulative loss would occur even after mitigation has been implemented for individual projects.

Since the mitigation measures are in compliance with the policies and regulations outlined in the Draft North County Plan, and compliance would be required with existing regulations such as FESA and the NCCP, the Merriam Mountain Alternative would not contribute to a cumulatively considerable loss of designated critical habitat within the Draft North County Plan area. Therefore, no significant adverse cumulative effects would occur.

### Wildlife Movement

As discussed in Section 4.4 Biological Resources, of this EIS, the Merriam Mountain Alternative is not within any identified major regional wildlife linkage, but was determined to function as a local and subregional wildlife corridor, particularly in the northern portion of the site proposed for impacts. However, there are other opportunities for local movement surrounding the site in the form of relatively large blocks of natural habitat. As such, permanent disturbance or extended disruption of wildlife movement on a regional and subregional basis would not occur; and the alternative would not have a significant adverse effect, nor cause a cumulatively considerable contribution to such an effect.

### State and Federal Listed Species

As discussed in Section 4.4, Biological Resources, of this EIS, the Merriam Mountain Alternative would comply with federal and state policies and regulations for listed species and their habitats, and with the Draft North County Plan. In addition, the Merriam Mountain Alternative would not jeopardize the continued existence of these species on the site. Surveys would be required to determine the presence of least Bell's vireo, southwestern willow flycatcher, coastal California gnatcatcher, or any other listed species on the alternative site, pursuant to proposed mitigation.

The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts under the General Plan Update to special status species would be cumulatively considerable. Compliance with applicable federal and/or state regulations that provide protections for special status plant and wildlife species, including FESA, CESA, and the NCCP, that typically require approval from USFWS and CDFG, would reduce impacts to the extent feasible. However, the County of San Diego General Plan Update EIR states that without a comprehensive NCCP in place for long-term protection of special status plant and wildlife species for the entire southern California region, a cumulative loss would occur even after mitigation has been implemented for individual projects.

Since the mitigation measures proposed by the Merriam Mountain Alternative would avoid direct loss of coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher, if any of these species are determined present on site, and compliance would be required with existing regulations such as FESA and CESA, the alternative would not contribute to a cumulatively considerable loss of state- or federal-listed species.

### Golden Eagle

As discussed in Section 4.4, Biological Resources, of this EIS, golden eagles are not currently known to occur on or near the Merriam Mountain Alternative site. The 2009 Merriam Mountains Specific Plan EIR identified an abandoned historical golden eagle nest on a prominent high rock outcrop. Since the nest is no longer active, the alternative would not contribute to significant adverse cumulative effects to golden eagles.

### Long-Term Regional and Sub-Regional Conservation Goals

As discussed in Section 4.4, Biological Resources, of this EIS, the Merriam Mountain Alternative would be required to comply with conservation requirements pursuant to the NCCP and County of San Diego biological resource guidelines, including consideration of the Draft North County Plan pending its approval. The design features and mitigation measures proposed for the Merriam Mountain Alternative would avoid direct loss of least Bell's vireo, southwestern willow flycatcher, and coastal California gnatcatcher, if any of these species are determined present on site; and would also provide a net increase of habitats for these species based on habitat loss to mitigation ratios that achieve, or in some cases exceed, the policies and regulations outlined in the Draft North County Plan.

However, the Merriam Mountain Alternative would result in impacts to mapped preserve areas pursuant to the Draft North County Plan that support designated critical habitat for coastal California gnatcatcher. Therefore, the alternative would contribute to a significant adverse cumulative effect on the long term conservation goals of the Draft North County Plan.

## 6.6.5 Cultural Resources

### Historic and Archaeological Resources

As discussed in Section 4.5.1, Historical and Archeological Resources, of this EIS, based on available information to date, it appears the Merriam Mountain Alternative would not have an adverse effect on historic properties, and the implementation of mitigation measures would result in no significant adverse effects to cultural resources. The Merriam Mountain Alternative, in combination with the identified cumulative projects, would have the potential to result in a cumulative impact associated with historical and archaeological resources. However, it can be reasonably assumed that similar mitigation measures to those recommended for the alternative (i.e., data recovery, avoidance, documentation and recordation, treatment in accordance with the Secretary of Interior's *Standards*, construction monitoring, etc.) would be implemented for the cumulative projects, thus avoiding significant adverse cumulative effects.

### Traditional Cultural Properties

As discussed in Section 4.5.2, Traditional Cultural Properties, of this EIS, if one or more TCPs are present within the APE of the Merriam Mountain Alternative, then the Merriam Mountain Alternative may have a significant adverse effect on one or more historic properties if it would alter or destroy the attributes of a TCP that make the TCP eligible for listing in the NRHP. Nonetheless, mitigation measures are proposed to reduce the potential effects of the Alternative on TCPs. Specifically, Mitigation Measure Merriam-TCP-1a requires the applicant conduct an updated and expanded alternative-specific Luiseño Indian ethnohistory study with the purpose of identifying NRHP-eligible Luiseño TCPs within the APE prior to the issuance of a permit. Similarly, Mitigation Measure Merriam-TCP-1b requires that the Merriam Mountain Alternative avoid impacts to NRHP-eligible TCPs and preserve NRHP-eligible TCPs. With implementation of proposed mitigation, the Merriam Mountain Alternative would not result in significant adverse cumulative effects on NRHP-eligible TCPs.

## 6.6.6 Environmental Justice

Section 4.6, Environmental Justice, identifies the significant adverse direct/individual and cumulative effects that would result from an alternative and evaluates whether those significant adverse effects would fall

disproportionately on minority, low-income or tribal populations. This alternative does not have significant adverse cumulative effects that would be borne disproportionately by such populations. However, the Section 4.6 analysis identified one significant adverse cumulative effect that may be borne disproportionately, that topic pertaining to air quality. The uncertainty regarding the affected population is due to the impact's regionally oriented, large scale effect with varying directionality.

## 6.6.7 Geology and Soils

### Fault Rupture

As discussed in Section 4.7, Geology and Soils, of this EIS, there are no faults located on the site, and the site is not located within an Alquist-Priolo Fault Zone. No active faults have been identified within the area, and, therefore, no adverse effects from ground rupture would occur. Therefore, the alternative would not contribute to significant adverse cumulative effects regarding ground rupture.

### Site Stability

As discussed in Section 4.7, Geology and Soils, of this EIS, the conceptual excavation plan prepared for the Merriam Mountain Road Alternative includes acceptable cut slope inclinations. In addition, grading operations at the site would remove all loose soils from the footprint of the landfill, liquefaction or potential harm associated with expansive soils, should such potential be present, would not occur within the landfill footprint. Therefore, appropriate design measures are required to ensure the public safety; and adverse impacts to public would be avoided, as would be demonstrated in the JTD for a landfill at the Merriam Mountain site. Impacts related to site stability would be site specific and would not occur in concert with, nor be exacerbated by combined effects of other land use activities in the vicinity. The Merriam Mountain Alternative would not contribute to significant adverse cumulative effects associated with slope stability/landsliding.

### Rockfalls

As discussed in Section 4.7, Geology and Soils, of this EIS, the Merriam Mountain Alternative would include design features to protect on-site components from rockfalls such that rockfalls would not create a safety risk to workers and equipment, or to the landfill development. No significant adverse effects would occur. Additional rockfall would not be expected on the Merriam Mountain South site from other cumulative project sites. No adverse effect related to rockfall for the alternative would occur. Therefore, the Merriam Mountain Alternative would not contribute to significant adverse cumulative rockfall effects.

### Debris Flow

As discussed in Section 4.7, Geology and Soils, of this EIS, the alternative would include design features to protect landfill components and workers from debris flows. Therefore, debris flow would not create a significant adverse effect regarding safety. Potential debris flow is a site specific potential that would not be affected by other off-site development. Therefore, the alternative would not contribute with other projects to create a significant adverse cumulative effect from debris flow.

### Settlement

As discussed in Section 4.7, Geology and Soils, of this EIS, landfill settlement of the final closure cap would avoid significant adverse effects regarding drainage or damage to landfill control systems. Impacts regarding the design of the final cover would be site specific and would not result in significant adverse effects on drainage or landfill control systems. There are no cumulative projects lying adjacent to the alternative site that could cause drainage onto the alternative site, nor combine with the alternative site in causing joint drainage effects in the alternative area. Therefore, the Merriam Mountain Alternative would not contribute to a significant adverse cumulative effect resulting from the design of the final cover.

### Public Safety

As discussed in Section 4.7, Geology and Soils, of this EIS, the new structures associated with a landfill at the alternative site would be developed in accordance with state and County requirements for the public safety. Potential impacts regarding geological conditions would be based on the design of the new structures and their immediate geological/soil surroundings. There are no proposed cumulative project structures that would affect the structural conditions at the sites of these facilities. Thus, the Merriam Mountain Alternative would not contribute to a significant adverse cumulative effect.

### Mineral Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, implementation of the landfill at the alternative site would result in the loss of access to valued mineral resources. A mitigation measure is proposed to minimize loss of mineral resources; however it may not be possible to avoid significant adverse effects on the utilization of such resources.

The EIR for the County's General Plan update identified a considerable amount of new growth in the County, some of it locating in areas know to contain valued resources (MRZ-2 zones). As such development precludes access to the mineral resources, the EIR concluded that the growth in the County is causing a significant impact on access to mineral resources. As implementation of the proposed mitigation measures may not result in the maximum utilization of mineral resources, the Merriam Mountain Alternative may further contribute to such significant adverse cumulative loss of resources.

### Soil Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, potential consumption of soil resources would be limited due to limited demand, the processing of on-site materials and/or the use of ADC. Operation of the Merriam Mountains South Alternative would not have a significant adverse effect on the availability of soil resources. The use of imported soil at the Merriam Mountain Alternative site would contribute to the overall consumption of such resources that is occurring within the region. However, the consumption of such resources would be reduced due to the use of on-site materials and use of ADC materials; and the alternative would not result in a significant adverse cumulative contribution to a shortfall in the availability of such resources.

## 6.6.8 Human Health and Safety

### Hazard to Public or the Environment

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Merriam Mountain Alternative would not create a significant adverse hazard to the public or the environment through the release, transport, use, production, or disposal of hazardous materials. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. The alternative would comply with applicable regulations and would implement design features that would eliminate, minimize or identify potential environmental impacts and/or nuisances.

There are no cumulative projects within the area that would require the generation or handling of hazardous wastes other than standard hazardous household waste items. Future development projects would be evaluated on a project-by-project basis to determine impacts to human health and safety. Cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination or exposure to hazardous substances is avoided or controlled to minimize the risk to the public and environment on a case-by-case basis. Therefore, the Merriam Mountain Alternative would not contribute to a significant adverse cumulative effect.

### Landfill Hazards

As discussed in Section 4.8, Human Health and Safety, of this EIS, the analysis of health impacts focuses on the health effects on population in the vicinity of the landfill site that would arise from dispersion of hazardous materials associated with landfill activity; and on population concentrated at congested intersections that haul vehicles pass by. The analysis indicated that landfill operations would not result in significant adverse effects on these populations that would be associated with contamination carried by air, water, vectors or litter.

There are no cumulative projects in the vicinity of the landfill site that would cause additional concentration of contaminants at these locations from air or vector transmittal. The analysis of the CO concentration effects at congested intersections, concluding that significant adverse effects would not occur, are based on an analysis that is inclusive of cumulative traffic. Due to the design features for the protection of water resources, the alternative is expected to generate no contamination on water resources and therefore would not contribute to significant adverse cumulative water effects. Further, cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination to local populations is avoided. Therefore, the alternative would not contribute to significant adverse cumulative effects.

### Existing On-site Hazardous Materials

As discussed in Section 4.8, Human Health and Safety, of this EIS, the alternative would have no significant adverse effects with regard to ACM and LBP materials, nor EMFs. As such, the alternative would not add to significant adverse cumulative effects associated with these materials.

### Accident Conditions

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Merriam Mountain Alternative would not create safety hazards due to concentrations of landfill gas, flooding, fire, rockfall, site security, waste disposal operation, or roadway safety. As such, the alternative would not add a cumulatively considerable contribution to public safety from these landfill activities. The analysis of these safety effects addresses potential risk to local populations in the vicinity of the landfill site. There are no cumulative projects that would be located in the local area so as to contribute to a cumulative risk. Therefore, this alternative would not contribute to a significant adverse cumulative public safety effect with regard to accident/risks.

### Emergency Response Plans and Emergency Evacuation Plans

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Merriam Mountain Alternative would not impair implementation of or physically interfere with the County of San Diego OES Operational Area Emergency Plan. This plan has been developed with thought for future development and needs of the County. There is no residential development associated with the landfill, and it is expected that the majority of construction workers and employees would be drawn from the existing labor pool in the region. As such, this alternative's incremental contribution to demand for increased emergency services would not be cumulatively considerable. A number of the cumulative projects would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to emergency plans. Development projects would be required to address emergency access issues and to provide site emergency provisions. The Merriam Mountain Alternative would not have significant adverse effects on emergency plan implementation and therefore would not contribute to cumulatively significant adverse effects on implementation of emergency response and evacuation plans.

## 6.6.9 Hydrogeology

### Groundwater Withdrawal and Recharge

The analysis contained within Section 4.9, Hydrogeology, of this EIS concludes that the Merriam Mountain Alternative would implement design features to limit groundwater withdrawal to sustainable levels and would occupy a small portion of the Moosa Hydrologic Subarea. Therefore, the Merriam Mountain Alternative would not result in significant adverse effects with respect to groundwater supplies or groundwater recharge.

As discussed above in the evaluation of the potential cumulative impacts of the Applicant's Proposed Alternative, Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR, concluded that no groundwater basins within the San Luis Rey Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan. As with the Applicant's Proposed Alternative, groundwater use at the Merriam Mountain Alternative would be regulated to sustainable yield levels to prevent a state of overdraft from underlying groundwater sources. Therefore, the Merriam Mountain Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater withdrawal.

### Groundwater Quality

The analysis contained within Section 4.9, Hydrogeology, of this EIS concludes that because the Merriam Mountain Alternative would be developed in accordance with all applicable regulations and design features to prevent groundwater contamination, no significant adverse effects would occur with regard to groundwater quality.

Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR did not identify the Moosa Basin as a groundwater basin having the potential for significant water quality impacts under full buildout. The Merriam Mountain Alternative would be designed to minimize leakage and to address any unforeseen leaks prior to reaching underlying groundwater resources. All cumulative projects would be required to comply with applicable federal, state, and local regulations designed to maintain groundwater quality. Thus, the Merriam Mountain Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater quality or discharge requirements.

## 6.6.10 Land Use and Planning

### Consistency With Land Use Plans

As discussed in Section 4.10, Land Use and Planning, of this EIS, the Merriam Mountain Alternative would conflict with several policies and goals of the General Plan and North County Metropolitan Subregional Plan, regarding land use designation, rural character, and protection of the I-15 scenic corridor. Therefore, the alternative would have a significant adverse effect.

The Merriam Mountain Alternative site is located in a highly rural area where very little land development is planned or has been recently developed. A residential subdivision (Circle Lane Tract Map) of 11 units has been approved to the northwest of the Merriam Mountain site and a couple of two- or three-unit parcel maps have been completed to the southeast in the vicinity of Solar Lane, to the east of Twin Oaks Valley Road. The primary development in the area is to the east of I-15 in the area of Lawrence Welk Resort. Projects that have been recently completed in the area of the Lawrence Welk Resort, include the 148-unit Garden Villas, the 117-unit Welk Canyon Villas, and the 210-unit Welk Villas on the Green. These projects are consistent with existing multi-family development patterns in the Lawrence Welk Resort and were developed in accordance with the General Plan and at the discretion of the County. No other development is anticipated in the immediate vicinity of the landfill.

Because adjacent future development and buildout of the area is expected to occur according to General Plan land use designations, development of these cumulative projects would not conflict with the policies of the General Plan or land use, or regional plans and, therefore, significant adverse cumulative effects with respect to land use policies would not occur.

### Consistency With Resource Conservation Area Designation

As discussed in Section 4.10, Land Use and Planning, of this EIS, the Merriam Mountain Alternative would adversely affect mineral resources and aesthetic resources, including the ridgeline of the Merriam Mountains and view corridors. This would conflict with conservation policies of the RCA. Because no feasible mitigation measures are available to reduce the conflict between the alternative and the policies of the RCA, this alternative would have a significant adverse effect.

In addition to the Merriam Mountains RCA (#23), the North County Metropolitan Subregional Plan identifies 11 other RCAs. These include Rancho Guejito (RCA #19), Gopher Canyon (RCA #20), San Marcos Mountains, (RCA #22), Moosa Canyon (RCA # 25), Valley Center Ridge (RCA #27), Jesmond Dene Oaks (RCA #28), Mount Whitney Double Peak (RCA #29), Bottle Peak/Lake Wohlford (RCA #30), Escondido Oaks (RCA #31); Orosco Ridge/Clevenger Canyon (RCA #32), Escondido Creek- Harmony Grove (RCA #33), San Dieguito River/Lake Hodges (RCA #36), and 123. Mesa Grande (RCA #123). The nearest to the Merriam Mountain Alternative site are Gopher Canyon (RCA #20), San Marcos Mountains (RCA #22), and Jesmond Dene Oaks (RCA #28). These areas are identified in the Subregional Plan as requiring special attention in order to conserve resources and appropriate implementation actions identified by the Community Plan include open space easements, application of special land use controls, such as cluster zoning, large lot zoning, scenic or natural resource preservation overlay zones, or by incorporating special design considerations into subdivision maps or special use permits. Cumulative projects in the region are generally dispersed and not large-scale in character. Therefore, these projects would feasibly avoid significant adverse effects on natural resources through clustering of development or other devices that would preserve open space and mitigate effects on natural and aesthetic resources in accordance with the RCA designations.

As mentioned above, the Merriam Mountain Alternative would not be consistent with the conservation policies of the RCA. However, because cumulative projects are expected to feasibly mitigate significant adverse effects on resources, such projects would be consistent with the requirements of the respective RCAs in the North Metro Subregional Plan and, in combination with the Merriam Mountain Alternative, would not have a significant adverse cumulative effect.

## 6.6.11 Noise and Vibration

### Initial Construction

As discussed in Section 4.11, Noise and Vibration, of this EIS, initial construction activity associated with the Merriam Mountain Alternative would not result in noise levels in excess of applicable standards at the nearest residential property line. The maximum construction noise levels at the nearest residential property line with implementation of design features is estimated to be 61 dBA, which is less than the 62.5 dBA noise criterion.

Cumulative projects in the region would produce temporary construction noise. As with the alternative, construction schedules and construction noise equipment levels would vary depending on the type of equipment and its duration of use. However, construction associated with the alternative would generally occur in a location far removed from the other cumulative projects. As a result, no actual noise ordinance exceedance would occur. Although the nearby noise-sensitive receptors could be exposed to construction noise from other closer projects in the vicinity, cumulative construction noise is not anticipated to result in significant adverse cumulative effects because such projects are disperse with varied construction schedules and each project would be required to comply with the applicable standards. There are no substantial sources of operational noise in the vicinity of the alternative. Therefore, noise levels at the property lines of noise sensitive receptors would not contribute to a significant adverse cumulative effect.

### Operation

As discussed in Section 4.11, Noise and Vibration, of this EIS, long-term operational noise associated with the Merriam Mountain Alternative would expose nearby residential uses to noise levels in excess of applicable

standards at the nearest property line. The maximum noise levels from periodic construction and landfill operations at the nearest residential property line would be 63.5 dBA including implementation of the design features, which would exceed the criterion of 62.5 dBA for residential uses. Mitigation measures, such as a reduction in the size or number of construction equipment and installation of a berm or sound barrier, as necessary would be required to reduce noise levels to 62.5 dBA. With implementation of the mitigation measures, impacts from periodic construction and landfill operations would be below the criterion. Blasting would be infrequent, but may cause noise levels to exceed 62.5 dBA at the nearest residential property line, which would result in a significant adverse effect.

Cumulative projects in the region would produce noise once projects in the region become operational. However, operational noise associated with the alternative would generally occur in a location far removed from the other cumulative projects. In addition, other cumulative projects would comply with the applicable standards or require implementation of project-specific mitigation. As a result, no actual noise ordinance impact would be expected to occur. There are no other substantial sources of operational noise in the vicinity of the alternative. Therefore, with the mitigation measures to reduce noise levels resulting from operation of the Merriam Mountain Alternative, noise levels at the property lines of noise sensitive receptors would not contribute to a significant adverse cumulative effect.

### Traffic Noise

As discussed in Section 4.11, Noise and Vibration, of this EIS, traffic noise associated with the Merriam Mountain Alternative would increase the noise levels at residences with existing noise levels in excess of 60 dBA CNEL. Therefore, traffic would result in a significant adverse noise effect.

Although the majority of the noise on most of the roads would come from other traffic sources, the Merriam Mountain Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. While the noise level increases would be less than 3 dBA, the Deer Spring Road, Mountain Meadow Road, and Champagne Boulevard corridors are existing degraded noise environments with noise levels exceeding 60 CNEL at existing residences. As the alternative would increase the noise levels, even by a small margin, the alternative would contribute to a significant adverse cumulative effect.

### Blasting

As discussed in Section 4.11, Noise and Vibration, of this EIS, blasting associated with the Merriam Mountain Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards. Therefore, no significant adverse vibration effects to nearby residences would occur.

While cumulative projects in the region may produce vibration from construction activities, vibration from blasting associated with the alternative would be infrequent and short-term and would generally occur in a location far removed from the other cumulative projects. Significant adverse cumulative vibration is not anticipated to occur because any vibration-generating activities of the various cumulative projects would not overlap or would not occur in the vicinity of blasting activities. Furthermore, each cumulative project would be required to comply with the applicable vibration standards. Therefore, the alternative would not contribute to a significant adverse cumulative effect.

## 6.6.12 Public Services

### Law Enforcement

As discussed in Section 4.12.1, Law Enforcement, of this EIS, the Merriam Mountain Alternative would not result in significant adverse physical impacts associated with law enforcement due to increases in population demand or activities occurring at the landfill site. There is no residential development associated with the landfill, and it is expected that the majority of employees would be drawn from the existing labor pool in the region. Further, design features would enhance site security and reduce potential demand for law enforcement services. As such, the Merriam Mountain Alternative's incremental contribution to demand for law enforcement would not be cumulatively considerable. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to law enforcement. While notable population growth occurring in the County could require additional facilities to enhance protection, the Merriam Mountain Alternative contribution would be negligible, and the alternative would not contribute to a significant adverse cumulative effect.

### Fire Protection and Emergency Medical Services

As discussed in Section 4.12.1, Fire Protection and Emergency Medical Services, of this EIS, the Merriam Mountain Alternative would not result in significant adverse physical effects associated with increases in population demand or activities occurring at the landfill site. Design features would limit the potential for fires to occur, would provide a first response capability on-site as a component of normal site operations, and would therefore reduce potential demand for fire and emergency medical services from service providers in the area. As such, the Merriam Mountain Alternative's incremental contribution to demand for fire and emergency medical services would not be cumulatively considerable.

A number of the cumulative projects in the area would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts on the provision of fire and emergency medical services. Such projects would be subject to regulatory requirements to reduce fire impacts, including implementation of fire protection features and required fees, under the County's mitigation fee program for the provision of new services. Therefore, the Merriam Mountain Alternative would not add to the incremental impact to fire protection and emergency medical services so as to require new or physically altered facilities, the construction of which could cause significant adverse cumulative environmental effects, in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services.

