UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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San Francisco, CA 94105

DEC 10 2014

Ronald Kosinski
Deputy District Director
Caltrans District 7
Division of Environmental Planning
100 South Main Street, Mail Stop 16A
Los Angeles, CA 90012

Subject: Draft Environmental Impact Statement for the High Desert Corridor Project, Los Angeles and San Bernardino Counties, CA (CEQ# 20140291)

Dear Mr. Kosinski:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the High Desert Corridor Project pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. EPA was a "Participating Agency" (as defined in 23 USC 139) in previous High Desert Corridor efforts, and we will continue to participate in this expanded project. We provided Caltrans with recommendations via scoping comments on November 9, 2007, October 25, 2010, and September 3, 2013, and we offer additional recommendations to protect human health and the environment through this letter and our attached detailed comments.

The State of California has assumed responsibilities under the National Environmental Policy Act for the High Desert Corridor Project pursuant to the *Memorandum of Understanding Between the Federal Highway Administration and the California Department of Transportation Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program.* This project consists of a new expressway extending approximately 63 miles east-west between SR-14 in Los Angeles County and SR-18 in San Bernardino County. Potential features along the expressway right-of-way include: a toll-way, high-speed rail feeder service, a bike path, renewable energy production, electric vehicle charging stations, and a utility corridor. EPA appreciates the California Department of Transportation (Caltrans) decision to revise the project scope to look at a broad range of uses within the proposed corridor. We commend Caltrans for considering alternative modes of transportation and energy infrastructure, which have the potential to help offset project impacts and provide environmental benefits to the region.

Based on our review of the Draft EIS, the document does not contain sufficient information for EPA to fully assess environmental impacts. It is unclear which decisions Caltrans plans to make within this Record of Decision and which project decisions would later tier off of this EIS and require additional National Environmental Policy Act analysis. In addition, important project elements are not described consistently within the Draft EIS, such as the speed of high-speed rail service and the type of structure that would be used to cross the Mojave River. Such project features heavily impact the magnitude of impacts and, therefore, must be analyzed consistently across all resource categories. Descriptions of certain project elements are also incomplete, such as the utility corridor and the width of the project right-of-way with and without HSR, among other project elements. Full descriptions of all project

features are needed to ensure that impacts are clearly disclosed and all appropriate avoidance, minimization, and mitigation measures are considered.

We appreciate early consultation on transportation conformity and have no further comments on that portion of the air quality analysis. Nevertheless, we have identified specific environmental impacts that should be avoided, minimized, or mitigated in order to fully protect human health and the environment. This major new transportation corridor would bring heavy vehicle and truck traffic near sensitive receptors that currently do not experience high traffic volumes, which could result in elevated local air emissions and associated health effects. Construction emissions could also exacerbate asthma and other respiratory conditions. Emissions do not appear to be fully disclosed, and additional mitigation measures are available. We are also concerned that the project traverses several desert washes, creeks, and the Mojave River, which play important roles in the natural hydrologic system and serve as valuable wildlife corridors. The Mojave River is a particularly unique and important resource that supports a perennial flow in an arid region and provides habitat for protected species, and additional avoidance, minimization, and mitigation measures are available.

Please see our attached detailed comments for further discussion on the issues mentioned above and recommendations for improving environmental outcomes. Our attached comments also address our concerns with: indirect impacts; tribal, environmental justice, and noise impacts; impacts to the cleanup remedy at George Air Force Base Superfund Site and potential exposure to on-site contamination; and considerations for incorporating renewable energy. We believe the recommendations provided herein can be addressed in the Final EIS. We are rating the Draft EIS "Environmental Concerns – Insufficient Information" (EC-2). Please find a summary of our rating system attached.

Prior to the release of Draft EISs for future projects, EPA requests the opportunity to comment on the range of alternatives and methodologies for analyzing impacts to major environmental resources. This would enable EPA to provide recommendations at a stage in the project when comments can most efficiently be addressed, which could help streamline the environmental review process. We appreciate the opportunity to review this Draft EIS, and are available to discuss our comments. When the Final EIS is released for public review, please send one hard copy and one CD-ROM to the address above (Mail Code: ENF 4-2). If you have any questions, please contact me at 415-947-4161, or contact Jen Blonn, the lead reviewer for this project. Ms. Blonn can be reached at 415-972-3855 or blonn.jennifer@epa.gov.

Sincerely,

Connell Dunning

Connell Dunning, Transportation Team Leader
Environmental Review Section

Enclosure: Summary of the EPA Rating System

CC Via Email:
Don Gronstal, U.S. Air Force
Mark Cohen, U.S. Army Corps of Engineers
Jonathan Snyder, U.S. Fish and Wildlife Service
David Valenstein, Federal Railroad Administration

Mark McLoughlin, California High-Speed Rail Authority
Robert Machuca, Los Angeles County Metropolitan Transportation Authority
Edmund J. Pert, California Department of Fish and Wildlife
Linda Stone, California Regional Water Quality Control Board

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

U.S. EPA DETAILED COMMENTS ON THE HIGH DESERT CORRIDOR DRAFT ENVIRONMENTAL IMPACT STATEMENT, CALIFORNIA, DECEMBER 10, 2014

Scope of the Draft Environmental Impact Statement

The Draft EIS discusses several potential project elements, including: expressway/toll way, high-speed rail (HSR) feeder service, renewable energy generation, electric vehicle charging stations, utility corridor, on-site concrete batch plant, and bikeway. The Draft EIS states that "environmental clearance would need to be obtained" by the utility providers prior to using the corridor, and siting renewable energy would "likely require additional environmental review" (3-413). The Draft EIS does not fully explain which decisions the California Department of Transportation (Caltrans) intends to make for this project in this Record of Decision (ROD).