### Schools

As discussed in Section, 4.12.3, Schools, of this EIS, the Merriam Mountain Alternative would not result in a significant adverse effect on school facilities. Related development projects would be required to pay the appropriate school district developer fees based on the type and size of development proposed. Pursuant to SB 50, payment of fees to the appropriate school district is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, the construction of which could cause significant adverse environmental effects in order to maintain acceptable service ratios or other performance objectives for schools. Thus, the Merriam Mountain Alternative would not have a considerable contribution to significant adverse cumulative effects.

### Recreation

As discussed in Section 4.12.4, Recreation, of this EIS, the Merriam Mountain Alternative would not result in a significant adverse effect on recreational facilities or resources. Payment of park in lieu fees and/or dedication of parkland pursuant to the County's PLDO by future related developments would address associated incremental increases in demand for parks and recreation and therefore, these cumulative projects would not contribute to the County's existing parkland deficiency. Thus, the Merriam Mountain Alternative would not contribute to a significant adverse cumulative effect.

## 6.6.13 Socioeconomics

### Population, Housing, and Employment

As discussed in Section 4.13, Socioeconomics, of this EIS, the Merriam Mountain Alternative would not remove housing stock, nor generate notable new population or housing in the region. The alternative would result in approximately 35 jobs during initial construction and 22 employees during full operations. This increase in employment would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. Significant adverse effects on demographic distribution would not occur.

The SANDAG 2050 regional forecasts used in the analysis of socioeconomic impacts have been prepared in coordination with the development of the County's General Plan Update; and accounting for the cumulative projects identified above. Further, the projections are tied to development of the County's Regional Transportation Plan (RTP), which identifies future roadway projects, and which guides transportation funding that is provided through the County's Traffic Impact Fee and TransNet Programs.[18]

As such, the regional forecasts reflect both expected, planned and future projected growth and infrastructure systems. As noted above, the Merriam Mountain Alternative would add a negligible contribution to expected growth; and would be a component of otherwise forecasted growth and distribution of population, housing and employment. The Merriam Mountain Alternative contribution would not be result in significant adverse cumulative effects.

### Physical Environmental Effects

As discussed in Section 4.13, Socioeconomics, of this EIS, the Merriam Mountain Alternative would contribute financial benefits to the region. The physical impacts would not substantially interfere with the normal operations of other uses in the vicinity of the Gregory Canyon site in a manner that would lead to substantial adverse socioeconomic consequences.

For the most part, potential socioeconomic impacts are independent of cumulative development in the area. The aesthetic, noise and nuisance impacts from cumulative projects would be located sufficiently distant from the Merriam Mountain Alternative site so as not to combine with landfill impacts resulting in cumulative impacts.

[18] *Further documentation regarding the cumulative projects, SANDAG modeling and the County's transportation funding programs are provided in the Traffic Impacts Analysis for the Applicant's Proposed Alternative, Appendix M to the EIR.*

Socioeconomic impacts on uses along Champagne Boulevard due to cumulative traffic and noise impacts would be limited. The additional landfill traffic would not contribute to cumulatively considerable socioeconomic conditions along those roadways beyond those otherwise occurring with other development in the region. Section 4.11, Noise and Vibration, of this EIS, indicates that future noise due to traffic along Merriam Mountain would not substantially contribute to an exceedence of the CNEL noise levels. The majority of the noise on most of the roads would come from other traffic sources, and traffic from the alternative would not add a discernible difference.

The traffic analysis in Section 4.15, Transportation, of this EIS, indicates that intersection and roadway segment impacts would have less than significant impacts with the implementation of proposed mitigation measures that require physical improvements via the payment of TIF fees. With the added traffic and the proposed roadway improvements, roadway segments would operate at acceptable service levels of LOS D or better. Further, the traffic analysis concludes that the recommended physical improvements that are expected to be implemented cannot be guaranteed, in terms of the determination of improvements and the timing of implementation, even with the payment of the alternative's payment of fees for their construction. If the improvements are not implemented, traffic delays would increase as a component of a regional condition, caused mainly by traffic not associated with the alternative. However, roadway operations along Champaign Boulevard adjacent to Lawrence Welk Village would continue to operate at an acceptable of service, even if recommended roadway improvements are not implemented. Significant adverse effects at the intersections south of Lawrence Welk Village would occur if the physical improvements were not made. In any case, the County would have in its possession the fees paid by the applicant for implementing traffic improvements. Hence, if the fees were not applied as indicated in the Traffic Analysis, it is expected that they would be expended for regional transportation improvements of benefit to the County, pursuant to County priorities and procedures for the implementation of TIF fees. Potential reduction service levels would be typical of traffic congestion occurring in the region and would not alter the effective use of the properties located along Champaign Boulevard.

In summary, the potential direct socioeconomic impacts on uses in the vicinity of the landfill operations discussed above would occur in a manner that is mostly independent of cumulative development in the area. Socioeconomic impacts on uses along routes to the landfill due to cumulative traffic and noise impacts would be limited. The additional landfill traffic would not contribute to cumulatively considerable socioeconomic conditions along those roadways beyond those otherwise occurring with other development in the region. If the County is not timely in providing the proposed roadway improvements, even though receiving payments from the applicant, the additional traffic congestion would be typical of regional conditions and would not preclude the effective use of properties along the route. Further, the County would through its traffic programs be providing equivalent traffic improvements to address regional conditions. Therefore, the Merriam Mountain Alternative would not add a cumulatively considerable contribution to impacts on socioeconomic conditions.

## 6.6.14 Surface Hydrology

### Surface Water Quality

As discussed in Section 4.14, Surface Hydrology, of this EIS, with the implementation of BMPs and recommended mitigation measures, the construction, operation, and maintenance of the Merriam Mountain Alternative would not result in discharges that would create pollution, contamination or nuisance for the

water bodies in the area. Therefore, the alternative would not have a significant adverse effect with respect to pollution, contamination or nuisance for a receiving water body.

The alternative and all new projects within the San Luis River WMA and the Moosa Hydrologic Subarea, including agricultural projects, have the potential to expose these water bodies to pollution or nuisance and to contribute to the river's existing impairment. Construction activities and increased impermeability of development sites could also expose the WMA to increase surface runoff. In order to address these issues on a region-wide basis, the RWQCB requires priority projects (the highest potential polluters) to prepare SWMPs to mitigate potential adverse effects associated with surface water runoff. A SWMP must identify pollutant sources and provide BMPs, BMP maintenance programs, hydromodification plans, and other pertinent procedures related to the control of surface water runoff and pollution sources. With the implementation of required construction and operation BMPs, the alternative and cumulative projects would not result in significant adverse cumulative effects with regard to water quality.

### Flood Hazard

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Merriam Mountain Alternative is not located within a 100-year floodway nor would it provide structures within a floodway. In addition, the San Diego County Flood Damage Prevention Ordinance restricts new development in flood areas. With the enforcement of this ordinance, new cumulative projects would not contribute to flood hazards in the area. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to flood hazard.

### Water Surface Elevation

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Merriam Mountain Alternative is not located within a floodway nor would it alter or redirect a floodway in manner that would affect surface water elevation. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects in floodways that could, otherwise, cause a potential increase in water surface levels. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects related to water surface elevation.

### Floodway Alteration (Hydromodification)

As discussed in Section 4.14, Surface Hydrology, of this EIS, with implementation of construction and operation BMPs, the Merriam Mountain Alternative would not increase surface water runoff over existing conditions or affect a floodway in manner that would cause downstream flooding or exceed the area's drainage system capacity. The enforcement of BMPs for priority projects, including large scale cumulative projects, under the San Diego County Watershed Protection Ordinance, would control runoff and reduce storm runoff and alteration of downstream floodways. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the alteration of floodways.

### Scour

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Merriam Mountain Alternative would not alter any off-site or blue line water courses and, therefore, would not alter a floodway in a manner that

would result in scouring or changes in channel geomorphology. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects within floodplains that might, otherwise, result in scouring of a river or stream. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects relatedto scour.

## 6.6.15 Transportation

Section 4.15, Transportation, concludes that that the Merriam Mountain Alternative would add new traffic to the roadway network, with the greatest impacts between the landfill access road and the I-15 ramps, which would be accessed via Lawrence Welk Drive and Champagne Boulevard. Of the two cumulative scenarios analyzed (Near-Term Conditions and Buildout Conditions), the analysis concludes that cumulatively significant adverse traffic effects could be avoided through mitigation measures that would be implemented through the payment of TIF fees. However, while payment of TIF fees would generally be considered full mitigation by the County, due to the uncertainty of the timing of implementation of the improvements it is conservatively concluded that the alternative could contribute to significant adverse cumulative conditions at three intersections and one roadway segment under the Near-Term Conditions Scenario.

## 6.6.16 Utilities

### Water Supply

#### New Water Facilities

As discussed in Section 4.16.1, Water Supply, of this EIS, the Merriam Mountain Alternative would likely rely on groundwater to meet on-site water demands. As a result, the alternative would not result in an increase in demand to water service providers. Thus, the Merriam Mountain Alternative would not contribute to a significant adverse cumulative effect with regard to the construction of new water facilities or the expansion of existing facilities.

#### Groundwater Supply and Recharge

As discussed in Section 4.16.1, Water Supply, of this EIS, the Merriam Mountain Alternative would implement design features to limit groundwater withdrawal to sustainable levels and would occupy a small portion of the Moosa Hydrologic Subarea. Therefore, the Merriam Mountain Alternative would not result in significant adverse effects with respect to groundwater supplies or groundwater recharge.

The San Diego County General Plan Final EIR concluded that no groundwater basins within the San Luis Rey Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan. As with the Applicant's Proposed Alternative, groundwater use at the Merriam Mountain Alternative site would be regulated to sustainable yield levels to prevent a state of overdraft from underlying groundwater sources. Therefore, the Merriam Mountain Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater withdrawal.

### Recycled Water

As discussed in Section 4.16.1, Water Supply, of this EIS, the Merriam Mountain Alternative would primarily rely on groundwater withdrawn from on-site groundwater wells. If recycled water were to be utilized, it would likely be supplied from the SGVWC, which has adequate capacity to accommodate the alternative without impacting existing users. Therefore, the Merriam Mountain Alternative would not contribute to a significant adverse cumulatively effect with respect to existing recycled water users.

### Wastewater

As discussed in Section 4.16.2, Wastewater, of this EIS, the Merriam Mountain Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the landfill would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities and impacts to wastewater services. The alternative would not result in significant adverse effects relative to wastewater.

Individual developments would be reviewed by the County of San Diego DEH on a project-by-project basis to determine if sufficient wastewater services and treatment capacity exists to serve the specific development. The County requires new developments to pay a sewer service charge to maintain sewer systems. The County charges fees for the privilege of connecting to its sewerage system or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. The fees are required to construct new sewer infrastructure and/or incremental expansions to the existing sewerage system to accommodate individual development, which would mitigate the cumulative impact of the development on the sewerage system. The County would only allow new developments to connect to its sewer systems if there is sufficient capacity or planned expansions of its facilities to accommodate new developments proposed. Therefore, future development would not be permitted to exceed the capacity of wastewater conveyance systems or treatment facilities, since adequate capacity must be demonstrated in order to contribute flows to the system.

While notable population growth occurring in the County could require additional wastewater services and facilities, the Merriam Mountain Alternative would not add incrementally to the cumulative demand. Thus, the Merriam Mountain Alternative would not have a significant adverse cumulative effect with regard to wastewater.

### Gas and Electric

As discussed in Section 4.16.3, Gas and Electricity Service, of this EIS, the Merriam Mountain Alternative would not result in an increase in consumption of energy that is above the service provider's planned service capacity, or use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Natural gas and electricity are provided via planning activities based on growth and demand projections of the service providers that demonstrate an ability to meet future demand for services, thus accounting for cumulative development. Further, the plans are updated periodically to account for changes in growth rates. The Merriam Mountain Alternative's incremental contribution to demand for gas and electricity services would be negligible, and represented within current estimates of demand for service. The cumulative projects would generate additional demand for gas and electricity. Future development projects would be evaluated on a project-by-project basis, and evaluated against planned demand. Future

development that requires new infrastructure/gas main extensions or electrical service would be required to pay all applicable fees assessed by SDG&E necessary to accommodate the specific project. SDG&E would not allow new development projects to connect to existing gas mains and would not provide electrical service unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service. Thus, the Merriam Mountain Alternative would not result in a significant adverse cumulative effect on gas and electrical services as the supply would be managed to meet demand.

## 6.7 EAST OTAY MESA ALTERNATIVE

Table 6-6, *East Otay Mesa Alternative – Cumulative Projects,* provides the list of projects in the vicinity of the East Otay Mesa Alternative. Figure 6-4, *East Otay Mesa Alternative - Locations of Cumulative Projects,* shows the locations of these projects.

### 6.7.1 Aesthetics

#### Natural Landform Character

As concluded in Section 4.1, Aesthetics, of this EIS, the East Otay Mesa Alternative would minimally affect the character of the natural landform as viewed from typical viewing locations. The existing mountain ridgeline would remain intact and with implementation of design features to blend the landform with the natural setting the alternative would not result in a significant adverse effect with regard to landform character.

There are no proposed hillside cumulative projects that would share a common view field with the alternative or that would contribute to a cumulative landform impact. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the area's natural landform character.

#### Visual Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the East Otay Mesa Road Alternative would contrast with the existing visual elements of a high quality hillside landscape. However, with the implementation of design features and mitigation, no significant adverse visual effects would occur. Cumulative projects within a similar view field in the vicinity of Siempre Viva Road include #11, Otay Business Park; #14, Piper Otay light industrial park; and #17 the Hawano business/industrial park. These projects would convert vacant tracts of land to an urbanized aspect. However, because these uses would be consistent with the predominant character of existing development in the area, they would not result in significant adverse effects on visual quality. Therefore, the alternative and cumulative projects would not result in significant adverse cumulative effects with respect to visual quality.

#### Visual Resources

As concluded in Section 4.1, Aesthetics, of this EIS, the East Otay Mesa Alternative would obscure only a moderate portion of the open hillsides to the east of the site, and the portion of the hillsides that would be blocked does not contain unique or regionally significant features. Because changes in the overall landscape under this alternative would not cause a substantial degradation of the visual resource, the East Otay Mesa site would not have significant adverse effects with respect to visual resources. The cumulative projects

**Table 6-6**

**East Otay Mesa Alternative – Cumulative Projects**

| No. | Project Name | Project No. | Project Description |
|---|---|---|---|
| **County of San Diego** | | | |
| | **Projects Processing Site Plans** | | |
| 1 | California Crossings | P06-102; TPM 21046 | 325,502 ksf Community Shopping Center |
| 2 | CCA San Diego Correctional Facility | MPA 09-029; P 06-074 | 2,132 bed Correctional Facility |
| 3 | COPART County Sales Yard Time Extension (a) | P 88-020W1 | Auto Auction |
| 4 | FEDEX Site Plan | S08-018 | FEDEX Distribution Center |
| 5 | Insurance Auto Auctions | P00-012TE | Auto Auction |
| 6 | Salvage Yard / National Enterprises Recycling | P 98-001 | Auto Recycling and Salvage Yard |
| 7 | Sunroad Interim Uses - Sunroad Center 1 Harvest Ranch Nursery | P 09-009; P 09-005 | Nursery |
| 8 | Travel Plaza | P 98-024W1; TPM 20424 | Truck Stop |
| 9 | Vulcan | S 07-038 | Asphalt and Concrete Plant |
| | **Projects Processing Tentative Maps** | | |
| 10 | Vulcan | S 07-038 | Asphalt and Concrete Plant |
| 11 | Otay Business Park | TM 5505 | 2092.9 ksf Industrial / Business Park |
| 12 | Otay Crossings Commerce Park | TM 5405; SPA 04-006 | Mixed Industrial and temporary Truck Parking |
| 13 | Sunroad / Otay Tech Centre | SPA 07-003; TM 5538 | 130 acres Tech Business Park and 27 acres commercial retail |
| 14 | Piper Otay Park | TM 5527 | Light Industrial |
| 15 | S. County Commerce Centre | TM 5394R | Industrial |
| 16 | Saeed Revised Map | TM 5304R | Industrial |
| 17 | Hawano | 10-0123176 | 892.248 ksf Industrial / Business Park |
| 18 | Rabago | 10-0123562 | 54.95 acres Industrial / Business Park |
| 19 | Interstate Industrial Centre | (TPM 98-0759) | 453,000 square feet |

**Table 6-6 (Continued)**

**East Otay Mesa Alternative – Cumulative Projects**

| No. | Project Name | Project No. | Project Description |
|---|---|---|---|
| | | | of Warehousing |
| 20 | Sunroad Otay Park | (TM 91-0394) | 1,337,000 square feet of Small Industrial Park, 79.3 acres |
| 21 | La Media Truck Park II | — | 40.0 acres |
| 22 | Robinhood Ridge | — | 3.8 acres of neighborhood commercial, 4.6 acres of light industrial |
| 23 | Semi-Trailer Storage Facility (Planned Development permit 12083) | — | 8.02 net acres |
| 24 | Airway Truck Terminal | — | 19.7 acres |
| 25 | California Terraces | — | Phase I = 644 MF DUs, Phase II = 1585 DUs, 2.4 acres commercial |
| 26 | Denney Ranch | — | 414 MF DUs |
| 27 | Hidden Trails | — | 224 MF DUs, 205 SF DUs, 4.1 acre park |
| 28 | Southview | — | 553 MF DUs |
| 29 | Candlelight | — | 435 MF DUs |
| 30 | Handler Otay Mesa | — | Mixed commercial/ retail / office project |
| 31 | Otay Corporate Centre N & Otay Corporate Centre S | — | Industrial park |
| 32 | Las California's | — | 374,300 sq ft small industrial park, 305,900 sq ft large industrial park |
| 33 | Opus | — | 318,700 sq ft industrial project |
| 34 | Just Rite | — | 34.44 acres industrial project |
| 35 | World Petrol III | — | 16 fuelling stations, 5,832 SF convenience market, 2041 restaurant, 290 SF office |
| 36 | Pardee Commercial | — | 16 acre commercial |
| 37 | Martinez Ranch | — | 62 acre Industrial park |
| 38 | Siempre Viva Business Park | — | Business park |

**Table 6-6 (Continued)**

**East Otay Mesa Alternative – Cumulative Projects**

| No. | Project Name | Project No. | Project Description |
|---|---|---|---|
| 39 | Southwestern Junior College | — | Junior college |
| 40 | Otay Mesa Business Park (Brownfield Tech park) | — | Business park |
| 41 | Ingalls Property | — | 13 SF DUs, 24 townhomes, 106 Apts, 19700 SF office, 20396 SF retail, 39450 industrial |
| 42 | Candlelight Villas West | — | 223 MF DUs on 23 Acres |
| 43 | Spring Canyon Ranch | — | |
| 44 | Esplanade | — | 1,337 SF DUs on 77.6 Acres |
| 45 | Lone Star | — | Industrial use (approx 70 acres) |
| 46 | San Ysidro High School (Expansion) | — | High School for 814 students |
| 47 | St. Jerome Catholic Church | — | Church and education center |
| 48 | Southbay Distribution Centre | — | Distribution Warehouse |

*— - Not Available*

*Source: Linscott, Law and Greenspan, 2012*

along Siempre Via Road, which would be within the alternative's view field, would be low-rise and low-density business and industrial parks. These would not be constructed in the hillside area. The cumulative projects would not change the visual character of the hillsides and open space of Otay Mountain, which constitutes the area's primary visual resource. Thus, cumulative projects would not result in a significant adverse cumulative effect on visual resources.

### View Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the East Otay Mesa Road Alternative would not interrupt a viewing corridor or adversely impact the unity of the viewing scene or result in a significant adverse impact on view quality. The cumulative projects in alternative's view field would be low-rise and low-density in character and would not block views of the hillsides and open space of Otay Mountain, which forms a backdrop to the area. Because the alternative and cumulative projects would not block views of the mountain backdrop, they would not result in significant adverse cumulative effects on view quality.

### Neighborhood Character

As concluded in Section 4.1, Aesthetics, of this EIS, the East Otay Mesa Road Alternative would not be fully consistent with conservation goals of the Otay Subregional Plan. In addition, because this alternative would result in a nuisance visual effect south of the international border, it would not be consistent with the goal of the Subregional Plan to avoid uses that could result in nuisance effects at the international border. Therefore, the alternative would result in a significant adverse effect on neighborhood character. Cumulative projects in the Subregional Plan area would consist of primarily of low-rise, low-density business and industrial uses, which would be consistent with the requirements of the East Otay Mesa Business Park Specific Plan.Under this plan, land use regulations are in place that would reduce impacts to aesthetic resources. In addition, the mixed uses, including housing, under the Specific Plan would be consistent in character with the mixed, low-rise uses in the community south of the border. Because the cumulative projects would not result in a significant adverse impact, these would not contribute to the alternative's incremental impact on neighborhood character. Therefore, cumulative projects would not result in a significant adverse cumulative effect.

### Dark Skies

As concluded in Section 4.1, Aesthetics, of this EIS, the East Otay Mesa Alternative would operate during daytime hours and would comply with the County's Light Pollution Code, which requires shielding and downward direction of exterior lighting. With the implementation of these requirements, the alternative would not have an adverse effect on nighttime views. Cumulative projects, which would consist primarily of business and industrial uses, would also be required to comply with the County's Light Pollution Code, which requires that all new exterior lighting must be shielded. Because all new development would be required to comply with the Light Pollution Code, the alternative and cumulative projects would not result in adverse cumulative effects with respect to dark skies.

## 6.7.2 Agricultural Resources

As concluded in Section 4.2, Agricultural Resources, of this EIS, the East Otay Mesa Alternative is located adjacent to the East Otay Mesa Business Park Specific Plan, the majority of which is located within an area identified as Farmland of Local Importance. According to the Conservation and Open-Space Element of the General Plan, a number of issues, including land use pressures, cause stress on the ongoing success of agriculture in the County.[19] Between 1984 and 2006 total agricultural lands in the County were reduced by approximately 4,000 acres per year.[20] For this reason, the General Plan includes a goal to "support the acquisition or voluntary dedication of agricultural conservation easements and programs that preserve agricultural lands" (San Diego County General Plan Goal COS 6.4).