Recommendations for the Final EIS:

For each project component, explicitly state: (1) which decisions Caltrans intends to make within this ROD, and (2) which decisions would later tier off of this EIS and require additional National Environmental Policy Act (NEPA) analysis. Include the following project components: expressway/toll-way, HSR track-way including portions that would integrate with the statewide California HSR system, HSR supporting facilities, HSR station and parking, renewable energy generation and supporting features, electric vehicle charging stations, utility corridor, on-site concrete batch plant, and bikeway.

Consistency and Completeness

Some project features and impacts are not described consistently within the Draft EIS, and descriptions of the proposed project right-of-way, Mojave River bridge options, utility corridor, and HSR system are incomplete. Please consider the following recommendations.

Recommendations for the Final EIS:

Right-of-Way

- Please clearly describe the ROW widths for alternatives with and without HSR and disclose the widths that were used to analyze environmental, cultural, and community impacts. Ensure each alternative is analyzed consistently across all resource categories. The Draft EIS describes the corridor as being the same width for alternatives with and without HSR (typically 500 feet from SR-14 to US 395 and 300 feet from US 395 to SR 18; image on page 2-31). This is inconsistent with Page 3-490, which states that alignments without HSR are comparatively narrower. If the same amount of ROW is proposed with and without HSR, please explain why and, for alternatives without HSR, consider reducing the ROW to avoid environmental impacts.

Mojave River Crossing

- Clearly and consistently indicate whether Caltrans is proposing to span the Mojave River, and revise analyses of impacts on the Mojave River so that bridge crossings are consistent for all resource categories. Figure 2-30 shows the Mojave River Bridge Option A with piers in river, and Section 3.3.2 (Wetlands and Other Waters) discusses impacts from footings below the ordinary high water mark of the Mojave River. This is inconsistent with Section 3.3.1 (Natural Communities), which says the proposed roadway is expected to span the river on a bridge with no footings within the river (page 3-424).
- As part of the description of alternatives, please clearly explain the alternative bridge options for crossing the Mojave River. Section 3.3.2 mentions: (1) Mojave River Bridges Option 1, Option 2, Option 3; (2) Mojave River Bridges Option A and Option B; (3) Mojave River

Bridges Rail with Freeway Option 1A; (4) Mojave River Bridges Rail with Freeway Option 2; and (5) Mojave River Bridges Rail with Freeway Option 3. It's unclear what each of these bridge options entails.

Relocations

- Provide a clear table indicating residential and nonresidential relocations and partial acquisitions by community. Table 3.1.4-18 lumps "main alignment/common areas" together, and does not breakdown impacts by specific communities. Please also revise Section 3.1.4.2, *Relocation and Property Acquisition*, and Section 3.1.4.1, *Community Character and Cohesion*, so that relocation impact numbers are consistent between sections.

Utility Corridor

- Provide programmatic-level information for the proposed utility corridor, such as the potential location within the corridor, the potential footprint, and grade profile options. While we realize that project level analysis is being deferred to a later date, programmatic analysis could help Caltrans minimize the risk of designing other project features in a manner that would interfere with the utility corridor or result in the need for duplicative construction activities and associated environmental impacts.

Rail

- Describe why 160 feet of ROW is needed for the HDC HSR line when only 100 feet is needed for the statewide HSR system, and, if safety requirements could still be met, consider reducing the rail ROW in order to minimize environmental impacts.
- Clarify whether the proposed project would allow for diesel trains to run along the HDC, and if so, ensure that the air, noise, and health impacts from diesel trains are fully analyzed. The Draft EIS mentions both electric and diesel train technology, and does not appear to make a definitive commitment to one or the other (page 2-15). EPA encourages electric technology because it has zero local air emissions.
- Explain why there would be more relocations for the "main alignment/common area" alternatives that do not have HSR relative to alternatives with HSR, as indicated in Table 3.1.4-18 (page 3-103). Explain how the "main alignment/common area" alternatives are different with and without HSR.
- Clearly indicate the proposed speed of the HSR system, and ensure that the same speed is used to analyze all impacts. Page 2-5 says the maximum speed would be 180, and the noise analysis on page 3-391 assumes a maximum speed of 125.
- Explain whether the Palmdale HDC HSR station would be co-located with the Palmdale station for the statewide HSR system. If they would not be co-located, please justify the need for two HSR stations within Palmdale, explain how this may impact HSR ridership, and disclose other impacts of having two stations.
- Clarify whether the footprint for rail electrical substations and transformers was included in the impact analyses, and add it to analyses if it has not already been included.
- Please explain whether the Metrolink station would move if Option 1 is selected, which would move the existing Palmdale Transportation Center south approximately 800 feet. If the Metrolink station would move as a result of the HDC project, please ensure that all impacts are disclosed in the Final EIS.
- Please include a map to depict the grade separation of HSR as it enters Palmdale. The Draft EIS says a combination of aerial and cut-and-cover or tunneling structures may be used (page

2-6). Please ensure that the appropriate grade profile is used to analyze community cohesion, noise, and air emission impacts.