The EIR prepared for the Specific Plan determined that the incremental loss of agricultural lands under the Specific Plan would be cumulatively significant in combination with other losses of agricultural land in the adjacent areas of the region, which are also proposed for future development. Thus, the loss of acreage identified as Farmland of Local Importance under the East Otay Mesa Alternative would incrementally contribute to the cumulative loss of Farmland of Local Importance. In addition to future development

[19] *San Diego County General Plan, Conservation and Open Space Element, page 5-14 (2010).*

[20] *San Diego County General Plan Update EIR, Section 2.02, Agricultural Resources, Table 2.2-1, San Diego County Farmland Mapping and Monitoring Program Acreages, page 2.2-35 (August 2011).*

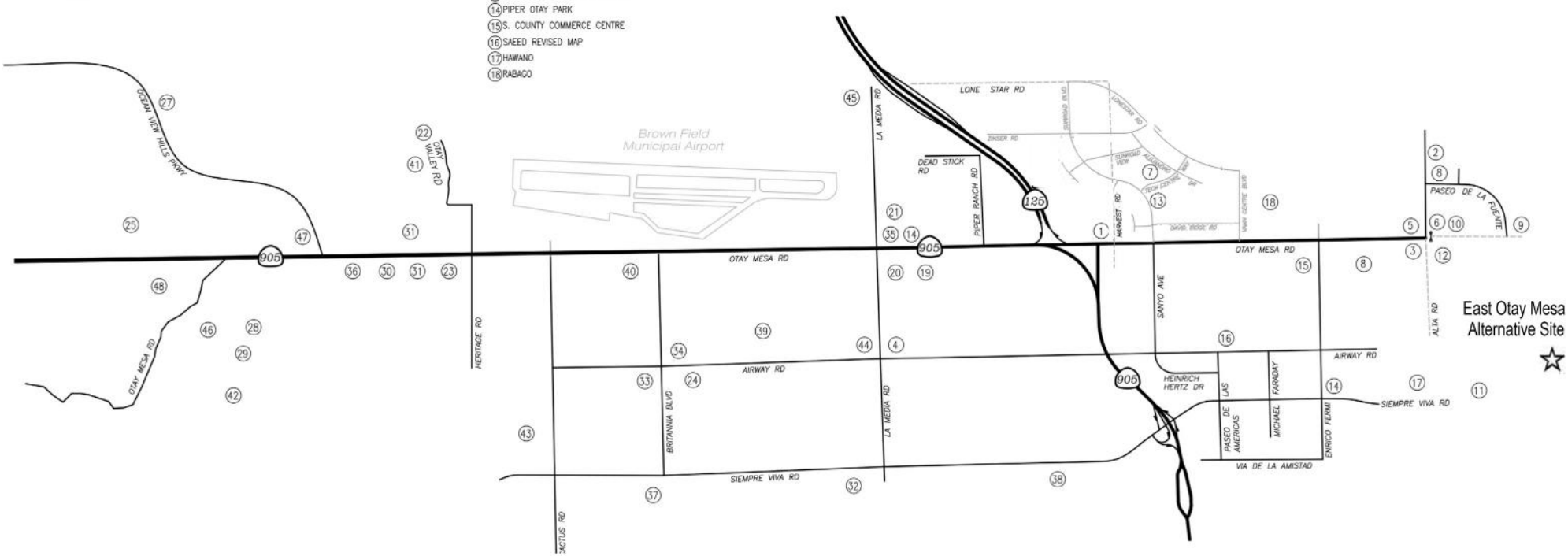
## LIST OF CUMULATIVE PROJECTS

### COUNTY OF SAN DIEGO

1. CALIFORNIA CROSSINGS
2. CCA SAN DIEGO CORRECTIONAL FACILITY
3. COPART COUNTY SALES YARD TIME EXTENSION (a)
4. FEDEX SITE PLAN
5. INSURANCE AUTO AUCTIONS
6. SALVAGE YARD/ NATIONAL ENTERPRISES RECYCLING
7. SUNROAD INTERIM USES– SUNROAD CENTER I HARVEST RANCH NURSERY
8. TRAVEL PLAZA
9. VULCAN
10. OMC PROPERTIES
11. OTAY BUSINESS PARK
12. OTAY CROSSINGS COMMERCE PARK
13. SUNROAD/ OTAY TECH CENTRE
14. PIPER OTAY PARK
15. S. COUNTY COMMERCE CENTRE
16. SAEED REVISED MAP
17. HAWANO
18. RABAGO

### CITY OF SAN DIEGO

19. INTERSTATE INDUSTRIAL CENTRE
20. SUNROAD OTAY PARK
21. LA MEDIA TRUCK PARK II
22. ROBINHOOD RIDGE
23. SEMI–TRAILER FACILITY (PLANNED)
24. AIRWAY TRUCK TERMINAL
25. CALIFORNIA TERRACES
26. DENNERY RANCH
27. HIDDEN TRAILS
28. SOUTHVIEW
29. CANDLELIGHT
30. HANDLER OTAY MESA
31. OTAY CORPORATE CENTRE N & OTAY CORPORATE CENTRE
32. LAS CALIFORNIA'S
33. OPUS
34. JUST RITE
35. WORLD PETROL III
36. PARDEE COMMERCIAL
37. MARTINEZ RANCH
38. SIEMPRE VIVA BUSINESS PARK
39. SOUTHWESTERN JUNIOR COLLEGE
40. OTAY MESA BUSINESS PARK (BROWNFIELD TECHPARK)
41. INGALLS PROPERTY
42. CANDLELIGHT VILLAS WEST
43. SPRING CANYON RANCH
44. ESPLANDE
45. LONESTAR
46. SAN YSIDRO HIGH SCHOOL (EXPANSION)
47. SAINT JEROME CATHOLIC CHURCH
48. SOUTHBAY DISTRIBUTION CENTRE




N

Not to scale

**East Otay Mesa Alternative - Locations of Cumulative Projects**

**Gregory Canyon**

Source: Linscott Law & Greenspan, 2012.

FIGURE

**6-4**

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associated with the Specific Plan buildout, other large-scale projects in the region are also determined to generate significant and unavoidable cumulative impacts on FMMP-designated Farmland of Local Importance.[21] Therefore, the impact to farmland under this alternative is considered a significant adverse cumulative effect.

## 6.7.3 Air Quality

### Air Quality Plans

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the East Otay Mesa Alternative would not conflict with implementation of the RAQS or the applicable portions of the SIP as it is consistent with growth anticipated by the County and SANDAG. Cumulative projects identified in the East Otay Mesa project area would have the potential to result in a cumulative impact to air quality plans if, in combination, they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Projects that are inconsistent with the regional planning documents that the RAQS and SIP are based on would have the potential to result in cumulative impacts if they would include development beyond regional projections. The nearest cumulative projects would be located in the vicinity of State Route 125 and State Route 905 to the west of the East Otay Mesa project area and would include residential, institutional, industrial and commercial development. These cumulative projects would generally be consistent with the SIP and the RAQS because the projects would be required to be consistent with adopted general plans or other planning documents accounted for in the RAQS growth projections. Since the East Otay Mesa Alternative would be consistent with the County's Integrated Waste Management Plan as well as SANDAG's Growth Management Strategy and the Regional Air Quality Plan, the purposes of which are to reduce vehicle traffic and air emissions, it would not conflict with the RAQS or applicable portions of the SIP. No significant adverse effects would occur under the East Otay Mesa Alternative.

Therefore, the East Otay Mesa Alternative, in combination with the cumulative projects in the East Otay Mesa project area, would not result in significant adverse cumulative effects associated with this criterion.

### Air Quality Standards

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the East Otay Mesa Road Alternative would exceed the AQIA threshold criteria for VOC and $NO_x$ and would have a significant adverse cumulative effect on ozone in the region. Cumulative projects would also emit ozone precursors during construction and operation. Therefore, the East Otay Mesa Road Alternative would contribute to a significant adverse cumulative ozone effect, even after incorporation of design features.

### Cumulatively Considerable Criteria Pollutants

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the East Otay Mesa Alternative would result in the emission of criteria pollutants for which the area is in non-attainment during both construction and operation. A significant adverse effect may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. The SDAB is currently in non-attainment for the federal ozone standard.

[21] *City of Chula Vista, Otay Ranch Eastern Urban Center Sectional Planning Area (SPA) Plan EIR, page ES-41 (May 2009).*

Construction and operation of the East Otay Mesa Alternative would exceed the AQIA threshold criteria for VOC and $NO_x$ and would have a significant adverse cumulative effect on ozone in the region. Cumulative projects would also emit ozone precursors during construction and operation. Therefore, the East Otay Mesa Alternative would contribute to a significant adverse cumulative ozone effect in the East Otay Mesa area, even after incorporation of design features.

The East Otay Mesa Alternative would result in maximum emissions of VOCs and $NO_x$ that would exceed the corresponding AQIA threshold levels. Cumulative projects would also emit ozone precursor emissions during construction and operation. Therefore, the East Otay Road Alternative would contribute to a significant adverse cumulative ozone impact, even after incorporation of design features.

### Health Risk and Microclimate

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the East Otay Mesa Alternative would not expose sensitive receptors to substantial pollutant concentrations. Therefore, the East Otay Mesa Alternative would not result in a significant adverse effect to human health, avocado and citrus trees, or microclimate. Cumulative projects in the site vicinity could also emit TAC emissions. The East Otay Mesa Specific Plan Area is immediately west of the proposed East Otay Mesa Alternative site. However, the East Otay Mesa Alternative would be separated from the Specific Plan Area by a 1,000-foot buffer. The actual proposed landfill would occupy approximately 340 acres of the 450 acre site and would be located away from the boundary shared by the Specific Plan Area. In addition, landfills are not point sources of pollutants, and emissions caused by the East Otay Mesa Alternative would be dispersed rather than directed. Therefore, the East Otay Mesa Alternative would not result in adverse effects from TAC emissions, and cumulatively there would be no significant adverse effects to avocado and citrus trees or human health. In addition, no significant adverse effects would occur to microclimate effects from cumulative projects.

### Objectionable Odors

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, construction and operation of the East Otay Mesa Road Alternative has the potential to cause odors, but the use of a gas recovery system and daily cover would result in no significant adverse odor effects. Cumulative projects in the vicinity also have the potential to generate odors. However, these projects are located a substantial distance from the East Otay Mesa Road Alternative site and would not cause any overlap of odors. Since the East Otay Mesa Road Alternative would not result in significant adverse effects from odors, there would be no significant adverse cumulative effects from odors from cumulative projects.

### Visibility Impacts

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the East Otay Mesa Alternative and cumulative projects located in the vicinity would have the potential to result in an adverse cumulative visibility impacts to the Agua Tibia Wilderness Area, if in combination, they would cause visibility impacts. Since no significant adverse visibility effect would occur from this alternative, the other cumulative projects in the vicinity of the site would not be expected to result in significant adverse cumulative visibility effects either.

### Greenhouse Gases

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, because of the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that an emissions increase resulting from the alternative and cumulative projects could actually cause a measurable increase in global GHG emissions sufficient to force global climate change. The East Otay Mesa Alternative would include numerous design features to reduce GHG emissions, such as implementing a landfill gas recovery and flaring system, as well as features that address strategies consistent with the state, County and City regulations for reducing GHG emissions. The East Otay Mesa Alternative would be consistent with state, County, and City goals, and, therefore, would be consistent with the AB 32 reduction targets. It is likely that the cumulative projects would also meet or exceed applicable local and state laws and policies aimed at reducing GHG emissions, in support of AB 32. Implementation of design features would ensure that impacts from GHG emissions are minimized.

## 6.7.4 Biological Resources

### Waters of the U.S.

As discussed in Section 4.4, Biological Resources, of this EIS, the East Otay Mesa Alternative would result in permanent impacts to 0.59 acre of potentially jurisdictional non-wetland waters of the U.S. supporting coastal sage scrub habitat and non-native grassland. The East Otay Mesa Alternative site would also permanently impact 6.6 acres of a potentially USACE regulated mima mound-vernal pool complex (a seasonal wetland). Direct and/or indirect permanent impacts to jurisdictional waters of the U.S. would be addressed through compliance with existing regulations including water quality standards and the no-net-loss policy of the CWA, subject to approval and regulatory permitting from the USACE and RWQCB. A compensatory mitigation plan would also be required in compliance with the Mitigation Rule, to offset environmental losses resulting from unavoidable impacts to waters of the U.S.

The EIR for the County of San Diego General Plan Update identifies a total of approximately 12,318.53 acres of vegetation communities that potentially contain jurisdictional wetland waters of the U.S. within the Draft North County Plan area, including a range of habitats from open water, to various meadows/seeps, riparian forests, riparian woodlands, and riparian scrub habitats. Of the total 12,318.53 acres, 926 acres are identified for potential impacts, which represents 7.5 percent of the total acreage. The County of San Diego General Plan Update EIR states that projects would be required to comply with applicable federal regulations for wetlands, such as Sections 401 and 404 of the CWA, which require compensatory mitigation to reduce impacts to the extent feasible to achieve the no-net-loss standard. In addition, the County of San Diego's Resource Protection Ordinance restricts, to varying degrees, impacts to natural resources including wetlands, wetland buffers, and floodplains, and requires mitigation of wetlands at a 3:1 ratio. Therefore, the East Otay Mesa would not contribute to a cumulatively considerable loss of jurisdictional waters of the U.S. Therefore, no significant adverse cumulative effects would occur.

### Native Vegetation, Sensitive Plant Populations, Regionally Limited Sensitive Habitat

As discussed in Section 4.4, Biological Resources, of this EIS, the East Otay Mesa Alternative would result in the removal of native vegetation, including 162.5 acres of coastal sage scrub habitat, and is known to support five sensitive plants on Lists A and B of the County of San Diego Sensitive Plant List. These include variegated dudleya, San Diego coast barrel cactus, San Diego marsh elder, Cleveland's golden star, and Tecate cypress; the alternative site also has the potential to support Otay tarplant. In addition to native habitat and

sensitive plants, the site supports a potential mima mound-vernal pool complex, which is considered a regionally limited sensitive habitat, and to which 6.6 acres of impacts would occur. With implementation of the mitigation measures to enhance and/or avoid such species, the East Otay Mesa Alternative would not result in significant adverse effects to native vegetation, sensitive plant populations, or regionally limited sensitive habitat. However, if mitigation for impacts to the mima mound-vernal pool complex is determined infeasible based on the uniqueness of the habitat, significant adverse effects to a regionally limited sensitive habitat could occur.

The EIR for the County of San Diego General Plan Update identifies a total of approximately 76,912.42 acres of coastal sage scrub habitats within the South County Plan area, including Diegan coastal sage scrub, coastal sage-chaparral scrub, and flat-topped buckwheat. Of this total, approximately 14,182.06 acres are identified for potential impacts. The County of San Diego General Plan Update EIR states that until the North County and East County Plans are adopted, development and redevelopment impacts to sensitive natural communities under the General Plan Update would be cumulatively considerable. Since the East Otay Mesa Alternative is located within the South County Segment of the South County Plan, it is assumed for this analysis that with compliance with the proposed conservation and mitigation requirements outlined in the South County Plan the alternative would not result in significantly adverse effects.

Since the mitigation measures under the East Otay Mesa Alternative would result in a net increase in coastal sage scrub habitat to be preserved in perpetuity and in compliance with the South County Plan, the alternative would not contribute to a cumulatively considerable loss of native vegetation within the South County Plan area. Therefore, no significant adverse cumulative effects would occur to native vegetation or sensitive plant populations. Mitigation is also proposed for impacts to a regionally limited sensitive habitat, the mima mound-vernal pool complex. However, if the mitigation is determined infeasible significant cumulative effects to this regionally limited sensitive habitat would occur.

### Designated Critical Habitat

As discussed in Section 4.4 Biological Resources, of this EIS, the East Otay Mesa Alternative would result in direct impacts to designated critical habitat for coastal California gnatcatcher, Quino checkerspot butterfly, Riverside fairy shrimp, and Otay tarplant. Mitigation measures are proposed to compensate for impacts to coastal sage scrub, potential mima mound-vernal pool complex, and non-native grassland, which is potentially suitable habitat for these species. This mitigation would result in a net gain of habitat for these species. The habitat compensation would be preserved in perpetuity pursuant to a conservation easement either on site as part of open space that would ultimately contribute to South County Plan preserve, or off site and managed by a habitat manager, environmental group, or as part of an established mitigation bank. Long-term protection of these habitats would avoid potential future losses. In addition, the East Otay Mesa Alternative includes 110 acres of open space pursuant to Proposition A that could provide potentially suitable habitat for species. In addition, pursuant to the South County Plan, the East Otay Mesa Alternative is within an amendment area and would require approval for take authorization from the wildlife agencies through the amendment process.

Since the mitigation measures are in compliance with the policies and regulations outlined in the South County Plan, and compliance would be required with existing regulations such as FESA as part of the amendment process, the East Otay Mesa Alternative would not contribute to a cumulatively considerable loss of designated critical habitat within the South County Plan area.

### Wildlife Movement

As discussed in Section 4.4, Biological Resources, of this EIS, it is not likely that the East Otay Mesa Alternative site functions as an important regional wildlife movement corridor due to existing barriers and development to the south. The alternative would leave coastal sage scrub and potential vernal pool areas undeveloped that could provide habitat for local wildlife movement within the site and migrating bird species. As a result, the alternative would not result in a significant adverse cumulative effect.

### State and Federal Listed Species

The East Otay Mesa Alternative would be required to comply with federal and state policies and regulations for listed species and their habitats. The East Otay Mesa Alternative would not jeopardize the continued existence of these species on the site. Additional surveys are required on the site to determine the presence or absence of species previously observed in 1993 or with the potential to occur, pursuant to proposed mitigation. In addition, pursuant to the South County Plan, the East Otay Mesa Alternative is within an amendment area and would require approval for take authorization from the wildlife agencies through the amendment process or through an ESA consultation with the Corps.

Since the mitigation measures proposed by the East Otay Mesa Alternative would avoid direct loss of listed species on site, if any are determined present, and compliance would be required with existing regulations, the alternative would not contribute to a cumulatively considerable loss of state- or federal-listed species within the South County Plan area, and no significant adverse cumulative effects would occur.

### Golden Eagle

As discussed in Section 4.4, Biological Resources, of this EIS, golden eagles were noted foraging on the East Otay Mesa Alternative site in 1993, and a nest site is known in the vicinity. Golden eagles have a very limited distribution in San Diego County, therefore any impacts would result in a cumulative impact to the species. However, with the mitigation measures proposed by the alternative, no significant adverse cumulative effects would occur to the golden eagles.

### Long-Term Regional and Sub-Regional Conservation Goals

As discussed in Section 4.4, Biological Resources, of this EIS, the East Otay Mesa Alternative would be required to comply with conservation requirements pursuant to the County of San Diego biological resource guidelines such as the Biological Mitigation Ordinance. If ESA authorization is sought through the South County Plan an amendment process to incorporate the site into the plan area would be required. Otherwise, ESA consultation would be through the Corps. Mitigation measures are proposed by the alternative to address impacts to species and habitats. However, as outlined above, impacts to the potential mima mound-vernal pool complex may not be mitigatable. Based on this, a significant adverse cumulative effect would occur to County of San Diego long-term regional or sub-regional conservation goals.

## 6.7.5 Cultural Resources

### Historic and Archaeological Resources

As discussed in Section 4.5.1, Historical and Archeological Resources, of this EIS, based on available information to date, it appears the East Otay Mesa Alternative would not have significant adverse effects on historic properties, and the implementation of mitigation measures would result in no significant adverse

effects to cultural resources. The East Otay Mesa Alternative, in combination with the identified cumulative projects, would have the potential to result in a cumulative impact associated with historical and archaeological resources. However, it can be reasonably assumed that similar mitigation measures similar to those recommended for the alternative (i.e., data recovery, avoidance, documentation and recordation, treatment in accordance with the Secretary of Interior's *Standards*, construction monitoring, etc.) would be implemented for the cumulative projects, thus avoiding significant adverse cumulative effects.

#### Traditional Cultural Properties

As discussed in Section 4.5.2, Traditional Cultural Properties, of this EIS, if one or more TCPs are present within the APE of the East Otay Alternative, then the East Otay Alternative may have a significant adverse effect on one or more historic properties if it would alter or destroy the attributes of a TCP that make the TCP eligible for listing in the NRHP. Nonetheless, mitigation measures are proposed to reduce the potential significant adverse effects of the Alternative on TCPs. Specifically, Mitigation Measure Otay-TCP-1a requires the applicant conduct an updated and expanded alternative-specific Kumeyaay Indian ethnohistory study with the purpose of identifying NRHP-eligible Kumeyaay TCPs within the APE prior to the issuance of a permit. Similarly, Mitigation Measure Otay-TCP-1b requires that the East Otay Alternative avoid impacts to NRHP-eligible TCPs and preserve NRHP-eligible TCPs. With implementation of proposed mitigation, the East Otay Alternative would not contribute to a cumulative impact to NRHP-eligible TCPs, and no significant adverse cumulative effects would result.

### 6.7.6 Environmental Justice

Section 4.6, Environmental Justice, identifies the significant adverse direct/individual and cumulative effects that would result from an alternative and evaluates whether those significant adverse effects would fall disproportionately on minority, low-income or tribal populations. The evaluation indicated that the alternative results in two significant adverse cumulative effects that would be borne disproportionately by such populations. One topic so affected is transportation and the other is transportation generated noise. The Section 4.6 analysis also identified one significant adverse cumulative effect that may be borne disproportionately, that topic pertaining to air quality. The uncertainty regarding the affected population is due to the impact's regionally oriented, large scale effect with varying directionality.

### 6.7.7 Geology and Soils

#### Fault Rupture

As discussed in Section 4.7, Geology and Soils, of this EIS, there are no faults located on the East Otay Mesa Alternative site, and the site is not located within an Alquist-Priolo Fault Zone. No active faults have been identified within the area. Therefore, the East Otay Mesa would not contribute to significant adverse cumulative effects regarding ground rupture.

#### Site Stability

As discussed in Section 4.7, Geology and Soils, of this EIS, the conceptual excavation plan prepared for the East Otay Mesa Alternative includes acceptable cut slope inclinations. In addition, grading operations at the site would remove all loose soils from the footprint of the landfill, liquefaction or potential harm associated with expansive soils, should such potential be present, would not occur within the landfill footprint.

Therefore, appropriate design measures are required to ensure the public safety; and significant adverse effects on the public would be avoided, as would be demonstrated in the JTD for a landfill at the East Otay Mesa site. Impacts related to site stability would be site specific and would not occur in concert with, nor be exacerbated by combined effects of other land use activities in the site vicinity. The East Otay Mesa Alternative would not contribute to a significant adverse cumulative effect associated with slope stability/landsliding.

### Rockfalls

As discussed in Section 4.7, Geology and Soils, of this EIS, The East Otay Mesa Alternative would include design features to protect on-site components from rockfalls such that rockfalls would not create a safety risk to workers and equipment, or to the landfill development. Additional rockfall would not be expected on the East Otay Mesa site from other cumulative project sites. No significant adverse effects related to rockfall for the alternative would occur. Therefore, the East Otay Mesa Alternative would not contribute to significant adverse cumulative rockfall impacts.

### Debris Flow

As discussed in Section 4.7, Geology and Soils, of this EIS, the East Otay Mesa Alternative would include design features to protect landfill components and workers from debris flows. Potential debris flow is a site specific potential that would not be affected by other off-site development. No significant adverse effects related to debris flow for the alternative would occur. Therefore, the alternative would not contribute with other projects to create a cumulative threat from debris flow.

### Settlement

As discussed in Section 4.7, Geology and Soils, of this EIS, Landfill settlement of the final closure cap would avoid adverse effects regarding drainage or damage to landfill control systems. Impacts regarding the design of the final cover would be site specific and would avoid adverse effects on drainage and landfill control systems. There are no cumulative projects located adjacent to the site that could cause drainage onto the site, nor combine with the site in causing joint drainage effects in the area. Therefore, the East Otay Mesa Alternative would not contribute to a significant adverse cumulative effect resulting from the design of the final cover.

### Public Safety

As discussed in Section 4.7, Geology and Soils, of this EIS, the structures associated with a landfill at the East Otay Mesa Alternative site would be developed in accordance with applicable requirements established to protect public safety. Potential impacts regarding geological conditions would be based on the design of the new structures and their immediate geological/soil surroundings. There are no cumulative project structures that would affect the structural conditions occurring at the alternative site. Thus, the East Otay Mesa Alternative would not contribute to a significant adverse cumulative effect.

### Mineral Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, the East Otay Mesa Alternative would not cause a loss of access to MRZ-3 designated resources and therefore would not contribute to the cumulative loss of

such resources. If mineral resources are present on site, it is assumed that to the extent feasible, they could be mined in conjunction with landfill excavation activities, thus contributing resources to the region. Therefore, the alternative would not result in a significant adverse cumulative effect on the loss of mineral resources.

### Soil Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, the use of imported soil at the East Otay Mesa Alternative site would contribute to the overall consumption of such resources that is occurring within the region. However, the consumption of such resources would be reduced due to the use of on-site materials and the use of ADCs. Therefore, the alternative would not add a considerable contribution to a shortfall in the availability of such resources and would not result in a significant adverse cumulative effect.