- Clarify whether air emissions were updated to correspond with the updated traffic information in Appendix M for the Palmdale HSR station options. Ensure that emissions from induced traffic caused by the Palmdale HSR station are disclosed in the EIS, along with measures to minimize emissions, such as designing the station and parking lots to encourage local transit connectivity and walkability.
- Explain how HDC decisions could be revised after the California HSR alignment is selected in Palmdale in order maximize system efficiencies and avoid duplicative construction impacts on air quality. It is unclear how Caltrans could select a HDC rail alignment at this time that would connect the systems because the California HSR alignment in Palmdale has not yet been selected.

Air Quality and Health

We appreciate Caltrans' responsiveness to EPA comments through the interagency consultation process for transportation conformity, which is particularly important given regional air quality challenges. The Antelope Valley Air Quality Management District covers the western portion of the proposed project and is a nonattainment area for the ozone National Ambient Air Quality Standard (NAAQS). The Mojave Desert Air Quality Management District covers the eastern portion and is a nonattainment area for the ozone and PM_{10} NAAQS. Due to existing air quality challenges and the magnitude of this project, EPA remains concerned that operational and construction emissions could significantly harm air quality and exacerbate local health risks.

Freight and automobile movement along the new corridor could result in long-term localized health impacts to receptors in the project area. In discussing operational impacts, page 3-379 states, "while diesel exhaust may pose potential cancer risks to receptors spending time on or near high risk diesel particulate matter facilities, most receptors' short term exposure would only cause minimal harm, and these risks would greatly diminish in the future operating years of the project due to planned emission control technology." EPA strongly disagrees with this conclusion. Exposure would not be short-term for individuals living and working near the new roadway. In addition, while emission control technology will likely reduce emissions per vehicle, future total emissions with the new roadway would still be significantly greater than emission levels currently experienced by individuals who reside next to the proposed corridor.

Further, construction emissions from the proposed project do not appear to be fully disclosed. Table 3.6-3 includes several categories of construction emissions. Material hauling, potential concrete batch plant operations, potential tunnel boring for HSR in Palmdale, use of other heavy equipment, and employee vehicle trips are not discussed. The roadway would require 9 feet of fill and the HSR would require 15 feet of fill (3-544). It is unclear whether emissions from importing this fill material have been accounted for. Further, in discussing construction impacts, page 3-555 states, "health effects from carcinogenic air toxics at sensitive receptors would be considered less than significant because the risk posed by these pollutants is based on long term (70-year lifetime) exposure" and construction would only last 5 years. EPA strongly disagrees. Exposure to elevated levels of exhaust from heavy duty construction equipment and dust during a 5-year construction period has the potential adversely impact local sensitive receptors, particularly those with asthma or other respiratory diseases.

Recommendations for the Final EIS:

- Assess how local air quality impacts during project construction and operation may affect health and exacerbate asthma or other respiratory conditions in children and adults. This

discussion should include qualitative as well as quantitative information and mitigation options for those most impacted.

- Clearly indicate the number of total traffic and diesel trucks that are expected to use the HDC daily in 2020 and 2040 so that residences and businesses neighboring the alignment have clear expectations.
- Revise the analysis of construction emissions to ensure that all sources of emissions are included, such as material hauling, concrete batch plant operations, potential tunnel boring (for HSR in Palmdale), employee vehicle trips, and any other heavy equipment that would be required. Estimate construction emissions for each alternative and provide a table comparing results.
- Commit to locate the potential concrete batch plant at least 1,000 feet away from sensitive receptors, including schools, daycare centers, senior care facilities, residences, parks, and other areas where children may congregate. Specify other control measures that would be used for the concrete batch plant to minimize pollution.
- Analyze children's health risks from operational and construction emissions to demonstrate that the proposed project meets the intent of Executive Order 13045, which directs each federal agency to make it a high priority to identify, assess, and address environmental health risks that may disproportionately affect children. Children breathe more relative to their body mass than adults do and their natural defenses are less developed, making them particularly vulnerable to elevated air pollution levels.
- Establish truck traffic routes away from schools, daycares, and residences, or at a location with the least impact if those areas are unavoidable. Notify nearby sensitive receptors of construction periods and the expected amount of heavy truck traffic. Crossing guards should be provided in areas where construction activities are located near places where children congregate.
- Revise the statement of page 3-340 which says that the Mojave Desert Air Basin has been designated as an attainment area for the PM_{10} federal standard. The Mojave Desert Air Quality Management District portion of the Mojave Desert Air Basin is not in attainment for the federal PM_{10} standard (page 3-339).

Page 3-346 states that, per Federal Highway Administration (FHWA) Guidance, the HDC warrants quantitative MSAT analysis to differentiate alternatives because the project would: (1) create or add significant new capacity to urban highways…with traffic volumes where the average annual daily traffic is projected to be in the range of 140,000 to 150,000 or greater by the design year; and (2) be located near population areas or in rural areas near concentrations of vulnerable populations (i.e. schools, nursing homes, hospitals). EPA agrees with Caltrans' conclusion that the severity of impacts from this project warrant a quantitative MSAT analysis. Numerous recent studies have examined the association between living near major roads and different adverse health endpoints, such as cardiovascular effects, premature adult mortality, reduced lung function, impaired lung development in children, and adverse birth outcomes, including low birth weight and size. [1,2] The Draft EIS further states that available technical tools do not enable reliable predictions of project-specific health impacts of the emission changes associated with the alternatives. EPA disagrees; tools are available to perform the analysis, and results should be used to inform mitigation measures for areas where truck traffic will be within 500 feet of sensitive receptors.

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[1] For additional information on MSATs, please see EPA's MSAT website http://www.epa.gov/otaq/toxics.htm.

[2] Smith, Martyn. "Advances in Understanding Benzene Health Effects and Susceptibility." *Annual Review of Public Health.* Vol. 31: 133-148. April 2010. http://www.ncbi.nlm.nih.gov/pubmed/20070208?dopt=Abstract

Recommendations for the Final EIS:
Analyze potential health impacts from MSATs within 500 feet of the new roadway to inform decision-making between project alternatives and to inform avoidance, minimization, and mitigation options. EPA is available to discuss tools for assessing such impacts and mitigation measures, such as providing new heating, ventilation and air conditioning systems to schools within 500 feet of the corridor.

Construction Air Quality Mitigation
Due to the serious nature of air pollution in the Mojave Desert Air Basin, best available control measures should be implemented at all times.

Recommendations for the Final EIS:
Include a Construction Emissions Mitigation Plan for fugitive dust and diesel particulate matter in the Final EIS, and include all components listed below.

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Mobile and Stationary Source Controls:

- Minimize use, trips, and unnecessary idling of heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies.
- Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. The California Air Resources Board has a number of mobile source anti-idling requirements which should be employed (http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm).
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations.
- Commit to the best available emissions control technologies for project equipment.
  - *On-Highway Vehicles:* On-highway vehicles used for this project should meet, or exceed the U.S. EPA exhaust emissions standards for model year 2010 and newer heavy-duty on-highway compression-ignition engines (e.g., long-haul trucks, refuse haulers, shuttle buses, etc.).[3]
  - *Nonroad Vehicles & Equipment:* Nonroad vehicles & equipment used for this project should meet, or exceed the U.S. EPA Tier 4 exhaust emissions standards for heavy-duty nonroad compression-ignition engines (e.g., construction equipment, nonroad trucks, etc.).[4]
  - *Low Emission Equipment Exemptions:* The equipment specifications outlined above

[3] http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm
[4] http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm

should be met unless: 1) a piece of specialized equipment is not available for purchase or lease within the United States; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available.

Advanced Technology Demonstration & Deployment – Caltrans is encouraged to demonstrate and deploy heavy-duty technologies that exceed the latest U.S. EPA emission performance standards for the equipment categories that are relevant for this project (e.g., plug-in hybrid-electric vehicles, battery-electric vehicles, fuel cell electric vehicles, advanced technology locomotives, etc.).

Administrative controls:

- Identify all commitments to reduce construction emissions and update the air quality analysis to reflect additional air quality improvements that would result from adopting specific air quality measures.
- Specify the means by which Caltrans will minimize impacts to sensitive receptors, such as children, elderly, and infirm. For example, locate construction equipment and staging zones away from sensitive receptors and fresh air intakes to buildings and air conditioners.
- Prepare an inventory of all equipment prior to construction.
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.

Cumulative Air Quality Impacts

The cumulative air quality impacts analysis presents unsupported conclusions. The Draft EIS concludes that, "The proposed project would not substantially contribute to the cumulative impacts because criteria pollutants and GHG emissions would decrease in association with the diversion of passenger vehicles" (page 3-596). It's unclear whether Caltrans assumes that some car trips would be diverted if the train option is selected, or whether cars and trucks would be diverted to another location. Either way, the Draft EIS should acknowledge that creating a new highway in an area with existing high freight volumes and providing direct connectivity to the Southern California Logistics Airport could induce a significant number of additional freight truck trips, which could result in cumulative air emissions.

Recommendations for the Final EIS:

- Revise the cumulative impact assessment for air quality so that it considers future air emissions from the proposed project in combination with other existing and planned projects in the area, including the Southern California Logistics Airport and other freight/cargo centers.
- Please use the June 2005 *Guidance for Preparers of Indirect and Cumulative Impacts Analysis* developed jointly by Caltrans, FHWA, and EPA (http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm). This guidance describes a methodology for analyzing cumulative effects.

Valley Fever

The incidence of Valley Fever (Coccidioidomycosis) has recently increased in much of California, including the Antelope and Victor Valleys. The Draft EIS discusses the possibility of exposure to the spores during construction and states that through the use of mitigation measures, the risk would be minimized (page 3-557). EPA believes that additional mitigation measures are important for the protection of human health.

Recommendations for the Final EIS:
Include a requirement for a formal Environmental Awareness Program to be implemented for construction and maintenance workers. The program should include training on:

- Health hazards of Valley Fever,
- How it is contracted,
- What symptoms to look for,
- Proper work procedures to minimize exposure,
- How to use personal protective equipment,
- The need to wash prior to eating, smoking or drinking and at the end of the shift, and
- The need to inform the supervisor of suspected symptoms of work-related Valley Fever.