## 6.7.8 Human Health and Safety

### Hazard to Public or the Environment

As discussed in Section 4.8, Human Health and Safety, of this EIS, the East Otay Mesa Alternative would not create a significant adverse hazard to the public or the environment through the release, transport, use, production, or disposal of hazardous materials. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. The alternative would comply with applicable regulations and would implement design features that would eliminate, minimize or identify potential environmental impacts and/or nuisances.

There are no cumulative projects within the area that would require the generation or handling of hazardous wastes other than standard hazardous household waste items. Future development projects would be evaluated on a project-by-project basis to determine impacts to human health and safety. Cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination or exposure to hazardous substances is avoided or controlled to minimize the risk to the public and environment on a case-by-case basis. Therefore, the East Otay Mesa Alternative would not contribute to a significant adverse cumulative effect.

### Landfill Hazards

As discussed in Section 4.8, Human Health and Safety, of this EIS, the analysis of health impacts focuses on the health effects on population in the vicinity of the landfill site that would arise from dispersion of hazardous materials associated with landfill activity; and on population concentrated at congested intersections that haul vehicles pass by. The analysis indicated that landfill operations would not result in significant adverse effects on these populations that would be associated with contamination carried by air, water, vectors or litter. There are no cumulative projects in the vicinity of the landfill site that would cause additional concentration of contaminants at these locations from air or vector transmittal. The analysis of the CO concentration effects at congested intersections, concluding that significant adverse effects would not occur, is inclusive of cumulative traffic. Due to the design features for the protection of water resources, the alternative is expected to generate no contamination on water resources and therefore would not contribute to significant adverse cumulative water effects. Further, cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination to local populations is avoided. Therefore, the alternative would not contribute to significant adverse cumulative effects.

### Existing On-site Hazardous Materials

As discussed in Section 4.8, Human Health and Safety, of this EIS, the alternative would not have significant adverse effects with regard to ACM and LBP materials, nor EMFs. As such, the alternative would not add to significant adverse cumulative effects associated with these materials.

### Accident Conditions

As discussed in Section 4.8, Human Health and Safety, of this EIS, the East Otay Mesa Alternative would not create safety hazards due to concentrations of landfill gas, flooding, fire, rockfall, site security, waste disposal operation, or roadway safety. As such, the alternative would not add a cumulatively considerable contribution to public safety from these landfill activities. The analysis of these safety effects addresses potential risk to local populations in the vicinity of the landfill site. There are no cumulative projects that would be located in the local area so as to contribute to a cumulative risk. Therefore, this alternative would not contribute to a significant adverse cumulative public safety effect with regard to accident/risks.

### Emergency Response Plans and Emergency Evacuation Plans

As discussed in Section 4.8, Human Health and Safety, of this EIS, the East Otay Mesa Alternative would not impair implementation of or physically interfere with the County of San Diego OES Operational Area Evacuation Plan/Emergency Plan. This plan has been developed with thought for future development and needs of the County. There is no residential development associated with the landfill, and it is expected that the majority of construction workers and employees would be drawn from the existing labor pool in the region. As such, this alternative's incremental contribution to demand for increased emergency services would not be cumulatively considerable. A number of the cumulative projects would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to emergency plans. Development projects would be required to address emergency access issues and to provide site emergency provisions. The East Otay Mesa Alternative would not have significant adverse effects on emergency plan implementation and would not result in significant adverse cumulative effects on implementation of emergency response and evacuation plans.

## 6.7.9 Hydrogeology

### Groundwater Withdrawal and Recharge

As discussed in Section 4.9, Hydrogeology, of this EIS, the East Otay Mesa Alternative landfill would not utilize groundwater and would occupy a small portion of the Water Tanks Hydrologic Subarea. Therefore, no significant adverse effects would result to groundwater supplies or groundwater recharge as a result of the East Otay Mesa Alternative.

Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR evaluated potential groundwater impacts from full buildout of land uses identified in the General Plan. The General Plan Final EIR concludes that no groundwater basins within the Tijuana Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan.[22] As the East Otay Mesa Alternative would not utilize

[22] *The Final EIR section was based partially on a Groundwater Study prepared by the County of San Diego Department of Planning and Land Use (included as Appendix D of the General Plan Final EIR).*

groundwater in the initial construction, operation, or closure, the alternative would not contribute to an overdraft of groundwater resources within the Tijuana Hydrologic Unit. Therefore, the East Otay Mesa Alternative would not contribute to in a significant adverse cumulative effect with respect to groundwater supplies. As the East Otay Mesa Alternative would not substantially alter the groundwater recharge, the alternative would not contribute to a significant adverse cumulative effect with regard to recharge.

#### Groundwater Quality

As discussed in Section 4.9, Hydrogeology, of this EIS, since the East Otay Mesa Alternative would be developed in accordance with applicable regulations and design features to prevent groundwater contamination, no significant adverse effects would occur with regard to groundwater quality.

Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR did not identify the Water Tanks Subarea as a groundwater basin having the potential for significant water quality impacts under full buildout. The East Otay Mesa Alternative would be designed to minimize leakage and to address any unforeseen leaks prior to reaching underlying groundwater resources. All cumulative projects would be required to comply with applicable federal, state, and local regulations designed to maintain groundwater quality. Thus, the East Otay Mesa Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater quality or discharge requirements.

### 6.7.10 Land Use and Planning

#### Consistency With Land Use Plans

As discussed in Section 4.10, Land Use and Planning, of this EIS, although the East Otay Mesa Alternative would be consistent with the site's land use designation and zoning, the East Otay Mesa Alternative would conflict with several policies and goals of the County General Plan, Otay Subregional Plan, and regional plans with respect to protection of agricultural and biological resources and siting of landfills to reduce environmental impacts. Therefore, the alternative would have a significant adverse effect.

The area surrounding the East Otay Mesa Specific Plan site is primarily vacant and undeveloped. Future development in the area would occur largely under the buildout of the East Otay Mesa Business Park Specific Plan, which anticipates approximately 292 acres of heavy industrial uses, 630 acres of mixed industrial uses, 363 acres of light industrial uses, 814 acres of technology business park uses, 11 acres of commercial uses, 311 acres of rural residential uses, and 241 acres of conservation/limited uses. This would amount to approximately 2,110 acres of high intensity commercial and industrial uses and 552 acres of low intensity uses. Development of Specific Plan would occur according to the policies of the General Plan. No other development is anticipated in the immediate location of the alternative site.

Because adjacent future development and buildout of the region would be consistent with approved uses under the Specific Plan (a component of the General Plan) and the alternative would be consistent with the land use designation of the General Plan, no significant adverse cumulative effects would occur.

### Consistency With Resource Conservation Area Designation

As discussed in Section 4.10, Land Use and Planning, of this EIS, the East Otay Mesa Alternative would impact sensitive biotic resources in RCA #127 and the South County MSCP. Impacts to vernal pools on Otay Mesa would not be reduced through implementation of mitigation measures and, therefore, the alternative would not be consistent with the conservation policies of the Otay Subregional Plan. The alternative would thus have a significant adverse effect.

With the exception of the East Otay Mesa Alternative (Landfill Initiation), the General Plan and other land use plans indicate permanent open space within Otay Mountain RCA. The adjacent Otay Mesa Business Park Specific Plan contains a variety of habitats, some of which are biologically sensitive. These include vernal pools, Diegan coastal sage scrub, and riparian areas. Much of the sensitive habitat is located in the hilly eastern portion of the Specific Plan area and in the southern portion along the border with Mexico, both of which are contiguous to the East Otay Mesa Alternative site. Biological surveys provided for the East Otay Mesa Business Park Specific Plan identified a number of threatened, endangered, and other sensitive species in the Business Park Specific Plan area. These areas are designated as a Conservation/Limited Use, and given a "G" Designator under the Specific Plan. As such, these areas are subject to the requirements of the San Diego County Resource Protection Ordinance (Sensitive Resource Area regulations), which requires conformance with the General Plan and compliance with environmental regulations. The areas of the Specific Plan that are subject to the Sensitive Area Resources "G" Designator are largely the same areas that are encompassed by the MSCP Major Amendment Area and Minor Amendment with Special Considerations Area within the Specific Plan. With the implementation of these requirements, surrounding cumulative projects would be consistent with the conservation policies of the Otay Subregional Plan. Because the cumulative projects are not expected to result in inconsistencies with the Subregional Plan's conservation policies, the cumulative projects would not result in a significant adverse cumulative effect.

## 6.7.11 Noise and Vibration

### Initial Construction

As discussed in Section 4.11, Noise and Vibration, of this EIS, initial construction activity associated with the East Otay Mesa Alternative would not result in noise levels in excess of applicable standards at the nearest residential property line. The maximum construction noise levels at the nearest residential property line with implementation of design features is estimated to be 56 dBA, which is less than the 62.5 dBA noise standard.

Cumulative projects in the region would produce temporary construction noise. As with the alternative, construction schedules and construction noise equipment levels would vary depending on the type of equipment and its duration of use. However, construction associated with the alternative would generally occur in a location far removed from the other cumulative projects. As a result, no actual noise ordinance impact would occur. Although the nearby noise-sensitive receptors could be exposed to construction noise from other closer projects in the vicinity, cumulative construction noise is not anticipated to result in significant adverse cumulative effects because such projects are disperse with varied construction schedules and each project would be required to comply with the applicable standards. There are no substantial sources of operational noise in the vicinity of the alternative. Therefore, noise levels at the property lines of noise sensitive receptors would not result in a significant adverse cumulative effect.

### Operation

As discussed in Section 4.11, Noise and Vibration, of this EIS, long-term operational noise associated with the East Otay Mesa Alternative would expose nearby residential uses to noise levels in excess of applicable standards at the nearest property line. The maximum operational noise levels at the nearest residential property line would be 63 dBA with implementation of the design features, which would exceed the noise standard of 62.5 dBA. To compensate for this impact, mitigation would be required to monitor, reduce the size or number of construction equipment, and install a berm or sound barrier, as necessary to reduce noise levels to 62.5 dBA. With implementation of the mitigation measures, no significant adverse noise effects from periodic construction and landfill operations would occur. Blasting would be infrequent, but may cause noise levels to exceed 62.5 dBA at the nearest residential property line, which is considered a significant adverse effect.

Cumulative projects in the region would produce noise once projects in the region become operational. However, operational noise associated with the alternative would generally occur in a location far removed from the other cumulative projects. In addition, other cumulative projects would comply with the applicable standards or require implementation of project-specific mitigation. As a result, no actual noise ordinance criterion would be expected to occur.

There are no other substantial sources of operational noise in the vicinity of the alternative. Therefore, with the mitigation measures to reduce noise levels resulting from operation of the East Otay Mesa Alternative, noise levels at the property lines of noise sensitive receptors would not result in a significant adverse cumulative effect.

### Traffic Noise

As discussed in Section 4.11, Noise and Vibration, of this EIS, traffic noise associated with the East Otay Mesa Alternative would increase the noise levels at residences with existing exterior noise levels in excess of 60 dBA CNEL. Therefore, significant adverse traffic noise effects would occur.

Although the majority of the noise on most of the roads would come from other traffic sources, the East Otay Mesa Alternative would contribute to the cumulative noise levels along all the roadways that serve the site. While the noise level increases would be less than 3 dBA, the Siempre Viva Road corridor is an existing degraded noise environment with noise levels exceeding 60 CNEL at existing residences. As the alternative would increase the noise levels, even by a small margin, the alternative would contribute to a significant adverse cumulative effect.

### Blasting

As discussed in Section 4.11, Noise and Vibration, of this EIS, blasting associated with the East Otay Mesa Alternative would not expose vibration-sensitive uses to vibration levels in excess of applicable standards. Therefore, no significant adverse vibration effects would occur to nearby residences. While cumulative projects in the region may produce vibration from construction activities, vibration from blasting associated with the alternative would be infrequent and short-term and would generally occur in a location far removed from the other cumulative projects. Cumulative vibration is not anticipated to be significant adverse effects because any vibration-generating activities of the various projects would not overlap or would not occur in

the vicinity of blasting activities. Furthermore, each project would be required to comply with the applicable vibration standards. Therefore, the alternative would not contribute to a significant adverse cumulative effect.

## 6.7.12 Public Services

### Law Enforcement

As discussed in Section 4.12.1, Law Enforcement, of this EIS, the East Otay Mesa Alternative would not result in substantial adverse physical impacts associated with law enforcement due to increases in population demand or activities occurring at the alternative site. There is no residential development associated with the alternative, and it is expected that the majority of employees would be drawn from the existing labor pool in the region. Further, design features would enhance site security and reduce potential demand for law enforcement services. As such, the East Otay Mesa Alternative's incremental contribution to demand for law enforcement would not be cumulatively considerable. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to law enforcement. Notable population growth occurring in the County could require additional facilities to enhance protection. The East Otay Mesa Business Park Specific Plan, located to the west of the site, proposes both a temporary and a permanent law enforcement facility to meet the future demand for law enforcement services.[23] Given the design features relative to security, the East Otay Mesa Alternative contribution would be negligible, and the alternative would not contribute to a significant adverse cumulative effect.

### Fire Protection and Emergency Medical Services

As discussed in Section 4.12.1, Fire Protection and Emergency Medical Services, the East Otay Mesa Alternative would not result in substantial adverse physical impacts associated with increases in population demand or activities occurring at the landfill site. Design features would limit the potential for fires to occur, would provide a first response capability on-site as a component of normal site operations, would pay mitigation fees to support the provision of fire services and would therefore reduce potential demand for fire and emergency medical services from service providers in the area. As such, the East Otay Mesa Alternative's incremental contribution to demand for fire and emergency medical services would not be cumulatively considerable.

A number of the cumulative projects in the area would include residential development which would add population to the area or large contributors to the employment base. The East Otay Mesa Business Park Specific Plan, located to the west of the site, proposes a temporary and permanent fire station and/or proposes a joint operating agreement with the City of San Diego to provide fire protection and emergency medical services.[24] Future development projects would be evaluated on a project-by-project basis to

[23] *East Otay Mesa Business Park Specific Plan, County of San Diego Department of Planning and Land Use, amended September 15, 2010, pages 77-78. The County identified a future need for a Sheriff's substation in the East Otay Mesa Business Park Specific Plan area. Initially, a temporary facility sized at approximately 1,530 square feet would be located at the southeast corner of Otay Mesa Road and Enrico Fermi Road. When the temporary facility can no longer accommodate the needs of ongoing development within the area, a permanent substation sized at 4,000 square feet would be constructed at the northwest corner of Enrico Fermi Drive and Lonestar Road. The station would be co-located with a permanent fire station.*

[24] *County of San Diego Department of Planning and Land Use. September 15, 2010. East Otay Mesa Business Park Specific Plan, page 77-78. The Specific Plan proposes to build a temporary and a permanent fire station on a 1.5-acre site at the intersection of Otay Mesa Road and Alta Road. The temporary station sized at 2,200 square feet would be capable of accommodating an engine and quarters for a three person crew. The permanent station sized at 6,500 square feet would be capable of accommodating one engine,*

determine potential impacts on the provision of fire and emergency medical services. Such projects would be subject to regulatory requirements to reduce fire impacts, including implementation of fire protection features and required fees, under the County's mitigation fee program for the provision of new services. Therefore, the impacts of the East Otay Mesa Alternative would not add to the incremental impact to fire protection and emergency medical services so as to require new or physically altered facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services, and significant adverse cumulative effects would not occur.

### Schools

As discussed in Section, 4.12.3, Schools, of this EIS, the East Otay Mesa Alternative would not result in a significant adverse on school facilities. Cumulative development projects would be required to pay the appropriate school district developer fees based on the type and size of development proposed. Pursuant to SB 50, payment of fees to the appropriate school district is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios or other performance objectives for schools. Thus, the East Otay Mesa Alternative would not make a considerable contribution to a significant adverse cumulative effect.

### Recreation

As discussed in Section 4.12.4, Recreation, of this EIS, the East Otay Mesa Alternative would not result in a significant adverse effect on recreational facilities or resources. The East Otay Mesa Business Park Specific Plan proposes open space, small parks, trails, bike lanes, sidewalks, and other pedestrian linkages. The Otay Valley Regional Park (OVRP) Concept Plan identifies trail corridors within the Johnson and O'Neal Canyons, linking the San Ysidro Mountain Range to the Ruiz Valley. The Concept Plan encourages controlled access to trails within and outside the OVRP, and staging and viewing areas in the vicinity.[25] The East Otay Mesa Business Park Specific Plan proposes future trail connections to the OVRP. The nearest proposed trail is located approximately one mile northwest of the East Otay Mesa Alternative site. Further, the East Otay Mesa Business Park Specific Plan proposes bike lanes within the Specific Plan area, including along Siempre Viva Road, a proposed route for the East Otay Mesa Alternative. The proposed bike lanes are located on Siempre Viva Road from the City of San Diego city limit to Loop Road, approximately ½ mile west of the East Otay Mesa Alternative site. The bicycle network of the East Otay Mesa Business Park Specific Plan is focused to safely direct bicycle traffic to and from key locations. It is the intent of the Specific Plan to link all transit, commercial, and employment locations with roads that would allow bicycling commuters the ability to access the area in a direct and safe manner.[26] Payment of park in lieu fees and/or dedication of parkland pursuant to the County's PLDO by future cumulative projects would address associated incremental increases in demand for parks and recreation, and therefore these projects would not contribute to the County's existing parkland deficiency. Thus, the East Otay Mesa Alternative would not contribute to a significant adverse cumulative effect.

*a truck, an additional light vehicle and quarters for an eight person crew. The Specific Plan also proposes a joint operating agreement or contract with the City of San Diego to provide fire protection and emergency medical services for both the City and County.*

[25] *East Otay Mesa Business Park Specific Plan County of San Diego Department of Planning and Land Use. September 15, 2010, page 11.*

[26] *East Otay Mesa Business Park Specific Plan County of San Diego Department of Planning and Land Use. September 15, 2010, page 51.*

## 6.7.13 Socioeconomics

### Population, Housing, and Employment

As discussed in Section 4.13, Socioeconomics, of this EIS, the East Otay Mesa Alternative would not remove housing stock, nor generate notable new population or housing in the region. It would include approximately 35 jobs during initial construction and 22 employees during full operations. This increase in employment would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. Impacts on demographic distribution would not result in significant adverse effects.

The SANDAG 2050 regional forecasts cited in the analysis of socioeconomic impacts have been prepared in coordination with the development of the County's General Plan Update; and accounting for the cumulative projects identified above. Further, the projections are tied to development of the County's Regional Transportation Plan (RTP), which identifies future roadway projects, and which guides transportation funding that is provided through the County's Traffic Impact Fee and TransNet Programs.[27]

As such, the regional forecasts reflect both expected, planned and future projected growth and infrastructure systems. As noted above, the East Otay Mesa Alternative would add a negligible contribution to expected growth; and would be a component of otherwise forecasted growth and distribution of population, housing and employment. The East Otay Mesa contribution would not be cumulatively considerable, and significant adverse cumulative socioeconomic effects regarding this criterion would not occur.

### Physical Environmental Effects

As discussed in Section 4.13, Socioeconomics, of this EIS, the East Otay Mesa Alternative would contribute financial benefits to the region. The physical impacts would not substantially interfere with the normal operations of other uses in the vicinity of the alternative site in a manner that would lead to substantial adverse socioeconomic consequences. For the most part, potential socioeconomic impacts are independent of cumulative development in the area. The only notable cumulative development in the immediate vicinity of the alternative site is the proposed adjacent business park. The business park would be implemented pursuant to design guidelines that would avoid potential conflicts with landfill activities. The business park industrial uses along with the landfill activities and other cumulative development would contribute cumulative traffic and related traffic noise impacts to the more distant communities located to the west of the Specific Plan area. The effects of the added increment of traffic and traffic noise to cumulative impacts are addressed in Section 4.15, Transportation and Section 4.11, Noise and Vibration, of this EIS, respectively. Contributions of the landfill to such impacts would be as components of regional conditions and would not directly affect the use of the properties in the landfill vicinity; and would not contribute to cumulative adverse conditions regarding socioeconomic effects.

[27] *Further documentation regarding the cumulative projects, SANDAG modeling and the County's transportation funding programs are provided in the Traffic Impacts Analysis for the Aspen Road Alternative, Appendix M to this EIS.*

## 6.7.14 Surface Hydrology

### Surface Water Quality

As discussed in Section 4.14, Surface Hydrology, of this EIS, with the implementation of BMPs, the construction and operation of the East Otay Mesa Alternative would not result in discharges that would create pollution, contamination or nuisance for the water bodies in the area. Therefore, the alternative would not have a significant adverse effect.

The Tijuana River hydrologic unit encompasses an area extending to the northeast of the alternative site, to north of the Pine Valley Community Plan area. To the west of the alternative site, the hydrologic unit extends to the Pacific Ocean, approximately one mile south of San Diego Bay. The Tijuana River watershed also encompasses a large part of the Mexican city of Tijuana. All new development projects have the potential to expose the river to pollution or nuisance and to contribute to the river's existing impairment. Construction activities and increased impermeability of development sites could also expose the watershed to increase surface runoff.

However, with the implementation of BMPs and other pertinent procedures related to the control surface water runoff and pollution sources maintenance programs under the San Diego County Watershed Protection Ordinance, the East Otay Mesa Alternative is not expected to increase surface water runoff or pollutants in the river. As with the alternative, high priority (the highest potential polluters) cumulative projects would be required under the San Diego County Watershed Protection Ordinance to prepare a SWMP and applicable construction and operation BMPs in compliance with RWQCB regulations. With the implementation of required BMPs, the alternative and cumulative projects would not result in significant adverse cumulative effects with regard to water quality.

### Flood Hazard

As discussed in Section 4.14, Surface Hydrology, of this EIS, the East Otay Mesa Alternative is not located within a 100-year floodway nor would it provide structures within a floodway. In addition, the San Diego County Flood Damage Prevention Ordinance restricts new development in flood areas. With the enforcement of this ordinance, new cumulative projects would not contribute to flood hazards in the area. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to flood hazard.

### Water Surface Elevation

As discussed in Section 4.14, Surface Hydrology, of this EIS, the East Otay Mesa Alternative is not located within a floodway or would alter or redirect a floodway in manner that would affect surface water elevation. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects in floodways that could, otherwise, cause a potential increase in water surface levels. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects related to water surface elevation.

### Floodway Alteration (Hydromodification)

As discussed in Section 4.14, Surface Hydrology, of this EIS, with implementation of construction and operation BMPs required under the San Diego County Watershed Protection Ordinance, the East Otay Mesa Alternative would not increase surface water runoff over existing conditions or affect a floodway in manner that would cause downstream flooding or exceed the area's drainage system capacity. The enforcement of BMPs for priority projects, including larger cumulative projects, under San Diego County Watershed Protection Ordinance, would control runoff and would not cause alteration of downstream floodways. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the alteration of floodways.

### Scour

As discussed in Section 4.14, Surface Hydrology, of this EIS, the East Otay Mesa Alternative would not cause scouring of any floodways in a manner that would result in scouring or changes in channel geomorphology. Regulations that control new development within floodplain areas, such as the San Diego County Flood Damage Prevention Ordinance, would restrict or prohibit cumulative projects within floodplains that might, otherwise, result in scouring of a river or stream. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects relatedto scour.

## 6.7.15 Transportation

Section 4.15, Transportation, concludes that that the East Otay Mesa Alternative would add new traffic to the roadway network, with the greatest impacts along Siempre Viva Road and I-905 linking to northward destinations via the I-805. For the two cumulative scenarios analyzed (Near-Term Conditions and Buildout Conditions), the analysis concludes that cumulatively significant adverse traffic effects could be avoided through mitigation measures that would be implemented through the payment of TIF fees. However, while payment of TIF fees would generally be considered full mitigation by the County, due to the uncertainty of the timing of implementation of the improvements it is conservatively concluded that the alternative could contribute to significant adverse cumulative conditions at six freeway segments under the Near-Term Conditions scenario; and at two freeway segments under the Buildout Conditions scenario.

## 6.7.16 Utilities

### Water Supply

#### New Water Facilities

As discussed in Section 4.16.1, Water Supply, of this EIS, the OWD has adequate water capacity to accommodate the East Otay Mesa Alternative. Minor infrastructure improvements required to deliver water to the site would not result in significant adverse effects.

Future water demand in OWD is addressed in the district's 2010 UMWP. The UWMP accounts for existing development within the service boundaries, as well as projected growth anticipated to occur through redevelopment of existing uses and development of new uses. Specifically, future population projections were provided by the SANDAG. The 2010 UWMP concluded that it could provide adequate water supply to meet anticipated water demand through the Year 2035 with the development of "drought proof" resources that would not be reduced during dry year, such and canal lining and seawater desalination projects, and

through voluntary and mandatory conservation measures identified to assist in meeting demand in multiple dry years or in the event of a catastrophic water shortage. As the East Otay Mesa Alternative would constitute only a small portion of the cumulative overall cumulative increase in water demand, the alternative would not result in a significant adverse cumulative effect with respect to existing recycled water users.

### Groundwater Supply and Recharge

As discussed in Section 4.16.1, Water Supply, of this EIS, the East Otay Mesa Alternative would not utilize groundwater and would occupy a small portion of the Water Tanks Hydrologic Subarea. Therefore, no significant adverse impacts would result to groundwater supplies or groundwater recharge as a result of the Aspen Road Alternative.

The San Diego County General Plan Final EIR concludes that no groundwater basins within the Tijuana Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan.[28] As the East Otay Mesa Alternative would not utilize groundwater in the initial construction, operation, or closure, the alternative would not contribute to any overdraft of groundwater resources within the Tijuana Hydrologic Unit. Therefore, the East Otay Mesa Alternative would not be anticipated to contribute to a significant adverse cumulative effect with respect to groundwater supplies. As the East Otay Mesa Alternative would not substantially alter the groundwater recharge, the alternative would not contribute to a significant adverse cumulative effect with regard to recharge.

### Recycled Water

As discussed in Section 4.16.1, Water Supply, of this EIS, the OWD has adequate recycled water capacity to accommodate the water demand of the East Otay Mesa alternative (i.e., 75 AFY) without impacting the supply to existing recycled water users. Specifically, as detailed in the OWD 2010 UWMP, the OWD expects the demand for recycled water to increase to 8,000 AFY by the Year 2035.[29] This quantity could be accommodated by the current capacities of the RWCWRF and SBWRP facilities, which have a combined contracted quantity to the OWD of 7.3 mgd (approximately 8,200 AFY). As a result, there would be a sufficient recycled water supply to meet the demand. Thus, the East Otay Mesa Alternative would not contribute to a significant adverse cumulative effect with regard to recycled water.

### Wastewater

As discussed in Section 4.16.2, Wastewater, of this EIS, the East Otay Mesa Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the East Otay Mesa Alternative would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities. The alternative would not result in significant adverse effects relative to wastewater.

[28] *The Final EIR section was based partially on a Groundwater Study prepared by the County of San Diego Department of Planning and Land Use (included as Appendix D of the General Plan Final EIR).*

[29] *2035 OWD service area population determined to be 284,997 persons, based on census tract forecasts from the SANDAG 2050 Regional Growth Projections adopted by SANDAG's Board of Directors on February 26, 2010.*

Individual developments, including those developments within the East Otay Business Park Specific Plan located to the west of the site, would be reviewed by the County of San Diego DEH on a project-by-project basis to determine if sufficient wastewater services and treatment capacity exists to serve the specific development. The County requires new developments to pay a sewer service charge to maintain sewer systems. The County charges fees for the privilege of connecting to its sewerage system or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. The fees are required to construct new sewer infrastructure and/or incremental expansions to the existing sewerage system to accommodate individual development, which would mitigate the cumulative impact of the development on the sewerage system. The County would only allow new developments to connect to its sewer systems if there is sufficient capacity or planned expansions of its facilities to accommodate new developments proposed. Therefore, future development would not be permitted to exceed the capacity of wastewater conveyance systems or treatment facilities, since adequate capacity must be demonstrated in order to contribute flows to the system.

While notable population growth occurring in the County could require additional wastewater services and facilities, since the East Otay Mesa Alternative would generate small quantities of wastewater that would not add incrementally to the cumulative demand, the alternative would not result in a significant adverse cumulative effect with regard to wastewater.

### Gas and Electric

As discussed in Section 4.16.3, Gas and Electricity Service, of this EIS, the East Otay Mesa Alternative would not result in an increase in consumption of energy that is above the service provider's planned service capacity, or use energy in a manner that is inconsistent with plans and policies for the conservation of energy. Natural gas and electricity are provided via planning activities based on growth and demand projections of the service providers that demonstrate an ability to meet future demand for services, thus accounting for cumulative development. Further, the plans are updated periodically to account for changes in growth rates. The East Otay Mesa Alternative's incremental contribution to demand for gas and electricity services would be negligible, and represented within current estimates of demand for service. The cumulative projects would generate additional demand for gas and electricity. Future development projects would be evaluated on a project-by-project basis, and evaluated against planned demand. Future development that requires new infrastructure/gas main extensions or electrical service would be required to pay all applicable fees assessed by SDG&E necessary to accommodate the specific project. SDG&E would not allow new development projects to connect to existing gas mains and would not provide electrical service unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service. Thus, the East Otay Mesa Alternative would not result in a significant adverse cumulative effect on gas and electrical services as the supply would be managed to meet demand.

## 6.8 SYCAMORE CANYON EXPANSION ALTERNATIVE

Table 6-7, *Sycamore Canyon Expansion Alternative - Cumulative Projects,* provides the list of cumulative projects in the vicinity of the Sycamore Canyon Expansion Alternative. Figure 6-5, *Sycamore Canyon Expansion Alternative - Locations of Cumulative Projects,* shows the locations of these projects.

**Table 6-7**

**Sycamore Canyon Expansion Alternative - Cumulative Projects**

| Project | Project Description |
|---|---|
| 1. Mission Trails Regional Park (MTRP) Multi-use Staging Area (Equestrian Center) | 12-acre site with a main structure containing offices, maintenance facility, conference room, public restrooms, etc., a covered picnic shelter and a screened storage yard. A separate service building would contain public restrooms. Other facilities include parking for horse trailers and vehicles, horse corrals, two multi-purpose rings, open BBQ area, picnic tables, horse manure storage bins, and security lighting. |
| 2. Castlerock Residential Project | 430 dwelling units and recreation area on a 191.8-acre site, with a grading footprint of 106 acres. |
| 3. Military Family Housing-MCAS Miramar | Up to 1,600 affordable military housing units on 299-acre site, with a mini-mart, an elementary school and childcare facility, and recreational amenities such as tot lots, basketball courts, tennis courts, etc. |
| 4. City of Santee General Plan Update | Update to guide City planning through 2020. |
| 5. Fanita Ranch | Prior project proposed 1,380 residential units, a community center, 13 acres of commercial uses, water reclamation facility, road improvements, etc. |
| 6 I-15 Corridor Express Lanes (Used only for Traffic /Circulation) | North and Middle portions of I-15 completed. This addresses the southern section, and assumes seven general purpose lanes and four express lanes with a movable barrier. |
| 7. Gregory Canyon Landfill | New Class III municipal solid waste (MSW) facility proposed on 309-acre site in northern San Diego County. Facility would have design capacity of approximately 46 million cubic yards (or 31 million tons) and an expected service life of approximately 30 years |
| 8. Quail Brush Generation Project | 100 Megawatt (MW), natural gas-fired power generation facility, a 230- kilovolt (kv) transmission tie-in line, utility switchyard and natural gas pipeline lateral. |
| 9. East Otay Mesa Recycling Collection Center and Landfill | New Class III MSW facility with recycling collection center proposed on 450-acre site in southern San Diego County. Facility would have design capacity of approximately 180 million tons and an expected service life of approximately 150 years |

*Source: Sycamore Landfill Master Development Plan, Revised Final EIR, August 2012*

### View Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the Sycamore Canyon Expansion Alternative would not interrupt a viewing corridor or affect the unity of the viewing scene. No cumulative projects would extend into alternative site's view corridors or would cause view blockage across the site or immediate area. Thus, the alternative and cumulative projects would not result in significant adverse cumulative effects on view quality.

### Neighborhood Character

As concluded in Section 4.1, Aesthetics, of this EIS, the Sycamore Canyon Expansion Alternative would not be consistent with Policy CE-B-1 of the City of San Diego General Plan and Policy 10.2 of the City of Santee General Plan. Therefore, the alternative would have a significant adverse impact on neighborhood character.

With the exception of the residential neighborhoods to the east, which are primarily built-out, the Sycamore Canyon Expansion Alternative site is surrounded by large areas of designated open space, which would continue as open space under current land use plans. This includes the Miramar Marine Corps Air Station to the north and west, and the Mission Trails Regional Park to the south. Open space would also be maintained within the boundaries of the Sycamore Canyon Expansion Alternative site, to the east and west of the landfill footprint. It is expected that any cumulative projects occurring in these areas would be consistent the existing open space designations and uses currently in place. Such open space designations preclude large scale excavation or other development that would cumulatively contribute to changes in the neighborhood character of the region. Therefore, the alternative and cumulative projects would not result in significant adverse effects with respect to neighborhood character.

### Dark Skies

As concluded in Section 4.1, Aesthetics, of this EIS, the Sycamore Canyon Expansion Alternative would operate 24 hours a day. Lighting for operations along working surfaces would be directed downward and screened from direct view from off-site locations by berms. With the use of berms and shielded lights, the alternative would not have an adverse effect on nighttime views. Cumulative projects in the area would be required to comply with City of San Diego and City of Santee light pollution requirements, which require shielding of exterior lighting. Because the alternative would not adversely affect night skies and night lighting of cumulative projects would be controlled by existing city ordinances, the alternative and cumulative projects would not result in an adverse cumulative effect with respect to dark skies.

## 6.8.2 Agricultural Resources

As concluded in Section 4.2, Agricultural Resources, of this EIS, the Sycamore Canyon Expansion Alternative would not directly or indirectly impair agricultural activities on adjacent farmlands or cause farmland to convert to non-agricultural uses. Further, the Sycamore Canyon Expansion Alternative would not directly or indirectly impair the productivity of an on-site Land Conservation Act (Williamson) contracted tract in a manner that would inhibit agricultural activities. Several medium and large scale projects are anticipated in the area which could affect agricultural lands. Because the alternative would have no effect on agricultural lands, it would not contribute to the potential loss or conversion of agricultural resources that could result from the buildout of cumulative projects. Therefore, the development of the alternative would not result in a significant adverse cumulative effect with respect to agricultural resources.

## 6.8.1 Aesthetics

### Natural Landform Character

As concluded in Section 4.1, Aesthetics, of this EIS, the Sycamore Canyon Expansion Alternative would potentially impact natural landform character because of the dominance of the landfill with respect to natural landforms in the area. However, with the implementation of design features to provide contouring and blending of the landfill with natural topography, the alternative would not have a significant adverse effect. None of the cumulative projects in the area would result in alterations of the landform within the view field of the alternative site. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the area's natural landform character.

### Visual Quality

As concluded in Section 4.1, Aesthetics, of this EIS, the Sycamore Canyon Expansion Alternative would contrast with the existing visual elements of the area and create a new ridgeline, which would become a focal point of the background rather than the existing hillsides. Although contrast would be reduced through design features, significant adverse effects would remain. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the alternative and cumulative projects would not cause significant adverse cumulative effects in the area's visual quality.

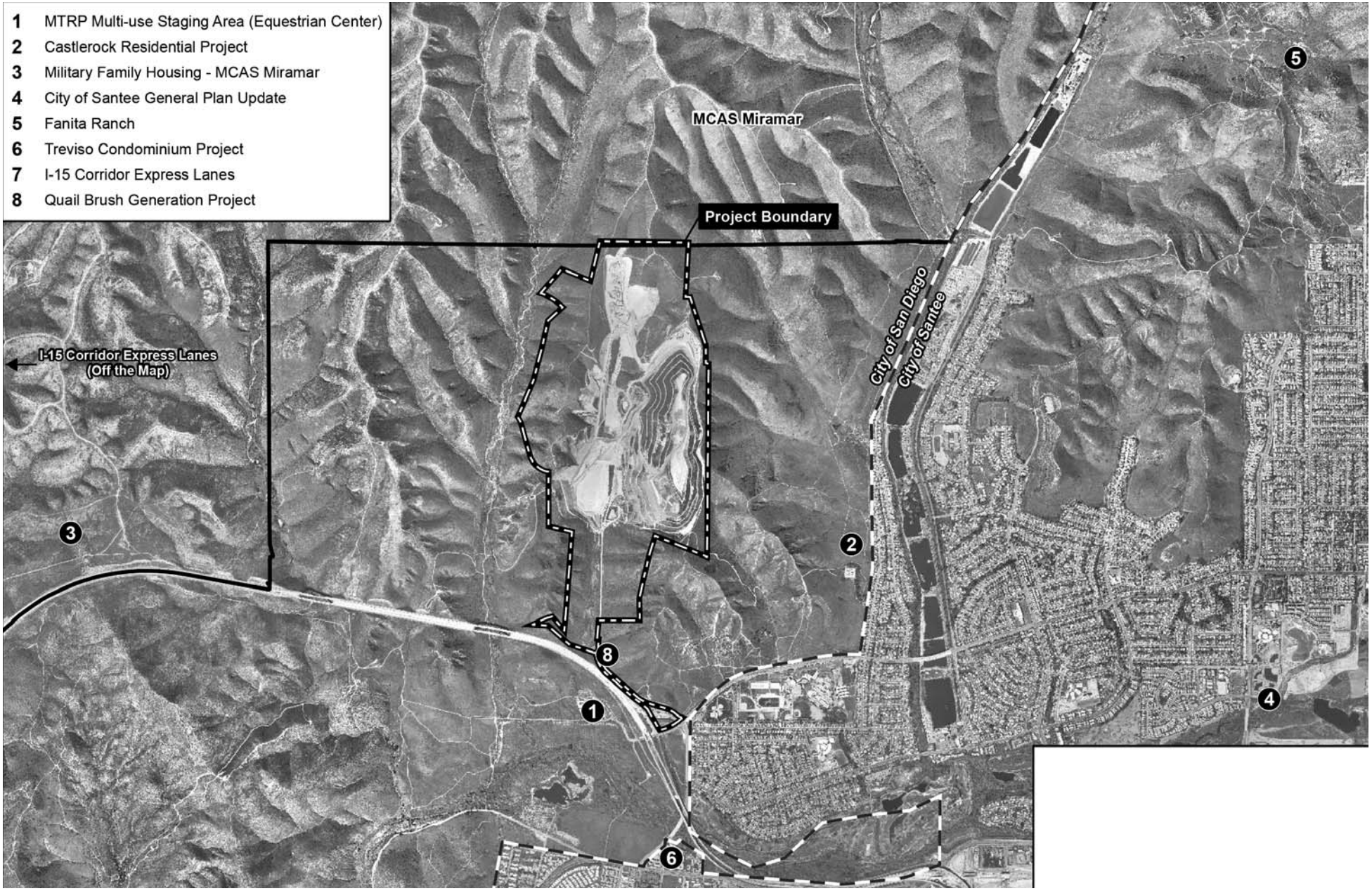
### Visual Resources

As concluded in Section 4.1, Aesthetics, of this EIS, the Sycamore Canyon Expansion Alternative would not substantively change the natural environment that makes up the area's visual environment. Because changes under this alternative would not cause a substantial degradation of the area's visual resources, this alternative would not have a significant adverse effect. Because no cumulative projects that are not already existing contributors to the visual character of the area would be located within the same or continuous view field as the alternative, the alternative and cumulative projects would not have a significant adverse cumulative effect on the area's visual resources.

## 6.8.3 Air Quality

### Air Quality Plans

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Sycamore Canyon Expansion Alternative would not conflict with implementation of the RAQS or the applicable portions of the SIP as it is consistent with growth anticipated by the County and SANDAG. Cumulative projects identified in the Sycamore Canyon Expansion Alternative project area would have the potential to result in a cumulative impact to air quality plans if, in combination, they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the SIP. Projects that are inconsistent with the regional planning documents that the RAQS and SIP are based on would have the potential to result in cumulative impacts if they would include development beyond regional projections. Cumulative projects would generally be consistent with the SIP and the RAQS because the projects would be required to be consistent with adopted general plans or other planning documents accounted for in the RAQS growth projections. Therefore, the Sycamore Canyon Expansion Alternative, in combination with cumulative projects in the Sycamore Canyon Landfill project area, would have no significant adverse cumulative effects associated with this criterion.




**Sycamore Canyon Expansion Alternative - Locations of Cumulative Projects**

**Gregory Canyon**

Source: Sycamore Landfill Master Development Plan, Revised Draft EIR, May 2012.

FIGURE
**6-5**

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### Air Quality Standards

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, operational emissions caused by the Sycamore Canyon Expansion Alternative in terms of $PM_{10}$ and $PM_{2.5}$, CO, ROG/ VOC, and $NO_x$ would be above the City of San Diego's Significance Determination Thresholds, and would therefore result in a significant adverse effect on regional air quality. Despite the implementation of BACT, various project design features and mitigation measures for stationary sources of PM, CO, ROG/VOC, and $NO_x$, emissions during normal operations would still exceed City thresholds since further mitigation of these sources is not feasible. As such, significant adverse effects to air quality would occur on both a project and cumulative level.

Relocation of the transmission line would result in emissions of air pollutants. It would, therefore, contribute incremental amounts of emissions to the SDAB, considered a basic non-attainment area for the 8-hour NAAQS for ozone and a non-attainment area for the CAAQS for both ozone and $PM_{10}$/$PM_{2.5}$ and would, therefore, contribute to a cumulative impact. The contribution of transmission line relocation to cumulative emissions would not, however, be considerable since the emissions would be temporary in nature and would comprise only a small fraction of thresholds established by CARB and EPA for criteria pollutants. Operation of the relocated transmission lines would not result in increased air pollutant emissions. Emissions associated with transmission line relocation would therefore not result in a significant adverse cumulative effect.

### Cumulatively Considerable Criteria Pollutants

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, $NO_x$ emissions caused by the Sycamore Canyon Expansion Alternative from stationary sources would result in significant adverse effect on regional air quality. Despite the implementation of BACT, various project design features and mitigation measures for stationary sources of $NO_x$, emissions would still exceed NAAQS. As such, significant adverse effects on air quality would occur on both a project and cumulative level, and would remain unavoidable during project implementation.

### Health Risk and Microclimate

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Sycamore Canyon Expansion Alternative would expose sensitive receptors to ambient one-hour $NO_2$ concentrations from all sources, in excess of the one-hour $NO_2$ NAAQS, which is considered a significant adverse direct and cumulative impact. Mitigation measures are not available given that $NO_x$ emissions from the stationary sources are controlled to the lowest feasible emission rate using BACT, and further mitigation of these stationary sources is not feasible. The majority of $NO_x$ emissions result from off-road and on-road mobile sources at the landfill site. The USEPA and CARB have requirements for off-road equipment to meet lower standards for $NO_x$ emission. Similarly, the USEPA and CARB have low $NO_x$ emission requirements for on-road heavy duty vehicles. Consistent with the design features, the replacement of mobile equipment fleet model years would help reduce $NO_x$ emissions as new equipment complies with USEPA and CARB standards. However, combined $NO_x$ emissions from the stationary and mobile sources would not be reduced below the stated thresholds and the residual impact would remain significant and unmitigable.

### Objectionable Odors

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, odors emitted from the Sycamore Canyon Expansion Alternative landfill would not result in an adverse effect on sensitive receptors. As such, significant adverse effects regarding odor would not occur at the individual project or cumulative level.

### Visibility Impacts

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, the Sycamore Canyon Expansion Alternative and cumulative projects located in the vicinity would have the potential to result in a significant adverse cumulative visibility effect on the Agua Tibia Wilderness Area, if in combination, they would cause significant adverse visibility effects. Since no significant adverse visibility impact would occur from this alternative, the other cumulative projects in the vicinity of the site would not be expected to result in significant adverse cumulative effects.

### Greenhouse Gases

As discussed in Section 4.3, Air Quality and Greenhouse Gases, of this EIS, because of the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that an emissions increase resulting from the alternative and cumulative projects could actually cause a measurable increase in global GHG emissions sufficient to force global climate change. The alternative would result in both construction and operational GHG impacts. Construction impacts include short-term emissions associated with the construction of the alternative. Operational impacts include long-term emissions associated with the LFG, off-road equipment, on-road vehicles, and water and energy consumption. Implementation of design features would ensure that impacts from GHG emissions are minimized.

## 6.8.4 Biological Resources

### Waters of the U.S.

As discussed in Section 4.4, Biological Resources, of this EIS, the Sycamore Canyon Expansion Alternative would result in permanent impacts to 0.53 acre of jurisdictional non-wetland waters of the U.S. as a result of the landfill expansion, and 0.01 acre as a result of the transmission line relocation, for a total of 0.54 acre of impacts. No temporary impacts to potential jurisdictional non-wetland waters are proposed, and no wetland waters occur on site. Direct and/or indirect permanent impacts to jurisdictional waters of the U.S. would be addressed through compliance with existing regulations including water quality standards and the no-net-loss policy of the CWA, subject to approval and regulatory permitting from the USACE and RWQCB. A compensatory mitigation plan would also be required in compliance with the Mitigation Rule, to offset environmental losses resulting from unavoidable impacts to waters of the U.S.

The EIR for the County of San Diego General Plan Update identifies a total of approximately 12,318.53 acres of vegetation communities that potentially contain jurisdictional wetland waters of the U.S. within the Draft North County Plan area, including a range of habitats from open water, to various meadows/seeps, riparian forests, riparian woodlands, and riparian scrub habitats. Of the12,318.53 acre total, 926 acres are identified for potential impacts, which represents 7.5 percent of the total acreage. The County of San Diego General Plan Update EIR states that cumulative projects would be required to comply with applicable federal regulations for wetlands, such as Sections 401 and 404 of the CWA, which require compensatory mitigation

to reduce impacts to the extent feasible to achieve the no-net-loss standard. In addition, the County of San Diego's Resource Protection Ordinance restricts, to varying degrees, impacts to natural resources including wetlands, wetland buffers, and floodplains, and requires mitigation of wetlands at a 3:1 ratio. Therefore, Sycamore Canyon Expansion alternative would not contribute to a cumulatively considerable loss of jurisdictional waters of the U.S. within the Draft North County Plan area. Therefore, no significant adverse cumulative effects would occur.

### Native Vegetation, Sensitive Plant Populations, Regionally Limited Sensitive Habitat

As discussed in Section 4.4, Biological Resources, of this EIS, the Sycamore Canyon Expansion Alternative would result in the removal of native vegetation, including 35.8 acres of Diegan coastal sage scrub, 3 acres of disturbed Diegan coastal sage scrub, 3.6 acres of valley needlegrass grassland, 12.8 acres of chamise chaparral, 0.9 acre of southern mixed chaparral, and 0.63 acre of riparian habitat. The alternative is known to support sensitive plants on Lists A and B of the County of San Diego Sensitive Plant List, of which six would be impacted (variegated dudleya, San Diego goldenstar, San Diego barrel cactus, Nuttall's scrub oak, and decumbent goldenbush, and potential indirect impacts to willowy monardella). The site does not support sensitive habitat that is regionally limited. Proposed mitigation measures would reduce significant adverse effects. With implementation of the mitigation measures, the Sycamore Canyon Expansion Alternative would not result in significant adverse effects to native vegetation communities or sensitive plant populations. No effects would occur to sensitive habitat which is regionally limited due to absence of any on site.