The training should identify those groups of individuals most at risk and urge individuals to seek prompt medical treatment if Valley Fever symptoms develop, which include flu-like illness with cough, fever, chest pain, headache, muscle aches and tiredness.

Aquatic Resource Impacts
The Draft EIS explains that, in general, the hydrologic regime along the entire corridor exhibits the characteristics of an alluvial fan, with several streams and channels, including the Mojave River, Bell Mountain Wash, Fremont Wash, Mescal Wash, Big Rock Creek, and Little Rock Creek. Along the alignment, most soil is characterized as type A or B, meaning it is more pervious with low runoff potential. Several portions of the alignment are within 100 year flood zones (Table 3.2.1-1). EPA is concerned that increasing the acreage of impervious surface could worsen flood impacts and harm natural hydrology. The proposed alternatives would add approximately 995 to 1,365 acres to the existing 80 acres of impervious surface area (pages 3-279, 3-280). The Draft EIS discusses elevating the project to protect against flooding and incorporating drainage facility controls, but specific commitments for managing stormwater are not made.

The Mojave River is a major system with significant stretches of dense riparian vegetation, which are habitat for protected species, such as willow flycatcher and least Bell's vireo. We are particularly concerned with portions of the Mojave River that support perennial flow and high functioning wetland habitat, such as the proposed location of the HDC crossing (3-278). High priority should be given to avoidance of impacts to such unique and high value resources in an otherwise arid region. Additionally, Little Rock and Big Rock Washes are braided, large sandy ephemeral stream systems that appear to play an important function within floodplains. These two washes are already recognized by the City of Palmdale and the County of Los Angeles as significant ecological areas with high resource values (see City of Palmdale General Plan).

Recommendations for the Final EIS:

- Analyze and fully disclose how the project could impact 303(d) listed water bodies, including Little Rock Reservoir, Mojave Forks Reservoir outlet to Upper Narrows, and the Mojave River Upper Narrows and Lower Narrows. Add measures to avoid, minimize, or mitigate impacts and ensure that this project does not impede attainment of water quality standards.
- Disclose temporary impacts to Waters of the U.S. The Draft EIS says they will be determined during the final design as each phase proceeds (page 3-561). This information should be disclosed to the public through the EIS process.
- Include quantified estimates of increases in stormwater runoff from the proposed project.
- Commit to use runoff control features that mimic existing flow conditions to the maximum extent possible in order to avoid exacerbating downstream flooding conditions and associated erosion. This is currently included as a "recommendation" for the project, but not a

commitment (page 3-279). If Caltrans cannot make this commitment in the Final EIS, then disclose all potential downstream flooding and erosion impacts that would likely result from diverting flows.

- Characterize the functional condition of waters and adjacent riparian areas.
- Commit to bridge over deeper water resources, such as Little Rock Wash, Big Rock Wash, Turner Wash, Ossam Wash, and Mojave River. This is currently a "recommendation" for the project, but not a commitment (page 3-279).
- Consider whether the 100-year storm event, which is the current design standard for this project, would be sufficient to protect against flooding given predictions for more severe storm events under climate change scenarios and discuss in the Final EIS.

Clean Water Act Section 404

This project involves the discharge of dredged or fill material into jurisdictional waters. Discharges of dredged or fill material into Waters of the U.S. require authorization by the U.S. Army Corps of Engineers (Corps) under Clean Water Act (CWA) Section 404. The Federal Guidelines at 40 CFR Part 230 promulgated under CWA Section 404 (b)(1) provide substantive environmental criteria that must be met to permit such discharges into Waters of the U.S.

The purpose of the Guidelines is to restore and maintain the chemical, physical, and biological integrity of Waters of the U.S. These goals are achieved, in part, by controlling discharges of dredged or fill material (40 CFR 230.1(a)). Fundamental to the Guidelines is the principle that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that there is no less environmentally damaging practicable alternative that achieves an applicant's project purpose. In addition, no discharge can be permitted if it will cause or contribute to significant degradation of Waters of the U.S., cause or contribute to a violation of a State water quality standard, or jeopardize a federally listed species. Caltrans will have to demonstrate that potential impacts to Waters of the U.S. have been avoided and minimized to the maximum extent practicable prior to obtaining a CWA Section 404 permit (40 CFR 230.10(a) and 230.10(d)).

The Draft EIS states that several aquatic resources within the project area are non-jurisdictional and identifies the Mojave River and four of its tributaries as jurisdictional. The Draft EIS explains that determinations on whether waters are jurisdictional and actual impact numbers are subject to Corps verification. Caltrans anticipates between 3.537 and 4.707 acres of impacts to Waters of the U.S., depending on the alternative selected.

Recommendations for the Final EIS:

- Incorporate information from a Corps-approved final jurisdictional delineation into the Final EIS in order to accurately disclose impacts to the public and other stakeholders.
- Clearly commit to measures to avoid and minimize impacts to water resources, especially Waters of the U.S. We are particularly concerned with the Mojave River, Little Rock Wash and Big Rock Wash, and we recommend that the Final EIS commit to completely span these features.
- Include a draft 404(b)(1) analysis as an appendix to the Final EIS in order to more fully disclose impacts to the public and to help ensure that the 404(b)(1) analysis aligns with the NEPA analysis.
- Include the draft compensatory mitigation plan as an appendix to the Final EIS. The Draft EIS says the mitigation plan would be determined during the permitting process, and EPA believes this information should be disclosed to the public through the EIS process (3-561).