The mitigation measures under the Sycamore Canyon Alternative would result in a no net loss or even a net increase of native habitat to be preserved in perpetuity and in compliance with the South County Plan. The alternative would not contribute to a cumulatively considerable loss to the following native vegetation: Diegan coastal sage scrub, chamise chaparral, southern mixed chaparral, and riparian habitat, or to sensitive plant populations. However, a significant adverse cumulative effect would occur to valley needlegrass grassland due to the loss of this habitat.

### Designated Critical Habitat

As discussed in Section 4.4 Biological Resources, of this EIS, the Sycamore Canyon Alternative site is not mapped as designated critical habitat for any species. Therefore, no cumulative effects would occur.

### Wildlife Movement

As discussed in Section 4.4 Biological Resources, of this EIS, the Sycamore Canyon Expansion Alternative site has not been identified as a local or regional wildlife movement corridor. However, open areas exist to the north, south and west of the site that could allow for wildlife movement, including Marine Corps Air Station Miramar, the Mission Trails Regional Park, and Spring Canyon, respectively. The alternative would result in some impacts to Spring Canyon from fill slopes associated with the landfill, but the majority of the canyon would be left undisturbed and could continue to be used by wildlife. The transmission line relocation would also temporarily disrupt wildlife movement during construction within the Spring Canyon corridor. No permanent or temporary impacts would occur to any other potential wildlife movement areas. As a result, the Sycamore Canyon Expansion Alternative would not contribute to a significant adverse cumulative effect.

### State and Federal Listed Species

As discussed in Section 4.4 Biological Resources, of this EIS, the Sycamore Canyon Expansion Alternative proposes mitigation to compensate for direct and indirect impacts to state- or federal- listed species and their habitats including coastal California gnatcatcher, least Bell's vireo, grasshopper sparrow, nesting birds protected under the MBTA, nesting raptors, orangethroat whiptail, coast horned lizard, and western spadefoot toad. With implementation of the mitigation measures, no significant adverse direct or indirect cumulative effects on state- or federal- listed species or their habitat would occur.

### Golden Eagle

As discussed in Section 4.4, Biological Resources, of this EIS, golden eagles are not known to occur on or near the Sycamore Canyon Expansion Alternative site. Therefore, no cumulative effects would occur.

### Long-Term Regional and Sub-Regional Conservation Goals

As discussed in Section 4.4, Biological Resources, of this EIS, the Sycamore Canyon Expansion Alternative would be required to comply with conservation requirements pursuant to the City of San Diego MSCP, including mitigation for sensitive species and vegetation communities, providing buffers adjacent to waters/wetlands, limiting encroachment impacts within the MHPA, and compliance with the MHPA Land Use Adjacency guidelines. With implementation of the proposed mitigation measures, no conflicts would occur with the City of San Diego MSCP. Therefore, no significant adverse cumulative effects to long-term regional or sub-regional conservation goals would occur.

## 6.8.5 Cultural Resources

### Historic and Archaeological Resources

As discussed in Section 4.5.1, Historical and Archeological Resources, of this EIS, based on available information to date, it appears the Sycamore Canyon Expansion Alternative would not have an adverse effect on historic properties, and the implementation of mitigation measures would result in no significantly adverse effects to cultural resources. The Sycamore Canyon Expansion Alternative, in combination with the identified cumulative projects, would have the potential to result in a cumulative impact associated with historical and archaeological resources. However, it can be reasonably assumed that similar mitigation measures to those recommended for the alternative (i.e., data recovery, avoidance, documentation and recordation, treatment in accordance with the Secretary of Interior's *Standards*, construction monitoring, etc.) would be implemented for the identified cumulative projects, thus avoiding significant adverse cumulative effects.

### Traditional Cultural Properties

As discussed in Section 4.5.2, Traditional Cultural Properties, of this EIS, if one or more TCPs are present within the APE of the Sycamore Alternative, then the Sycamore Alternative may have an adverse effect on one or more historic properties if it would alter or destroy the attributes of a TCP that make the TCP eligible for listing in the NRHP. Nonetheless, mitigation measures are proposed to reduce the significant adverse effects of the alternative on TCPs. Specifically, Mitigation Measure Sycamore-TCP-1a requires the applicant conduct an updated and expanded alternative-specific Kumeyaay Indian ethnohistory study with the purpose of identifying NRHP-eligible Kumeyaay TCPs within the APE prior to the issuance of a permit.

Similarly, Mitigation Measure Sycamore-TCP-1b requires that the Sycamore Alternative would avoid impacts to NRHP-eligible TCPs and would preserve NRHP-eligible TCPs. With implementation of proposed mitigation, the Sycamore Alternative would not contribute to a significant adverse cumulative effect on NRHP-eligible TCPs.

## 6.8.6 Environmental Justice

Section 4.6, Environmental Justice, identifies the significant adverse direct/individual and cumulative effects that would result from an alternative and evaluates whether those significant adverse effects would fall disproportionately on minority, low-income or tribal populations. This alternative does not have significant adverse cumulative effects that would be borne disproportionately by such populations. However, the Section 4.6 analysis identifies one significant adverse cumulative effect that may be borne disproportionately, that topic pertaining to air quality. The uncertainty regarding the affected population is due to the impact's regionally oriented, large scale effect with varying directionality.

## 6.8.7 Geology and Soils

### Fault Rupture

As discussed in Section 4.7, Geology and Soils, of this EIS, according to the California Geological Survey, there are no faults located on the Sycamore Canyon Expansion Alternative site, and the site is not located within an Alquist-Priolo Fault Zone. No active faults have been identified within the vicinity, and there would be no significant adverse cumulative effects due to ground rupture.

### Site Stability

As discussed in Section 4.7, Geology and Soils, of this EIS, landfill design and operations would meet regulatory standards for the protection of public safety. Impacts related to site stability would be site specific and would not occur in concert with, nor be exacerbated by combined effects of other land use activities in the site vicinity. The Sycamore Canyon Expansion Alternative would not contribute to a significant adverse cumulative effect associated with slope stability/landsliding.

### Rockfalls

As discussed in Section 4.7, Geology and Soils, of this EIS, if needed, the Sycamore Canyon Expansion Alternative would include design features to protect on-site components from rockfalls such that rockfalls would not create significant adverse effects regarding safety. Additional rockfall would not be expected on the Sycamore Canyon Expansion site from other cumulative projects. Therefore, the alternative would not contribute to a significant adverse cumulative rockfall impact.

### Debris Flow

As discussed in Section 4.7, Geology and Soils, of this EIS, the alternative would include design features to protect landfill components and workers from debris flow. Potential debris flow is a site specific potential that would not be affected by other off-site development. Impacts related to debris flow for the alternative would not result in a significant adverse cumulative effect, and would not contribute with other projects to create a significant adverse cumulative threat from debris flow.

### Landfill Settlement

As discussed in Section 4.7, Geology and Soils, of this EIS, landfill settlement of the final closure cap would avoid significant adverse effects regarding drainage or damage to landfill control systems. Impacts regarding the design of the final cover would be site specific and would avoid significant adverse effects on drainage and landfill control systems. There are no cumulative projects lying adjacent to the site that could cause drainage onto the site, nor combine with the site in causing joint drainage effects in the area. Therefore, the Sycamore Canyon Expansion alternative would not contribute to a significant adverse cumulative effect resulting from the design of the final cover.

### Public Safety

As discussed in Section 4.7, Geology and Soils, of this EIS, the new structures associated with a landfill at the alternative site would be developed in accord with state and City requirements for the public safety. Potential impacts regarding geological conditions would be based on the design of the new structures and their immediate geological/soil surroundings. There are no proposed cumulative project structures that would affect the structural conditions at the alternative site. No significant adverse cumulative effects would occur.

### Mineral Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, implementation of the landfill at the alternative site would allow continued and expanded mining of resources in conjunction with on-going landfill activities. Therefore, no significant adverse effects would occur with regard to mineral resources.

There is a considerable amount of new growth occurring in the larger region with potential loss of areas known to contain valued resources (MRZ-2 zones). However, the landfill activities associated with the Sycamore Canyon Expansion Alternative includes provisions for the mining of such resources; and therefore would not contribute to a significant adverse cumulative effect on the loss of mining resources due to development of alternative, non-mining uses.

### Soil Resources

As discussed in Section 4.7, Geology and Soils, of this EIS, potential consumption of soil resources would be limited due to limited demand, the processing of on-site materials and/or the use of ADC. Operations would not have a significant adverse effect on the availability of soil resources.

If the use of imported soil at the Sycamore Canyon Expansion Alternative site were needed, it would contribute to the overall consumption of such resources that is occurring within the region. However, the consumption of such resources would be reduced due to the use of on-site materials and use of ADC materials. Further, landfill operations would provide needed aggregate resources to the region. Therefore the alternative would not add a considerable contribution to a shortfall in the availability of such resources.

## 6.8.8 Human Health and Safety

### Hazard to Public or the Environment

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Sycamore Canyon Expansion Alternative would not create a significant adverse hazard to the public or the environment through the release, transport, use, production, or disposal of hazardous materials. As a Class III landfill, only non-hazardous solid wastes and inert wastes would be accepted. The alternative would comply with applicable regulations and would implement design features that would eliminate, minimize or identify potential environmental impacts and/or nuisances.

There are no cumulative projects within the area that would require the generation or handling of hazardous wastes other than standard hazardous household waste items. Future development projects would be evaluated on a project-by-project basis to determine impacts to human health and safety. Cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination or exposure to hazardous substances is avoided or controlled to minimize the risk to the public and environment on a case-by-case basis. Therefore, the Sycamore Canyon Expansion Alternative would not contribute to a significant adverse cumulative significant adverse effect.

### Landfill Hazards

As discussed in Section 4.8, Human Health and Safety, of this EIS, the analysis of health impacts focuses on the health effects on population in the vicinity of the landfill site that would arise from dispersion of hazardous materials associated with landfill activity; and on population concentrated at congested intersections that haul vehicles pass by. The analysis indicated that landfill operations would not result in significant adverse effects on these populations that would be associated with contamination carried by water, vectors or litter. The analysis of landfill effects on air quality emissions indicates that pollutant concentrations in the vicinity of affected sensitive populations would generally not exceed criterion thresholds or health risk criteria; however, localized concentrations of $NO_2$ would be considered a significant adverse effect. The analysis of cumulative air quality impacts in the Sycamore Landfill Master Development Plan, Revised Draft EIR indicates that the $NO_2$ localized concentration would not result in a considerable contribution to cumulative regional air quality due to use of BACTs, and basin attainment for this air quality emission. The analysis of the CO concentration effects at congested intersections, concluding that adverse effects would be less than significant, are based on an analysis that is inclusive of cumulative traffic. Due to the design features for the protection of water resources, the alternative is expected to generate no contamination on water resources and therefore would not contribute to adverse cumulative water effects. Further, cumulative projects would be required to comply with federal, state, and local regulations to ensure that potential contamination to local populations is avoided. Therefore, the alternative would not contribute to significant adverse cumulative effects.

### Existing On-site Hazardous Materials

As discussed in Section 4.8, Human Health and Safety, of this EIS, the alternative would follow procedures that fully protect site workers from exposure to ACM and LBP materials as well as provide protection from EMFs. As such, the alternative would not add a cumulatively considerable contribution to public safety from such effects. The analysis of these safety effects addresses potential risk to local populations in the vicinity of

the landfill site. There are no cumulative projects that would be located in the local area so as to contribute to cumulative risk from these activities. Therefore, significant adverse cumulative effects would not occur.

### Accident Conditions

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Sycamore Canyon Expansion Alternative would not create safety hazards due to concentrations of landfill gas, flooding, fire, rockfall, site security, waste disposal operations, roadway safety, or air traffic safety. As such, the alternative would not add a cumulatively considerable contribution to public safety from these landfill activities. The analysis of these safety effects addresses potential risk to local populations in the vicinity of the landfill site. There are no cumulative projects that would be located in the local area so as to contribute to a cumulative risk. Therefore, this alternative would not contribute to a significant adverse cumulative public safety effect with regard to accident/risks.

### Emergency Response Plans and Emergency Evacuation Plans

As discussed in Section 4.8, Human Health and Safety, of this EIS, the Sycamore Canyon Expansion Alternative would not impair implementation of or physically interfere with the County of San Diego OES, Operational Area Emergency Plan. This plan has been developed with thought for future development and needs of the County. A number of the cumulative projects would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts to emergency plans. Development projects would be required to address emergency access issues and to provide site emergency provisions. The Sycamore Canyon Expansion Alternative would not have significant adverse effects, nor result in significant adverse cumulative effects on implementation of emergency response and evacuation plans.

## 6.8.9 Hydrogeology

### Groundwater Withdrawal and Recharge

As discussed in Section 4.9, Hydrogeology, of this EIS, groundwater would not be utilized and the Alternative would not involve substantial new areas of impervious surfaces in the Santee Hydrologic Subarea. Therefore, no significant adverse effects would result to groundwater supplies or groundwater recharge. Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan EIR evaluated the potential groundwater impacts from full buildout of the General Plan. The San Diego County General Plan Final EIR concluded that no groundwater basins within the San Diego Hydrologic Unit would be significantly withdrawn under full buildout of the General Plan. As the Sycamore Canyon Expansion Alternative would not utilize groundwater in the initial construction, operation, or closure, and only limited quantities of groundwater would be withdrawn for groundwater remediation purposes, the alternative would not contribute to any overdraft of groundwater resources within the San Diego Hydrologic Unit. Therefore, the Sycamore Canyon Expansion Alternative would not be anticipated to result in a significant adverse cumulative impact with respect to groundwater supplies or discharge requirements.

### Groundwater Quality

As discussed in Section 4.9, Hydrogeology, of this EIS, because the Sycamore Canyon Expansion Alternative would be developed in accordance with applicable regulations and design features to prevent groundwater contamination, no significant adverse effects would occur with regard to groundwater quality.

Section 2.8, Hydrology and Water Quality, of the San Diego County General Plan Final EIR did not identify the Santee Subarea as a groundwater basin having the potential for significant water quality impacts under full buildout. The Sycamore Canyon Expansion would be designed to minimize leakage and to address any unforeseen leaks prior to reaching underlying groundwater resources. All cumulative projects would be required to comply with applicable federal, state, and local regulations designed to maintain groundwater quality. Thus, the Sycamore Canyon Expansion Alternative would not contribute to a significant adverse cumulative effect with respect to groundwater quality or discharge requirements.

## 6.8.10 Land Use and Planning

### Consistency with Land Use Plans

As discussed in Section 4.10, Land Use and Planning, of this EIS, the Sycamore Canyon Expansion Alternative would conflict with Open Space and Land Preservation Policy CE-B.1 and Urban Design Element, Natural Features Policy UD-A-1 to protect and preserve open space. Therefore, the alternative would have a significant adverse effect with respect to this criterion.

The majority of the alternative vicinity either contains suburban development (single- and multi-family residences, a school, commercial uses, parks/open space and water, street rights-of-way, etc.) or large areas of open space associated with Marine Corps Air Station, Miramar or MHPA areas (including Mission Trails Regional Park). Except for the immediately surrounding East Elliott Community Plan area, which is designated Open Space and would require a Community Plan Amendment to develop, this portion of the County and the City of Santee in particular, would increase in population over time. It is not expected, however, that the alternative would attract population or development not currently planned. Approval of the alternative and any other projects requiring rezone or plan amendments under the jurisdiction of Cities of San Diego or Santee, generally would resolve any inconsistencies and achieve conformity with land use designations, goals, and policies of the General Plan, Community Plan and Zoning Ordinance. Although the Sycamore Canyon Expansion Alternative would not be consistent with open space policies of the City of San Diego General Plan, the alternative and cumulative projects are not expected to result in additional inconsistencies. Based on this, the alternative would not result in a significant adverse cumulative effect.

### Consistency With Resource Conservation Area Designation

As discussed in Section 4.10, Land Use and Planning, of this EIS, the Sycamore Canyon Expansion Alternative would be within the 30-percent encroachment allowance into the MHPA that applies to essential public facilities. Therefore, this alternative would not conflict with MSCP Subarea Plan and would not have an adverse effect.

With regard to compliance with land use policies to preserve open space and natural landforms, the potential loss of 26 acres of open space combined with any losses associated with the list of cumulative projects would be compensated for through open space preservation required by the City. Except for the

Quail Brush Generation Project, which is proposed entirely within planned open space, the other cumulative projects are within areas planned for urban development. A localized loss of open space would, however, be realized in the vicinity as undeveloped land is converted to urban uses. Provided the open space conversions are anticipated in the applicable planning documents and policies and/or compensated for through open space preservation, the alternative's contribution to cumulative losses of open space (and therefore a conflict with open space policy) would not result in a cumulative adverse effect.[30]

## 6.8.11 Noise and Vibration

### Construction Noise (Initial)

As discussed in Section 4.11, Noise and Vibration, of this EIS, construction activity associated with the Sycamore Canyon Expansion Alternative would not result in noise levels in excess of applicable standards at the nearest residential property line. Therefore, the alternative would not result in a significant adverse cumulative effect.

Cumulative projects in the region would produce temporary construction noise. As with the alternative, construction schedules and construction noise equipment levels would vary depending on the type of equipment and its duration of use. With the exception of the administrative offices, construction of the MDP ancillary facilities would be in compliance with the 75 dBA LEQ construction noise criterion established by the City of San Diego Noise Ordinance. The administrative offices and the Quail Brush Generation Project would both be constructed within 100 feet of residentially zoned property (although no residences exist or are planned there at this time). These properties could experience significant adverse cumulative construction noise impacts should construction for both projects proceed simultaneously and the properties be developed with residential uses prior to the construction activities; however, construction of the offices and the generation project would be temporary activities and no residential uses are currently proposed. Berm construction, when needed, could exceed the construction noise limits of the Noise Ordinance at the landfill property line; however, it would occur in a location far removed from the other cumulative projects. As a result, no actual significant adverse noise ordinance effect would occur.

Although the nearby noise-sensitive receptors could be exposed to construction noise from other closer projects in the vicinity, cumulative construction noise is not anticipated to result in significant adverse cumulative effects because such projects are disperse with varied construction schedules and each project would be required to comply with the Noise Ordinances.

### Operation

As discussed in Section 4.11, Noise and Vibration, of this EIS, the landfill operations, including construction and demolition (C&D) processing, would not exceed the applicable Noise Ordinance limits of 62.5 dBA LEQ during the daytime, 60 dBA $L_{eq}$ during the evening, and 57.5 dBA $L_{eq}$ during the nighttime as long as a 15- to 20-foot-high sound barrier is maintained between the active operations area working face and the property line, with the exception that the active operations area at night must be at least 200 feet from the property line. Similarly, on-site truck movements would not exceed the applicable limits when a 15- to 20-foot-high sound barrier is between the truck route and the property line (without the sound barrier, trucks could

[30] *Sycamore Landfill Master Development Plan Revised Draft EIR, pages 9-6 and 9-7.*

come no closer to the property line than 150 feet in the day time, 200 feet in the evening, and 325 feet in the nighttime).

Since the closest proposed residential development that would result in the construction of new noise-sensitive receptors would be the Castlerock project, located approximately 1,700 feet east of the alternative, landfill operations are not anticipated to result in significant adverse effects on residential properties. The use of the sound barrier also would reduce ambient noise levels over No Project conditions when the landfill operations are above the existing ridge lines and near landfill boundaries.

Given that the MDP would reduce ambient noise levels, and that projects proposed within 0.5 mile of the MDP would be required to comply with the property line noise limits set by the City Noise Ordinance, no significant adverse cumulative noise effects are anticipated relative to landfill operations.

#### Traffic Noise

As discussed in Section 4.11, Noise and Vibration, of this EIS, traffic noise associated with the Sycamore Canyon Expansion Alternative would not increase the noise levels at residences in excess of 60 dBA CNEL. Therefore, traffic noise impacts would not result in significant adverse effects.

Community-wide increases in traffic noise would occur along local roads and freeways as cumulative projects in the region become operational. Increases in traffic noise are related to future growth-causing traffic on some streets to rise, completion/widening of major freeways, and changes in traffic circulation due to expanded capacity of freeways that could cause redistributions in traffic on local roads. While traffic noise is expected to increase along local roads over time, the MDP would represent less than four percent of total traffic on SR-52, Mast Boulevard, and West Hills Parkway, the primary roads on which project-related traffic would be expected to increase. Thus, increases in traffic noise on these roadways resulting from the alternative would be negligible and the alternative's contribution to cumulative noise in the community would not result in a significant adverse effect.

#### Blasting

As discussed in Section 4.11, Noise and Vibration, of this EIS, the alternative would not result in significant vibration effects. While cumulative projects in the region may produce vibration from construction activities, vibration from blasting associated with the alternative would be infrequent and short-term and would generally occur in a location far removed from the other cumulative projects. Cumulative vibration is not anticipated to result in a significant adverse effect because any vibration-generating activities of the various projects would not overlap or would not occur in the vicinity of blasting activities. Furthermore, each project would be required to comply with the applicable vibration standards. Therefore, the alternative would not contribute to a significant adverse cumulative effect.

### 6.8.12 Public Services

#### Law Enforcement

As discussed in Section 4.12.1, Law Enforcement, of this EIS, the Sycamore Canyon Expansion Alternative would not result in significant adverse physical effects associated with law enforcement due to increases in

population demand or activities occurring at the landfill site. There is no residential development associated with the landfill, and it is expected that the majority of employees would be drawn from the existing labor pool in the region. Further, operations and safety measures of the existing landfill that have been created to enhance site security and reduce potential demand for law enforcement services would continue and not change with implementation of the Sycamore Canyon Expansion Alternative. As such, the Sycamore Canyon Expansion Alternative's incremental contribution to demand for law enforcement would not be cumulatively considerable. Future related development projects would be evaluated on a project-by-project basis to determine potential impacts to law enforcement. While notable population growth occurring in the City could require additional facilities to enhance protection, the Sycamore Canyon Expansion Alternative contribution would be negligible, and the alternative would not contribute to a significant adverse cumulative effect.

### Fire Protection and Emergency Medical Services

As discussed in Section 4.12.1, Fire Protection and Emergency Medical Services, of this EIS, the Sycamore Canyon Expansion Alternative would not result in significant adverse physical effects associated with increases in population demand or activities occurring at the landfill site. Expansion of the landfill would not result in an increased demand for fire protection and emergency services over those currently required and would not directly affect emergency response. Operations, fire-prevention measures, and design features of the existing landfill created to limit the potential for fires to occur would continue with implementation of the Sycamore Canyon Expansion Alternative. As such, the Sycamore Canyon Expansion Alternative's incremental contribution to demand for fire and emergency medical services would not be cumulatively considerable.

A number of the cumulative projects in the area would include residential development which would add population to the area or large contributors to the employment base. Future development projects would be evaluated on a project-by-project basis to determine potential impacts on the provision of fire and emergency medical services. Such projects would be subject to regulatory requirements to reduce fire impacts, including implementation of fire protection features and required fees, under the City's mitigation fee program for the provision of new services. Therefore, the impacts of the Sycamore Canyon Expansion Alternative would not add to the incremental impact to fire protection and emergency medical services as to require new or physically altered facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire services and/or emergency medical services; and no significant adverse cumulative effects would occur.

### Schools

As discussed in Section, 4.12.3, Schools, of this EIS, the Sycamore Canyon Expansion Alternative would not result in a significant adverse effect on school facilities. Related development projects would be required to pay the appropriate school district developer fees based on the type and size of development proposed. Pursuant to SB 50 and the San Diego Municipal Code (Chapter 9, Article 8, Division 4: Interim School Facilities Financing Ordinance), payment of fees to the appropriate school district is considered full mitigation for project impacts, including impacts related to the provision of new or physically altered governmental facilities. Thus, the Sycamore Canyon Expansion Alternative would not have a significant adverse cumulative on schools.

### Recreation

As discussed in Section 4.12.4, Recreation, of this EIS, the Sycamore Canyon Expansion Alternative would not result in a significant adverse effect on recreational facilities or resources. Payment of park in lieu fees and/or dedication of parkland pursuant to the City of San Diego Municipal Code by future cumulative projects would address associated incremental increases in demand for parks and recreation. Thus, the Sycamore Canyon Expansion Alternative would not contribute to a significant adverse cumulative effect.

## 6.8.13 Socioeconomics

### Population, Housing, and Employment

As discussed in Section 4.13, Socioeconomics, of this EIS, the Sycamore Canyon Expansion Alternative would not remove housing stock, nor generate notable new population or housing in the region. It would increase the number of on-site jobs from approximately 40 workers to 50 workers. This increase in employment would fall within regional growth forecasts, and would not substantially alter land use patterns or result in demand for housing and services that would exceed supplies. Therefore, there would be no significant adverse effects on demographic distribution.

The SANDAG 2050 regional forecasts cited in the analysis of socioeconomic impacts have been prepared based upon the current on-going operations at the Sycamore Canyon Landfill as a use at the alternative site. Further, the projections are tied to development of the County's Regional Transportation Plan (RTP), which identifies future roadway projects, and which guides transportation funding that is provided through the County's Traffic Impact Fee and TransNet Programs.

As such, the regional forecasts reflect both expected, planned and future projected growth and infrastructure systems. As noted above, the Sycamore Canyon Expansion Alternative would add a negligible contribution to expected growth and would be a component of otherwise forecasted growth and distribution of population, housing and employment. The Sycamore Canyon Expansion Alternative's contribution would not be cumulatively considerable, and no significant adverse effects would result.

### Physical Environmental Effects

As discussed in Section 4.13, Socioeconomics, of this EIS, the Sycamore Canyon Expansion Alternative would contribute financial benefits to the region. The physical impacts would not substantially interfere with the normal operations of other uses in the vicinity of the alternative site in a manner that would lead to substantial adverse socioeconomic consequences.

For the most part, potential socioeconomic impacts are independent of related development projects in the area. Notable future cumulative development in the immediate vicinity of the alternative site includes a power generation plant at the landfill access road, and park facilities/equestrian center across from the alternative site on SR 52. A large residential development (430 dwelling units) is proposed for location along Medina Road approximately 3,500 feet east of the alternative site. These uses would not notably add to the impacts noted for the alternative. Further, the cumulative projects would not contribute to nuisance impacts associated with the landfill, nor be subject to such impacts due to landfill activity.

The traffic impacts for the alternative included additional traffic due to cumulative development and regional growth. Cumulative impacts, as mitigated, would not result in significant adverse cumulative effects at local intersections and road segments, but would result in significant adverse cumulative effects on multiple freeway segments. As noted above, these impacts would be components of congestion that affects the region generally, and would affect access to the landfill area without affecting the character and activities at nearby locations.

Therefore, cumulative impacts with regard to socioeconomic impacts would be similar to those identified for the landfill activities alone. Physical impacts would not be so great as to substantially interfere with the normal operations of other uses in the vicinity of the alternative site in a manner that would lead to substantial adverse socioeconomic consequences. Thus, the alternative would not contribute to adverse cumulative effects.

## 6.8.14 Surface Hydrology

### Surface Water Quality

As discussed in Section 4.14, Surface Hydrology, of this EIS, with the implementation of BMPs, the construction and operation of the Sycamore Canyon Expansion Alternative would not result in discharges that would create pollution, contamination or nuisance for the water bodies in the area. Therefore, the alternative would not have a significant adverse effect.

The San Diego River hydrologic unit encompasses an area extending to the northeast of the alternative site to the coast. All new development projects have the potential to expose the river to pollution or nuisance and to contribute to the river's existing impairment. Construction activities and increased impermeability of development sites could also expose the watershed to increase surface runoff. However, with the implementation of the SWMP, BMPs and other pertinent procedures related to the control surface water runoff and pollution sources maintenance programs, the alternative and cumulative projects are not expected to result in significant adverse cumulative effects with respect to water quality.

### Flood Hazard

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Sycamore Canyon Expansion Alternative is not located within a 100-year floodway nor would it provide structures within a floodway. City of San Diego Environmentally Sensitive Land Regulations (San Diego Municipal Code Chapter 14, Article 3, Division 1) identify and restrict development within Special Flood Hazard Areas. With the implementation of these regulations, the alternative and cumulative projects would not result in adverse cumulative effects with respect to flood hazard.

### Water Surface Elevation

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Sycamore Canyon Expansion Alternative is not located within a floodway nor would it increase surface water runoff that would affect surface water elevation. Regulations that control new development within floodplain areas, such as the City of San Diego Environmentally Sensitive Land Regulations, would restrict or prohibit cumulative projects in floodways that could, otherwise, cause a potential increase in water surface levels. Therefore, it is expected that the

alternative and cumulative projects would not result in significant adverse cumulative effects related to water surface elevation.

#### Floodway Alternation (Hydromodification)

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Sycamore Canyon Expansion Alternative would not increase surface water runoff over existing conditions or affect a floodway in manner that would cause downstream flooding or exceed the area's drainage system capacity. As discussed in Section 4.14, Surface Hydrology, of this EIS, the East Otay Mesa Alternative would not cause scouring of any floodways in a manner that would result in scouring or changes in channel geomorphology. The enforcement of BMPs under the City of San Diego Storm Water Management and Discharge Control Ordinance would control runoff from larger projects and would not cause alteration of downstream floodways. Therefore, the alternative and cumulative projects would not result in adverse cumulative effects with respect to the alteration of floodways.

#### Scour

As discussed in Section 4.14, Surface Hydrology, of this EIS, the Sycamore Canyon Expansion Alternative would alter existing runoff patterns in the South Sycamore Canyon drainage. However, surface water runoff would be decreased. Therefore, the alternative would not cause an increase in flow or other conditions that would result in scouring of the nearby San Diego River. Regulations that control new development within floodplain areas, such as the such as the City of San Diego Environmentally Sensitive Land Regulations,, would restrict or prohibit cumulative projects within floodplains that might, otherwise, result in scouring of a river or stream. Therefore, it is expected that the alternative and cumulative projects would not result in significant adverse cumulative effects relatedto scour.

### 6.8.15 Transportation

Section 4.15, Transportation, concludes that that the Sycamore Canyon Expansion Alternative would add new traffic to the roadway network, with the greatest impacts along Mast Boulevard heading west to SR 52 and then along SR 52 for regional distribution, particularly along I-15. For the two cumulative scenarios analyzed (Near-Term 2015 Cumulative Conditions and Buildout Conditions), the analysis concludes that significant adverse cumulative conditions would remain, after mitigation, at three freeway segments under both scenarios.

### 6.8.16 Utilities

#### Water Supply

##### New Water Facilities

As discussed in Section 4.16.1, Water Supply, of this EIS, the Sycamore Canyon Landfill Expansion Alternative site is located within the Padre Dam Municipal Water District (PDMWD). At 359 gpd (0.4 AFY), the alternative's net increase in demand for potable water would constitute less than 0.1 percent of the total increase in PDMWD water demand by 2035. The majority of water utilized under the Sycamore Canyon Expansion Alternative would be recycled water. By 2035, the PDMWD projects having a verifiable recycled

water supply of 2,015 AFY, with the potential total recycled water supply of 10,601 AFY.[31] Although the PDMWD 2010 UWMP does not identify the specific recycled water demand in 2035, or the surplus available, the PDMWD is seeking opportunities to utilize excess recycled water in the future. As the Sycamore Canyon Landfill Expansion Alternative would constitute less than 0.01 percent of the verifiable recycled water supply in 2035, and even less of the potential total recycled water supply, the Sycamore Canyon Expansion Alternative would not result in a significant adverse cumulative effect with respect to water facilities.

### Groundwater Supply and recharge

As discussed in Section 4.16.1, Water Supply, of this EIS, the Sycamore Canyon Expansion Alternative would not utilize groundwater for its operations. As a result, the Sycamore Canyon Expansion Alternative would not contribute to an adverse cumulatively effect with respect to groundwater supplies or groundwater recharge.

### Recycled Water

As discussed in Section 4.16.1, Water Supply, of this EIS, the quantities of water utilized by the Sycamore Canyon Expansion Alternative would not have a significant adverse effect on the supply of recycled water to other PDMWD recycled water users. With respect to potential cumulative impacts, the Sycamore Canyon Landfill Expansion Alternative would constitute less than 0.01 percent of the verifiable recycled water supply in 2035, even less of the potential total recycled water supply. As a result, the Sycamore Canyon May 2012 Draft EIR concluded that no significant adverse cumulative effect would result.

### Wastewater

As discussed in Section 4.16.2, Wastewater, of this EIS, the Sycamore Canyon Expansion Alternative would generate small amounts of wastewater that would be collected on site and trucked to regional treatment facilities and treated as a small component of the routine handling of such wastewater. Therefore, the Sycamore Canyon Expansion Alternative would not generate a demand for wastewater treatment capacity that is greater than treatment capacity of treatment facilities and no significant adverse impacts to wastewater services would occur.

Individual developments would be reviewed by the City of San Diego Public Utilities Department Wastewater Branch on a project-by-project basis to determine if sufficient wastewater services and treatment capacity exists to serve the specific development. Pursuant to the San Diego Municipal Code (Chapter 6, Article 4, Division 4: Construction, Maintenance, Funding and Use of Wastewater Facilities), the City would require new developments to pay a sewer service charge to maintain sewer systems. The City charges fees for the privilege of connecting to its sewerage system or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. The fees are required to construct new sewer infrastructure and/or incremental expansions to the existing sewerage system to accommodate individual development, which would mitigate the cumulative impact of the development on the sewerage system. The City would only allow new developments to connect to its sewer systems if there is sufficient capacity or planned expansions of its facilities to accommodate new developments proposed. Therefore, future development would not be permitted to exceed the capacity of wastewater conveyance

[31] *PDMWD, 2010 UWMP, Table 17: Recycled Water / Wastewater Collection and Treatment.*

systems or treatment facilities, since adequate capacity must be demonstrated in order to contribute flows to the system.

While notable population growth occurring in the City could require additional wastewater services and facilities, the Sycamore Canyon Expansion Alternative would not add incrementally to the cumulative demand. Thus, the Sycamore Canyon Expansion Alternative would not result in a significant adverse cumulative effect with regard to wastewater.

### Gas and Electric

As discussed in Section 4.16.3, Gas and Electricity Service, of this EIS, the Sycamore Canyon Expansion Alternative would not result in an increase in consumption of energy that is above the service provider's planned service capacity, or use energy in a manner that is inconsistent with plans and policies for the conservation of energy.

Natural gas and electricity are provided via planning activities based on growth and demand projections of the service providers that demonstrate an ability to meet future demand for services, thus accounting for cumulative development. Further, the plans are updated periodically to account for changes in growth rates. The Sycamore Canyon Expansion Alternative's incremental contribution to demand for gas and electricity services would be negligible, and represented within current estimates of demand for service. Further, the electrical demand would be offset by the electricity produced annually by the cogeneration plant. The cumulative projects would generate additional demand for gas and electricity. Future development projects would be evaluated on a project-by-project basis, and evaluated against planned demand. Future development that requires new infrastructure/gas main extensions or electrical service would be required to pay all applicable fees assessed by SDG&E necessary to accommodate the specific project. SDG&E would not allow new development projects to connect to existing gas mains and would not provide electrical service unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service. Thus, the Sycamore Canyon Expansion Alternative would not result in a significant adverse cumulative effect on gas and electrical services as the supply would be managed to meet demand.

# 7.0 GROWTH INDUCING IMPACTS

## INTRODUCTION

NEPA requires the evaluation of potential direct and indirect effects. Consistent with NEPA regulations (NEPA, 40 CFR section 1508.8[b]), indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air, water, and other natural systems including ecosystems. Direct effects refer to population increases that occur when a project creates new on-site residential units or employment opportunities. Indirect effects refer to growth that would occur later in time and/or removed from implementation of the project as secondary effects. Examples of projects that can induce indirect growth are infrastructure projects that open new areas to development, or that provide new services to areas making them available for development. Growth inducing effects are not necessarily considered beneficial or adverse. Adverse growth effects may occur when such growth is not anticipated and planned for, including growth that exceeds the capacity of service providers to meet the needs of new population.

Chapter 4, Environmental Analysis, of the EIS addresses the impacts of the alternatives on the various environmental and service systems that would be affected by implementation of each of the alternatives. Each of the analyses accounts for the direct contributions of the population and activities associated with each of the alternatives. Chapter 6, Cumulative Analysis, identified effects of the alternatives along with other growth anticipated in the region. As such, these sections are consistent with the NEPA requirements that direct and indirect effects be evaluated.

As further described in Chapter 3, Description of Alternatives, of this EIS, the No Federal Action Alternative provides habitat restoration and a conservation bank on the Applicant's Proposed Alternative site, with limited site preparation and site maintenance. Under the No Federal Action Alternative, the Applicant's Proposed Alternative site would remain as open space and therefore the alternative would have no effects on growth. Solid waste would be disposed of as it is under existing conditions, in which the majority of the waste generated in the County is disposed of at in-County facilities with some waste disposed of out-of-County. However, as available disposal capacity is exhausted in the County, there would be a greater reliance on out-of-County disposal facilities.

## GROWTH INDUCING EFFECTS

### Direct Effects

The provision of new landfill capacity would not involve development of new housing, and therefore would have no direct growth effects due to housing related increases in population. The alternatives would provide a small number of employment opportunities (up to 35 temporary construction jobs, an estimated 22 full time employees, or 10 additional employees associated with the Sycamore Canyon Expansion Alternative), which would be beneficial from an economic standpoint. It is expected that most of the workers would come from the existing labor pool in the region although a few employees may relocate to the region, or if already in the region move closer to the new employment location. However, the increase in employment would not contribute substantially to the population growth or result in an increase in housing demand. After closure

of the landfill, no employees would be on-site, with the exception of a few, occasional employees required for site monitoring or maintenance.

The number of new employees and the projected number of employees in the region and landfill community plan areas is discussed in Section 4.13, Socioeconomics, of this EIS. That discussion describes the forecasted growth and the additional increment to that growth associated with each of the landfill alternatives. As indicated, anticipated growth in the County is based on SANDAG regional population and employment forecasts that have been prepared in coordination with the development of the County's General Plan Update and Community Plans of the jurisdictions. Those forecasts identify the expected growth in the County and serve as the basis for long-term planning for the provision of services, including the County's Regional Transportation Plan (RTP), which identifies future roadway projects and guides transportation funding through the County's Traffic Impact Fee and TransNet Programs. The forecasts are also used as the basis for various master plans that guide the provision of local and regional infrastructure and other public services. The few new employees that would result in association with the new landfill capacity would represent a negligible contribution to growth and would not materially change the general growth in regional employment and population estimated by SANDAG for the County.

The ability of public service and utility providers to accommodate population associated with the landfill alternatives is discussed in Chapter 4, Environmental Analysis. See Sections 4.12, Public Services (inclusive of Law, Fire Protection and Emergency Services, Schools and Recreation) and 4.16, Utilities and Service Systems (inclusive of Water Services, Wastewater Services, and Gas and Electricity), of this EIS. Those sections indicate that the increase in employees as a result of the alternatives would be consistent with the expected population growth and the ability of the providers to accommodate the landfill population.

## Indirect Effects

As discussed more fully below, the landfill alternatives would not induce new growth. As indicated in Chapter 2, Purpose and Need, of this EIS, consistent with RCRA criteria to ensure the protection of human health and the environment through regulation of municipal solid waste landfills, California State law requires that counties within the State prepare an Integrated Waste Management Plan (IWMP). The IWMP includes a Siting Element to assist local governments and private industry in planning for integrated waste management and for the siting of solid waste disposal facilities. Pursuant to 14 CCR §18755(a), a Siting Element must demonstrate that there is a county-wide or region-wide minimum of 15 years of combined disposal capacity through existing or planned solid waste disposal and transformation facilities, or through additional strategies.

As indicated in Chapter 2 of this EIS, the Needs Assessment analyzes permitted landfill capacity relative to the anticipated population growth and the resultant increase in demand for waste disposal facilities. The Needs Assessment indicates that under current conditions, and assuming current rates of diversion and no new landfills or landfill expansions, San Diego County is estimated to be out of landfill disposal capacity in 2024 (i.e., less than 15 years). When looking at a much more aggressive assumption for source reduction, recycling and composting that assumes a 50 percent reduction in tons disposed by 2030, disposal capacity in San Diego could be extended by three years, to 2027. This finding in the Needs Assessment regarding San Diego County's need for additional landfill capacity is consistent with findings in the Five-Year CIWMP/RAIWMP Review Report (2011). The Five-Year Review Report of the County's Siting Element relies

on the proposed expansion of the Sycamore Canyon Landfill, as well as the proposed Gregory Canyon Landfill, to meet the County's need for waste disposal.

Accordingly, as described in Chapter 2, the purpose of the proposed Applicant's Proposed Alternative, and thus the off-site alternatives evaluated in this EIS, is to meet a portion (approximately 30 million tons) of San Diego County's long-term waste disposal needs by providing non-hazardous solid waste disposal capacity to service waste generated in or near North County. The demand for solid waste disposal capacity is based on forecasted growth. The proposed alternatives are intended to meet the projected need for solid waste disposal capacity for waste generated by North County jurisdictions. In order for solid waste generated in the County to be disposed of at an in-County facility in the future, additional capacity would need to be provided. Thus, an expansion of a landfill or a new landfill in San Diego County would support forecasted growth if waste disposal were to occur within San Diego County. As available disposal capacity is exhausted in the County, there would be a greater reliance on out-of-County disposal facilities.

The alternatives would not require the construction of new infrastructure such as roads, utilities or services that would result in opening up new areas for development. The alternatives would not result in the construction of new roads, except for the access roads into the facilities. Unlike infrastructure such as utilities and roadways, an increase in regional landfill capacity does not directly restrict or promote new development. An area that is designated for development can be developed and waste could be hauled to other distant areas by long haul trucks or rail haul, if the necessary infrastructure were to be in place. At the same time, access to nearby landfills is not a key consideration in population decisions in selecting residential or employment locations, so long as a haul service is available. Therefore, the additional landfill capacity that would result from the alternative would not attract new development that would contribute to an increase in growth in northern San Diego County.

Construction, operation and closure of a new landfill would modestly contribute to economic growth in the vicinity of the alternative site by increasing personal income through payroll, and through local purchases of equipment, materials, and supplies. The alternatives would not require the establishment of new businesses to support their operations. Owing to the small number of employees, and the fact that such growth is accounted for within the regional growth projections, these economic benefits would be considered sustaining rather growth inducing.

In summary, the alternatives would not result in substantial or unplanned economic or population growth. The landfill capacity that would result from one of the alternatives would represent a small part of the total solid waste disposal system which would serve both existing demand and that associated with forecasted growth in San Diego County. Thus, none of the alternatives would be considered growth inducing to their respective areas, but as facilities that would meet the existing and projected need for municipal solid waste disposal capacity for waste generated in or near North County.

# 8.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

## INTRODUCTION

NEPA requires discussion of "any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented." (42 U.S.C. Section 4332 (2)(C)(v).). The commitment of resources refers to the use of both renewable and nonrenewable resources that would occur during the construction and operation of the alternatives, or that would continue to be unavailable during post-closure of the landfill. Development of the Applicant's Proposed Alternative or other alternative landfills (Aspen Road, Gopher Canyon Road, Merriam Mountain, East Otay Mesa, or Sycamore Canyon Expansion) would result in the irreversible or irretrievable commitment of resources as discussed below. Development of the No Federal Action Alternative, which involves habitat restoration and the creation of a conservation bank, would result in only limited consumption of resources to create and maintain the conservation bank, along with the consumption of fossil fuels associated with waste haul trips to an out of County facility that would occur without implementation of one of the other alternatives.

## 8.1 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

A landfill would require a range of materials for the development and operation of the facility, including an access road, bridge (Gregory Canyon site), ancillary facilities, landfill footprint, wells, drainage and flood control facilities, pipelines, culverts and other facilities. The permanent commitment of these materials would be considered irreversible and irretrievable. Materials used in the development of the landfill footprint include gravel, geotextiles, high density polyethylene (HDPE), and geosynthetic/geocomposite (GCL) clay, as well as soils. Materials used in the development of associated roadways, buildings, storage tanks, desilting basins, wells, and other facilities would result in the irretrievable use of sand and gravel, concrete, asphalt, electrical wiring, paint, glass, steel, aluminum, lumber, and other building materials.

Development at the alternative sites would result in the commitment of land to landfill uses. Land area used for the waste prism, facilities, borrow/stockpile areas, and roads would be reverted to permanent open space under post-closure conditions. As summarized below, the Sycamore Canyon Alternative, which is part of an approximately 491-acre site with an active landfill, represents the lowest incremental increase in existing vacant lands that would be committed to a landfill and ultimately, permanent open space use. While the alternative site would not be available for other uses during the life of the landfill, the landfill would not represent an irreversible or irretrievable commitment of land.

In addition to the acreages listed below, the Applicant's Proposed Alternative would commit a minimum of 1,313 acres to permanent open space for the long-term preservation of sensitive habitat and species at the initiation of the project. This land area would not be available for future development during construction and operation of the landfill, or at any future time. The following list represents the land area committed to each alternative:

| Alternative Landfill Site: | Total Acreage: | Acreage Occupied by Waste Prism: |
|---|---|---|
| Applicant's Proposed | 1,770 acres | 196.3 acres |
| Aspen Road | 456 acres | 165 acres |
| Gopher Mountain Road | 474 acres | 180 acres |
| Merriam Mountain | 553 acres | 199 acres |
| East Otay Mesa | 450 acres | 146 acres |
| Sycamore Canyon Expansion | 96.8 acres (expansion site only) | 28.6 acres |

The alternative sites would have varying service lives prior to being converted to permanent open space. In the case of Sycamore Canyon Expansion, the current landfill is projected to remain operational until 2031. With the expansion, Sycamore Canyon would remain operational until 2042 based on maximum annual disposal volumes.[1] Although service life can be affected by several factors, including variables in annual waste tonnage, the service life of each landfill prior to closure and conversion of the total site to open space is estimated as follows:

| Alternative Landfill Site: | Approximate Service Life: |
|---|---|
| Applicant's Proposed | 30 years |
| Aspen Road | 25 years |
| Gopher Mountain Road | 23 years |
| Merriam Mountain | 27 years |
| East Otay Mesa | 27 years |
| Sycamore Canyon Expansion | 11 years |

The development of the landfill would require the irretrievable use of soils, some of which (depending on the alternative site) would be imported from off-site locations. The volume of soil used in the development of landfill prisms (expressed in million cubic yards [mcy]) for the alternative sites is listed below. Additional soils would be used for shaping, the operation layer and final cover.

| Alternative Landfill Site | Projected Soil Use During Operation |
|---|---|
| Applicant's Proposed | 11.4 mcy |
| Aspen Road | 9.8 mcy |
| Gopher Mountain Road | 8.5 mcy |
| Merriam Mountain | 10.0 mcy |
| East Otay Mesa | 9.4 mcy |
| Sycamore Canyon Expansion | Not known |

Cut and fill operations, as well as the development of a waste prism at the alternative sites would also create an irreversible, permanent change in the topography of the landfill site. Effects on scenic resources that could not be feasibly mitigated to avoid significant adverse effects would be considered irreversible.