- Describe how mitigation for unavoidable impacts to waters would be consistent with the Compensatory Mitigation Rule (40 CFR 230.91-98).
- Direct mitigation towards restoration, enhancement and long-term protection of aquatic resources in the Mojave River, Little Rock Wash, and Big Rock Wash.
- Recognize that washes are difficult aquatic resources to replace and, at a minimum, address the following components of compensatory mitigation for impacts to waters:
  - Mitigation type, amount, and location, including through purchase of credits at available and appropriate mitigation banks or in-lieu fee programs,
  - Use of a watershed approach to identify mitigation,
  - Use of buffers, and
  - Long term preservation (e.g., conservation easements) and management of the site.

Wildlife

The new 63 mile corridor, with expressway on 9 feet of fill and HSR on 15 feet of fill, could be detrimental to wildlife movement along established wildlife corridors if wildlife crossings are not planned well. The Draft EIS explains that wildlife use natural drainages as movement corridors throughout the project area. Wildlife movement corridors are linkages of natural habitat between larger areas that are not contiguous or otherwise connected, and loss of linkages can have extremely negative effects on individual populations and whole species (page 3-416). Key wildlife corridors are highlighted in Figures 2-31 through 2-33, and descriptions are provided in Table 2-1. The level of coordination with U.S. Fish and Wildlife Service (FWS), California Department of Fish and Wildlife (CDFW) and other wildlife experts is not described, and it is unclear which best practices will be followed to site and design of wildlife crossings.

Recommendations for the Final EIS:

- Document coordination with U.S. FWS, CDFW, and other wildlife experts on the placement and design of wildlife crossings.
- Clearly site and explain the best practices that will be followed in order to protect wildlife corridors. For examples, EPA directs you to the Federal Railroad Administration and California HSR Authority's Programmatic Final EIS for the statewide California HSR system and the project-level Final EIS for the Fresno to Bakersfield section of the California HSR system.

Indirect Impacts

The Council on Environmental Quality NEPA Regulations state that an EIS must disclose indirect effects (40 CFR 1502.16). Indirect impacts do not appear to be fully disclosed within the Draft EIS. The biological study area is generally 500 feet wide over most of the 63 mile alignment (page 3-416). Similarly, the Area of Potential Effect for cultural resources extends 250 foot that from the centerline of the proposed alignments. The project ROW is also 500 feet wide for most of the alignment, meaning that the Biological Study Area and the Area of Potential Effect do not include any buffer to account for indirect impacts to waters, plants, wildlife or cultural resources. EPA is concerned that resources outside of the ROW may be indirectly disturbed due to staging activities, construction, and operations.

Recommendations for the Final EIS:

Please use an appropriate buffer to capture indirect impacts to natural and cultural resources. Describe methodologies, provide qualitative discussions of impacts, quantify impacts, and commit to avoidance, minimization, and mitigation measures. EPA directs you to the Federal Railroad Administration and California HSR Authority's Final EIS for the Fresno to Bakersfield section of the California HSR Project as an example.

Tribal Impacts & Consultation
Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their actions on cultural resources, and Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, directs federal agencies to establish regular and meaningful consultation and collaboration with tribal officials. Page 3-237 describes outreach to the Native American Heritage Commission, key Native American groups, and individuals, and it states that they provided feedback to Caltrans. Issues raised and measures to address issues are not discussed. It is unclear whether the full range of potential impacts and avoidance, minimization, and mitigation measures are considered in the Draft EIS.

Recommendations for the Final EIS:

- Include the completed Memorandum of Agreement between Caltrans, affected Native American tribes, and the State Historic Preservation Officer to document the process that will be followed if any Native American resource are discovered.
- Discuss the issues raised by Native American groups and individuals and describe how those issues would be addressed.
- Ensure that all potential impacts to traditional cultural properties, sacred sites, and other features important to tribes are clearly disclosed.
- Commit to spanning the Mojave River area to avoid potential impacts to cultural resources. Page 3-263 indicates that the Mojave River area possesses high potential to contain subsurface cultural resources, which furthers the importance of avoiding impacts in that area.

Environmental Justice
The Draft EIS states that census block groups were compared to city and countywide demographics to help determine where disproportionate impacts to low income and minority residents might occur (page 3-177). However, it does not appear that this methodology was followed. The analysis concludes that because impacts would be distributed similarly through the corridor, impacts would not fall disproportionately on low-income and minority populations (pages 3-119, 3-122, 3-549). It is not accurate to conclude that consistent impacts along the corridor precludes findings of disproportionate impacts. If the greater region would benefit from the project, but only localized impacts exist, then disproportionate impacts may occur. Disproportionate impact determinations should be made by comparing populations in the project area with an appropriate reference community, such as the county or the area that would benefit from the project. EPA is available to assist Caltrans in developing a more robust environmental justice analysis.

Recommendations for the Final EIS:

- Ensure that the environmental justice analysis compares impacts between (1) communities in the immediate project area, and (2) an appropriate reference community, such as the county or the area that would benefit from the project. Revise environmental justice conclusions so that they reflect such an analysis.
- Consider linguistic isolation in the environmental justice analysis.
- Discuss special outreach efforts to environmental justice communities, issues raised, and measures taken to address issues.

Hazardous Materials Sites
The main corridor (without Variation E) for all alternatives would pass through the George Air Force Base National Priority List Superfund Site. The U.S. Air Force is the lead agency for site cleanup, with the U.S. EPA and the State of California Lahontan Regional Water Quality Control Board (RWQCB)

providing regulatory oversight through Federal Facilities Agreement Base Closure Team procedures. The Draft EIS does not discuss any coordination with the Base Closure Team, nor does it describe potential impacts on cleanup efforts or public health. U.S. EPA encourages appropriate reuse of contaminated lands, such as Superfund sites. Analysis must be done upfront to ensure that reuse does not pose a threat to human health and the environment and does not present a risk to the cleanup remedy.

Recommendations for the Final EIS:

- Describe coordination with the U.S. Air Force, U.S. EPA, and the Lahontan RWQCB and explain: (1) how the proposed project may impact cleanup activities at George Air Force Base Superfund Site, and (2) whether the proposed project could potentially result in the release of site contaminants and pose a health risk. If needed, refine the project to avoid, minimize, and mitigate impacts. Document all coordination, potential impacts, and measures to address issues in the Final EIS.
- Add a summary column to describe the hazardous material sites listed in Table 3.2.5-1 so that the format is the same as Tables 3.2.5-2 through 3.2.5-5. As currently presented, the types of sites and potential risks are not disclosed from SR-14 to 100th Street East.

Community Isolation & Relocation

Rail Option 1 in conjunction with the main freeway alignment would create an "island" effect for residences located along 10th Street East in Palmdale (page 3-98). The Draft EIS states that measures would be implemented to offset indirect noise and visual impacts if Rail Option 1 is selected. EPA is concerned that community impacts could be significant, and the Draft EIS does not make strong commitments to avoid, minimize, and mitigate these impacts. In addition, Section 3.1.4.1, *Community Character and Cohesion*, discusses several residences where partial acquisition of the properties would be required, but not the whole home. EPA is concerned that the proposed project could potentially leave homes immediately adjacent to the new expressway without providing residents with an option to relocate, resulting in elevated exposure to emissions and noise. Mitigation measures for such properties are not specified.

Recommendations for the Final EIS:

- Consider tunneling within Palmdale and/or other vertical profiles to minimize community impacts. Discuss feasibility within the Final EIS.
- Provide a fuller description of the neighborhood that would experience an "island" effect if Rail Option 1 is selected. Include the number of impacted residences, businesses, and community facilities as well as measures to minimize and mitigate impacts, such as improving street and bikeway connectivity.
- Discuss community cohesion concerns raised during previous public outreach and explain how these concerns will be addressed during relocation, demolition, construction, and operation.
- Commit to form a workgroup to gain input from businesses and residents who would be impacted, and use their input to inform the design of infrastructure, location of under and over passes, landscaping, and designation of uses under any aerial track-way. Document coordination and outcomes in the Final EIS.
- Coordinate with the California HSR Authority to conduct common community outreach in parts of Palmdale that would experience impacts from both the HDC and statewide California HSR projects.
- Commit to offer relocation packages for residential and business properties that would be partially acquired as a result of the High Desert Corridor Project in order to minimize exposure to elevated emissions and noise.

Noise Impacts
The noise analysis assumed electric train technology and operating speeds of 125 miles per hour (page 3-391). Diesel technology and train speeds of 180 miles per hour are discussed elsewhere in the Draft EIS and are not explicitly ruled out (pages 2-15 & 2-5). Altering these parameters in the noise analysis could yield very different impact estimates.

Recommendations for the Final EIS:

- If diesel technology or operating speeds of 180 miles per hour may be incorporated as part of this project, revise the noise analysis to reflect these parameters. Include updated information in the Final EIS.
- Include a map (or clearly point a map within reference materials) to depict the location of the sensitive noise receivers that are included in tables beginning on page 3-392.
- In locations where sound walls are deemed economically infeasible, commit to offering noise-proof insulation and window treatments to residences, schools, hospitals, and other facilities. This mitigation measure was included for the statewide California HSR project, and it is especially important for the HDC project because so many of the proposed sound walls were deemed economically infeasible (Tables 3.2.7-14 to 3.2.7-19).
- Make it a priority to provide sound walls for schools even if they do not meet Caltrans threshold for economic feasibility to avoid harming children's learning environments and to meet the intent of Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.
- Clearly disclose noise impacts that would remain significant after mitigation, especially to sensitive receptors (e.g. health facilities, elderly care and housing centers, schools and daycares).
- Consider the noise impacts from Mitigation Measure CI-COM-1, which says, to the extent practical, street closures required during construction shall be scheduled to occur during nighttime hours.

Addressing Climate Change Under NEPA
Climate change and greenhouse gas (GHG) emissions are discussed in Draft EIS Section 4.5, entitled *Climate Change under [the California Environmental Quality Act (CEQA)]*. We are aware that the EPA and FHWA have not issued specific climate change guidance or a methodology to conduct project-level GHG analyses. This does not preclude a lead agency's responsibility, under NEPA, to disclose potentially significant impacts related to GHG emissions or to assess how climate change may affect the project itself or influence the project's impacts on other resources.