[1] *Sycamore Landfill Master Development Plan Revised Final EIR, pages 3-7 and 5.1-15 (August 2012).*

Significant adverse effects on scenic resources include contrast with the natural landform character that would occur at the Applicant's Proposed Alternative, Aspen Road Alternative, and Merriam Mountain Alternative sites; and a contrast with visual elements of the nearby area at the Sycamore Canyon Extension Alternative site. Over time, replanting and contouring may reduce the severity of such effects and conditions may not be necessarily irreversible. However, the Aspen Road Alternative's waste prism would irreversibly block or reduce view corridors of high value mountain views from several locations and the Merriam Mountain Alternative's prism would irreversibly affect view resources by blocking an existing ridgeline and portions of views of the sky.

The construction and operation of the alternatives would result in increased human activities at the sites, which could result in direct or indirect irreversible effects on identified or unidentified archaeological resources. These changes, however, would be mitigated and no irreversible significant adverse effects would occur to such resources. The Applicant's Proposed Alternative would have a significant adverse effect on a traditional cultural property that embodies "the beliefs, customs, and practices of…" the Pala and greater Luiseño communities. This would be an irreversible effect.

The construction and operation of some alternatives would affect jurisdictional non-wetland and/or wetland waters of the U.S. and certain sensitive biological resources. The Applicant's Proposed Alternative would result in permanent impacts to 0.542 acre of jurisdictional waters of the U.S., including 0.005 acre of wetlands within the San Luis Rey River and 0.537 acre of non-wetland waters of the U.S. (comprising 0.0018 acre within the San Luis Rey River as a result of the bridge and 0.535 acre of the Gregory Canyon drainage as a result of the landfill footprint and ancillary facilities area). In addition, the Applicant's Proposed Alternative would temporarily impact 0.563 acre of jurisdictional waters of the U.S. within the San Luis Rey River during construction of the bridge (including 0.371 acre of wetland waters of the U.S. and 0.192 acre of non-wetland waters of the U.S.). The Aspen Road Alternative may permanently impact 0.4-acre of potential jurisdictional non-wetland waters of the U.S. within a tributary to Rainbow Creek. The Gopher Canyon Road Alternative may result in permanent impacts to 1.1 acres of potential jurisdictional waters of the U.S., within tributaries to Gopher Creek. The Merriam Mountain Alternative may result in permanent impacts to 1.2 acres of potential jurisdictional non-wetland waters of the U.S. within the Moosa Canyon watershed. No temporary impacts to jurisdictional waters of the U.S. are anticipated for any of the off-site alternatives. The impacts on jurisdictional waters of the U.S. would not result in significant adverse effects and therefore no such irreversible effects.

In addition, impacts to other biological resources, including sensitive species and wildlife corridors, at alternative sites would be mitigated to a level that would not result in significant adverse effects that would lead to such irreversible effects. However, certain effects on biological resources could not be feasibly mitigated to avoid significant adverse effects, which would therefore be considered irreversible effects. These include the loss of wildlife corridors at the Aspen Road and Gopher Canyon sites; and the loss of 29.7 acres of a mima mound-vernal pool complex, a regionally limited sensitive habitat, at the East Otay Mesa Alternative site.

Daily operation of the landfill would also require the irretrievable commitment of water resources during the life of the landfill. Demand for operation of a landfill is estimated to be a peak of 80,000 gallons per day (gpd) of non-potable supply, which converts to peak demand of 75 acre feet per year (AFY)[2] for all landfills

[2] *Based on 307 days of operation per year.*

with the exception of the Sycamore Canyon Expansion Alternative. The Sycamore Canyon Expansion Alternative is estimated to generate a peak demand of 78,000 gpd (87.4 AFY).[3] For the Sycamore Canyon Expansion, the latter can be provided as non-potable water, as available. Facilities are estimated to require a minimum amount of potable water per day (similar to a small commercial operation or standard household). Water demand, however, is not estimated to exceed available supplies for any of the alternatives.

Portions of the Gopher Canyon Road Alternative and Merriam Mountain Alternative sites are designated for extraction of mineral resources (MRZ-2), and/or lie adjacent to mining sites. The development of these alternatives may result in the irreversible loss of access to mineral resources.

Agricultural resources, including FMMP-designated unique farmland and farmland of local importance, as well as a tract under Williamson Act contract, occur at the Aspen Road Alternative site. Farmland of local importance occurs at the East Otay Mesa Alternative site. The development of these alternative sites would result in the irreversible and irretrievable commitment of agricultural resources to non-agricultural uses.

The construction and operation of alternatives would also result in the irretrievable and irreversible use of nonrenewable resources, such as fossil fuels. Fossil fuels would be used in the operation of construction equipment and in hauling waste. As the purpose of the facility is to provide capacity for waste generated in or near North County, fossil fuel (diesel gasoline) demand would generally be higher for waste hauling to the East Otay Mesa Alternative site, relative to the demand resulting from current waste hauling practices, because of the proposed facility's location in South County. The length of waste transport trips from locations in or near North County to the East Otay Mesa Alternative would be similar to or greater than that of the Otay landfill, which is located in South County and is currently a disposal destination for some North County generated waste. However, with respect to hauling waste that is generated in or near North County to other alternative sites, fuel consumption may be lower than under existing conditions in which some waste is transported outside the County (e.g. to Prima Deshecha landfill) or to landfills in the City of San Diego (Sycamore Canyon, Miramar) or South County (Otay). Further, fuel consumption may be higher under future conditions associated with the No Federal Action Alternative in which waste would be transported to El Sobrante Landfill site in Riverside County.

[3] *Based on 365 days of operation per year.*

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This chapter provides a list of references that have been used in the preparation of this EIS. There are some general references that have been used throughout the document to provide the descriptions of affected environment and the analyses contained in the document. For example, the County's General Plan and its associated Final EIR have been used to understand the potential buildout in the vicinity of each of the alternative sites and to provide information relative to technical issues. Also, the Joint Technical Document provides the basis for the description of the Applicant's Proposed Alternative and contains many technical reports that have undergone peer review and have been used in preparing the EIS. These documents are listed under the General References section. Following the General References are the lists of resources by issue area that were used to complete the particular section.

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# 11.0 DEFINITIONS AND ACRONYMS

## DEFINITIONS

Throughout this EIS, certain terms are repeated that have specific significance to the Applicant's Proposed Alternative. These terms are defined below.

- ***Applicant:*** Gregory Canyon, Ltd. (GCL), its agencies and/or successors; the person or party filing an application with the County of San Diego DEH or any other applicable review agency for approval of a discretionary entitlement request.
- ***Associated or Ancillary Facilities:*** Include facilities that are part of the landfill operation, such as the on-site access road and bridge, the maintenance facilities, scales, water tank, flare station, recycling area, and borrow/stockpile areas.
- ***Landfill Footprint:*** The approximately 196 acres of land within the project site that would be used for the deposition of solid waste.
- ***Site:*** The entire property under consideration, which is approximately 1,770 acres.
- ***Area/Vicinity:*** Includes land outside the project boundary.
- ***Applicant's Proposed Alternative:*** All activities for which construction and operation proposals are in process or clearly anticipated. At the present time, those activities include the Solid Waste Facilities Permit and other related actions identified in Chapter 1 of this EIS. More specifically, the Applicant's Proposed Alternative shall mean all of the components of the landfill operation, including the landfill footprint, maintenance facilities, water tank, flare station, recycling area, borrow/stockpile areas, access road and bridge, and relocation of the SDG&E lines, as well as rock crushing and SR 76 improvements. If adopted, relocation of a portion of the First San Diego Aqueduct pipelines may also become part of the project.
- ***Borrow/Stockpile Areas:*** Areas designated on the property where excavated material would be stored and areas where dirt would be excavated to be used in the operation of the landfill.
- ***Maximum Case Analysis:*** The basis for the environmental analysis presented in the EIS. The maximum case scenario is used to identify the highest level of impacts that might occur from implementation of the alternative. For example, maximum case analysis for traffic assumes a continuous stream of the highest level of daily input expected, i.e. 5,000 tons per day, rather than the average of 3,200 tons per day.

## ACRONYMS AND ABBREVIATIONS

The table below provides a list of standard acronyms/abbreviations that are used throughout this EIS.

| Acronym | Description |
|---|---|
| AADT | Annual average daily traffic |
| AB | Assembly Bill |
| ACHP | Advisory Council on Historic Preservation |
| ACM | asbestos-containing materials |
| ADC | Alternative daily cover |
| ADI | Area of Direct Impact |
| ADT | Average daily traffic volume |
| AERMOD | AMS/EPA Regulatory Model |
| AFY | Acre feet per year |
| AIC | Alternative intermediate cover |
| amsl | above mean sea level |

| Acronym | Description |
|---|---|
| APCD | Air Pollution Control District |
| APE | Area of Potential Effect |
| AQIA | Air Quality Impact Analysis |
| AQMP | Air Quality Management Plan |
| ASMDs | area-specific management directives |
| ATCM | Airborne Toxic Control Measures |
| Aux | Auxiliary Lanes |
| BACT | Best Available Control Technology |
| BAU | business as usual |
| bgs | below ground surface |
| BLM | U.S. Department of the Interior, Bureau of Land Management |
| BMO | Biological Mitigation Ordinance |
| BMP | best management practices |
| CAA | Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CAFE | Corporate Average Fuel Efficiency |
| CAISO | California Independent System Operator |
| CAL FIRE | California Department of Forestry and Fire Protection |
| CalEEMod | California Emissions Esitmator Model |
| CalEPA | California EPA |
| CalRecycle | California Department of Resources Recycling and Recovery |
| CALTRANS | California Department of Transportation |
| CAP | Corrective Action Plan |
| CAPCOA | California Air Pollution Control Officers' Association |
| CARB | California Air Resources Board |
| CAS | Climate Action Strategy |
| CBC | California Building Code |
| CBSC | California Building Standards Code |
| CCAA | California Clean Air Act |
| CCR | California Code of Regulations |
| CCTP | Climate Change Technology Program |
| CDE | California Department of Education |
| CDFG | California Department of Fish and Game |
| CDPR | California Department of Parks and Recreation |
| CDWR | California Department of Water Resources |
| CEC | California Energy Commission |
| CEQ | Council for Environmental Quality |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFCP | California Farmland Conservancy Program |
| CFR | Code of Federal Regulations |
| CHP | California Highway Patrol |
| CHRIS | California Historical Resources Information System |
| CIMIS | California Irrigation Management Information System |
| CIWMP | County of San Diego Integrated Waste Management Plan |

| Acronym | Description |
|---|---|
| CIWMP/RAIWMP | Countywide Integrated Waste Management Plan/Regional Agency Integrated Waste Management Plan |
| CMP | Congestion Management Program |
| CNAHC | California Native American Heritage Commission |
| CNDDB | California Natural Diversity Database |
| CNEL | Community Noise Equivalent Level |
| CNPS | California Native Plant Society |
| CNRA | California Natural Resource Agency |
| CO | Carbon Monoxide |
| COC | constituents of concern |
| CPUC | California Public Utilities Commission |
| CQA | Construction Quality Assurance |
| CRBRWQCB | Colorado River Basin Regional Water Quality Control Board |
| CRHR | California Register of Historic Places |
| CRPR | California Rare Plant Ranks |
| CS | Covered Species” |
| CTMP | Community Trails Master Plan |
| CTP | County of San Diego Trails Program |
| CUPA | Certified Unified Program Agency |
| CWA | Clean Water Act |
| CWC | California Water Code |
| cy | Cubic yards |
| dB | decibel(s) |
| dB(A) | A-weighted sound level |
| DEH | Department of Environmental Health (San Diego County) |
| DHIA | Dairy Herd Improvement Association |
| DHS | State Department of Health Services |
| DMP | Detection Monitoring Program |
| DOC | California Department of Conservation |
| DPF | diesel particulate filters |
| DSD | Development Services Department |
| DTSC | California Department of Toxic Substances Control |
| DWR | California Department of Water Resources |
| EDU | Equivalent dwelling unit |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| EISA | Energy Independence and Security Act |
| EMF | electromagnetic field |
| EMP | Evaluation Monitoring Program |
| FE | Federally Endangered |
| FEMA | Federal Emergency Management Agency |
| FESA | Federal Endangered Species Act |
| FHWA | Federal Highway Administration |
| FMMP | Farmland Mapping and Monitoring Program |
| FMP | Floodplain Management Plan |

| Acronym | Description |
|---|---|
| FPD | Federally Proposed for Delisting |
| FPD | Fire Protection District |
| FPE | Federally Proposed as Endangered |
| FPT | Federally Proposed as Threatened |
| FPUD | Fallbrook Public Utility District |
| FSC | Federal Species of Concern |
| FT | Federally Threatened |
| GAC | Granular activated carbon |
| GCL | Geocomposite clay liner |
| GHG | Greenhouse gas emissions |
| GIS | Geographic Information Systems |
| gpd | gallons per day |
| gpm | gallons per minute |
| GPU | General Plan Update |
| GWP | Global warming potential |
| HABS | Historic American Buildings Survey |
| HAER | Historic American Engineering Report |
| HAPs | hazardous air pollutants |
| HARP | Hotspots Analysis and Reporting |
| HCM | Highway Capacity Manual |
| HCP | Habitat Conservation Plan |
| HDPE | High density polyethylene |
| HELP | Hydrologic Evaluation of Landfill Performance |
| HFC | Hydrofluorocarbon |
| HHW | household hazardous waste |
| HHWE | County of San Diego Household Hazardous Waste Element |
| HI | Hazard indices |
| HIRT | Hazardous Incident Response Team |
| HLP | Habitat Loss Permit |
| HMBP | hazardous materials business plan |
| HMD | Hazardous Materials Division |
| HMP | County Hydromodification Plan |
| HOV | high-occupancy vehicle |
| HPTP | Historic Properties Treatment Plan |
| HRA | health risk assessment |
| HrC | Huerhuero series |
| HRRMP | Habitat Restoration and Resource Management Plan |
| HWEP | Hazardous Waste Exclusion Program |
| IRIS | Integrated Risk Information System |
| IRP | Integrated Resource Plan |
| IWMA | California Integrated Waste Management Act of 1989 |
| IWMP | Integrated Waste Management Plan |
| JD | Jurisdictional Determination |
| JPA | Joint powers authority |
| JTD | Joint Technical Document |

| Acronym | Description |
|---|---|
| Km | kilometers |
| Kv | kilovolt |
| LAER | Lowest Achievable Emission Rate |
| LAFCO | San Diego Local Agency Formation Commission |
| LARA | San Diego County Local Agricultural Resources Assessment |
| LARWQCB | Los Angeles Regional Water Quality Control Board |
| LBP | lead-based paint |
| LCBCI | Las Californias Binational Conservation Initiative |
| LCRS | Leachate Collection and Removal System |
| LEA | Local Enforcement Agency |
| LEDPA | Least Environmentally Damaging Practicable Alternative |
| LEFMP | Law Enforcement Facilities Master Plan |
| Leq | Equivalent sound level |
| LESA | California Land Evaluation Site Assessment Model |
| LFG | Landfill gas |
| LID | Low Impact Development |
| Lmax | Maximum noise levels |
| Lmin | Minimum noise levels |
| LOS | Level of Service |
| MACT | Maximum Achievable Control Technology |
| MBTA | Migratory Bird Treaty Act |
| MCAS | Marine Corps Air Station |
| MCE | Maximum Credible Earthquake |
| MCL | maximum contaminant level |
| mcy | Million cubic yards |
| MDP | Master Development Plan |
| mgd | million gallons per day |
| MHEA | maximum horizontal equivalent acceleration |
| MHPA | Multiple Habitat Planning Area |
| MLD | Most Likely Descendant |
| MMRP | Mitigation Monitoring and Reporting Program |
| MOA | Memorandum of Agreement |
| MOA | Memorandum of Agreement |
| MPE | maximum probable earthquake |
| mpg | Miles per gallon |
| mph | miles per hour |
| MPO | Metroplitan Planning Organization |
| MSA | Major Statistical Area |
| MSAT | mobile source air toxics |
| MSCP | Multiple Species Conservation Program |
| MSW | Municipal Solid Waste |
| MTRP | Mission Trails Regional Park |
| MUP | Major Use Permit |
| MUTCD | Manual on Uniform Traffic Control Devices |
| MVMT | million vehicle miles traveled |

| Acronym | Description |
|---|---|
| MW | megawatt |
| MWD | Metropolitan Water District |
| MWh | megawatt per hour |
| NAAQS | National Ambient Air Quality Standards |
| NAHC | Native American Heritage Commission |
| NARA | National Archives and Records Administration |
| NAS | National Academy of Sciences |
| NATA | National Air Toxics Assessment |
| NCCP | Natural Community Conservation Plan (California) |
| NCFPD | North County Fire Protection District |
| NCRS | Natural Resources Conservation Service |
| NDFE | Non-Disposal Facility Element |
| NDIR | Non-Dispersive Infrared Photometry |
| NEPA | National Environmental Policy Act |
| NES | narrow endemic species |
| NESHAP | National Emissions Standards For Hazardous Air Pollutants |
| NESWMA | Non-Exclusive Solid Waste Management Agreement |
| NFIP | National Flood Insurance Program |
| NHPA | National Historic Preservation Act |
| NHTSA | National Highway Traffic Safety Administration |
| NIEHS | National Institute of Environmental Health Sciences |
| NOI | Notice of Intent |
| NOP | Notice of Preparation |
| NOx | Nitrogen oxide |
| NPDES | National Pollution Discharge Elimination System |
| NRCS | Natural Resources Conservation Service |
| NRHP | National Register of Historic Places |
| NSPS | New Source Performance Standards |
| NSR | New source review |
| O3 | Ozone |
| OES | County of San Diego Office of Emergency Services |
| OHP | Office of Historic Preservation |
| OHWM | ordinary high water mark |
| OMP | Odor management plan |
| OMWD | Olivenhain Municipal Water District |
| OPR | Office of Planning and Research |
| OSHA | Occupational Safety and Health Administration |
| OVRP | Otay Valley Regional Park |
| OWD | Otay Water District |
| OWTS | on-site wastewater treatment systems |
| PAMA | Pre-Approved Mitigation Area |
| PCB | Polychlorinated biphenyl |
| PCB | polychlorinated biphenyl |
| PCE | Passenger Car Equivalent |
| PCEs | primary constituent elements |

| Acronym | Description |
|---|---|
| PDMWD | Padre Dam Municipal Water District |
| PDS | San Diego County Department of Planning and Development Services (previously Department of Planning and Land Use (DPLU) |
| PFC | Perfluorocarbon |
| PGM | Processed green material |
| PLWTP | Point Loma Wastewater Treatment Plant |
| POE | Point of Entry |
| POM | Polycyclic organic matter |
| ppb | Parts per billion |
| ppm | Parts per million |
| PRC | Public Resources Code |
| PSD | Perimeter storm drain |
| PSD | Prevention of Significant Deterioration |
| psi | pounds per square inch |
| QAL | Qualified applicator's license |
| QSA | Quantification Settlement Agreement |
| RAQ | San Diego Air Pollution Control District's Regional Air Quality Strategy |
| RAQS | Regional Air Quality Strategy Plan |
| RCA | Resource Conservation Area |
| RCNM | Roadway Construction Noise Model |
| RCP | Regional Comprehensive Plan |
| RCRA | Federal Resource Conservation and Recovery Act |
| RCYBP | radiocarbon years before the present |
| RDEIR | Recirculated Draft Environmental Impact Report |
| RDSI | Report of Disposal Site Information |
| REL | recommended exposure limit |
| RHNA | Regional Housing Needs Assessment |
| RMWD | Rainbow Municipal Water District |
| RO | Reverse osmosis |
| ROD | Record of Decision |
| ROG | Reactive organic gasses |
| ROW | right-of-way |
| ROWD | Report of Waste Discharge |
| RPO | Resource Protection Ordinance |
| RPW | Relatively Permanent Water |
| RSWA | Regional Solid Waste Association |
| RTIP | Regional Transportation Improvement Plan |
| RTP | Regional Transportation Plan |
| RWQCB | Regional Water Quality Control Board |
| SANDAG | San Diego Association of Governments |
| SANTEC | San Diego Regional Traffic Engineers' Council |
| SB | Senate Bill |
| SBWRP | South Bay Water Reclamation Plant |
| SCAQMD | South Coast Air Quality Management District |
| SCD | State Candidate for Delisting |

| Acronym | Description |
|---|---|
| SCE | State Candidate for Endangered |
| SCIC | South Coastal Information Center |
| SCS | Sustainable Community Strategies |
| SCT | State Candidate for Threatened |
| SDAB | San Diego Air Basin |
| SDAPCD | San Diego Air Pollution Control District |
| SDCWA | San Diego County Water Authority |
| SDG&E | San Diego Gas & Electric |
| SDMC | San Diego Municipal Code |
| SDMWD | City of San Diego Metropolitan Wastewater Department |
| SDPD | City of San Diego Police Department |
| SDSD | San Diego County Sheriff's Department |
| SE | State Endangered |
| SFP | State Fully Protected |
| SGVWC | San Gabriel Valley Water Company |
| SHPO | State Historic Preservation Officer |
| SIP | State Implementation Plan |
| SLRMWD | San Luis Rey Municipal Water District |
| SLT | Screening-level threshold |
| SMARA | Surface Mining and Reclamation Act of 1975 |
| SO2 | Sulfur dioxide |
| SoCalGas | Southern California Gas Company |
| Sox | Sulfur oxide |
| SR | State Route |
| SR | State Rare (in section 4.4) |
| SRA | State Responsibility Area |
| SSC | California Species of Special Concern |
| ST | State Threatened |
| STEL | short-term exposure limit |
| STPs | Shovel Test Probes |
| SUSMP | Standard Urban Stormwater Mitigation Plans |
| SVOC | semi-volatile organic compound |
| SWAT | Solid Waste Assessment Test |
| SWAT | special weapons and tactics |
| SWF | Solid Waste Facility |
| SWFP | Solid Waste Facilities Permit |
| SWMP | Storm Water Management Plan |
| SWP | State Water Project |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| TAC | Toxic Air Contaminant |
| TCP | Traditional Cultural Property |
| TDS | Total dissolved solids |
| TIF | Transportation Impact Fee |
| TMA | transportation management area |

| Acronym | Description |
|---|---|
| TMDLs | Total Maximum Daily Loads |
| TNW | Traditional Navigable Water |
| tpd | tons per day |
| tpy | tons per year |
| UDC | Unified Disaster Council |
| UNFCC | United Nations Framework Convention on Climate Change |
| URMPs | Urban Runoff Management Programs |
| USACE | U.S. Army Corps of Engineers |
| USDA | U.S. Department of Agriculture |
| USDOT | U.S. Department of Transportation |
| USEPA | U.S. Environmental Protection Agency |
| USFS | U.S. Department of Agriculture, Forest Service |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| USGVMWD | Upper San Gabriel Valley Municipal Water District |
| USLE | Universal Soil Loss Equation |
| UWMP | Urban Water Management Plan |
| VIATR | Visual Impact Assessment Technical Report |
| vmt | vehicle miles traveled |
| vph | vehicles per hour |
| WDR | Waste Discharge Requirement |
| WMA | water management area |
| WMP | Watershed Management Plan |
| WPO | Watershed Protection, Storm Water Management, and Discharge Control Ordinance |
| WQC | water quality certification |
| WRP | Whittier Narrows Water Reclamation Plant |
| WSA | Water Supply Assessment |

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