Recommendations for the Final EIS:

- Include a climate change analysis in the NEPA portion of the Final EIS or state that the CEQA analysis for climate change is relevant for NEPA and informing the federal decisions.
- Ensure that the GHG analysis fully accounts for increases in freight traffic that could be induced from the project. Consider proximity to nearby freight centers.

Station Area Planning & Green Building
The HDC proposes utilizing the Xpress West HSR station in Victorville and creating a new HSR station in Palmdale. HSR stations can become economic centers, support more walkable, transit-oriented neighborhoods, and serve as multi-modal hubs for the region. Caltrans can help to minimize long-term air impacts by promoting alternative modes of transportation to access HSR stations. The California HSR Authority has already committed to fund station-area planning efforts in Palmdale to promote

smart growth strategies and multi-modal connectivity. Caltrans can promote similar best practices in Palmdale and Victorville. Caltrans can also reduce environmental impacts and promote public health by incorporating green building strategies into the proposed project, including roadways, trackway, station, and other support facilities. Such strategies can facilitate long term savings in cost, energy, and water usage.

Recommendations for the Final EIS:

- Work closely with the California HSR Authority to seamlessly integrate HSR systems and work to co-locate a station. Having two HSR stations in Palmdale would duplicate environmental impacts, as well as hinder the efficiency of HSR service in California.
- Coordinate with the City of Palmdale on a parking strategy to avoid providing excessive parking that could hinder smart growth and transit development. Document coordination and outcomes in the Final EIS. Page 3-185 states that adequate parking would be provided as part of the Palmdale station design for this project, and it is therefore important for Caltrans to ensure that impacts are fully considered in the EIS.
- Provide resources for station-area planning in Palmdale and Victorville as a means to help communities: (1) reduce environmental impacts from vehicles accessing the station, (2) reduce impacts from expansive parking lots, and (3) promote walkable, livable communities, which have numerous environmental, community, and economic benefits. Describe these efforts in the Final EIS.
- Commit to achieving LEED certification at the platinum level or design for net-zero energy usage at the Palmdale HSR station. At a minimum, EPA encourages Caltrans to commit to analyze the strengths and feasibility of these strategies.
- Identify which recycled materials would be used to replace raw materials for particular infrastructure components. Some options include:
  - Use recycled materials to replace carbon-intensive Portland Cement in concrete as "supplementary cementitious material,"
  - Use tire-derived aggregate in lightweight embankment fill, retaining wall backfill, and as underlay to rail tracks, and
  - Use recycled materials in pavement applications, such as crushed recycled concrete, recycled asphalt pavement, and rubberized asphalt concrete. Also, in some circumstances, on-site asphalt can be re-used (e.g., cold in-place recycling or full depth reclamation).

NEPA Analysis for Renewable Energy

The Draft EIS states that this project seeks to establish a truly sustainable corridor that addresses the goals set forth in California legislation such as Assembly Bill 32 and Senate Bill 375. To this end, green energy generation, the development of a new utility corridor, and electric vehicle charging stations are being considered for potential integration into the HDC. The Draft EIS explains that subsequent NEPA would likely be needed for the renewable energy component of this project.

Recommendation for the Final EIS:

Please expand upon plans for the future environmental reviews for siting renewable energy, including expectations for levels of analysis (i.e. environmental assessments or environmental impact statements) and plans for timing. EPA has expertise on renewable energy and would appreciate the opportunity to work with Caltrans on future studies for selecting renewable energy technologies and siting.

Recommendations for Subsequent NEPA Analyses:

- Incorporate, as applicable, best practices from the following resources:

- The California Desert Renewable Energy Conservation Plan project team has developed *Best Management Practices and Guidance Manual: Desert Renewable Energy Projects*[5] for the development of renewable energy projects in the arid regions of California.
- The Bureau of Land Management's Solar Programmatic EIS[6] also contains a listing of Best Management Practices and Design Features associated with siting and design, construction, operation and maintenance, and decommissioning of solar energy projects.

- Consider creating contract specifications to require contractors to address the full life cycle of photovoltaic equipment by sourcing product components from a company that:
  - Minimizes environmental impacts during raw material extraction,
  - Manufactures solar panels in a zero waste facility, and
  - Provides future solar panel disassembly for material recovery for reuse and recycling.
- Identify bonding or financial assurance strategies for decommissioning, module recycling, and reclamation.

Availability of Supporting Documentation

The Draft EIS summarizes environmental impacts and frequently states that supporting analyses are in technical reports. The technical reports are cited, but during the review period for the Draft EIS they were not publically available on the internet. The absence of readily available information on environmental analyses makes it difficult to understand and thoroughly review environmental impacts.

Recommendation for the Final EIS and Future Caltrans' NEPA Documents:

Please make all technical reports that the EIS relies upon to reach conclusions on environmental impacts available to the public through the project website.

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[5] California Energy Commission, California Department of Fish and Wildlife, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service. *Best Management Practices and Guidance Manual: Desert Renewable Energy Projects*, Dec 2010, Publication #REAT-1000-2010-009-F. Available at http://www.drecp.org/documents/

[6] Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy, and U.S. Bureau of Land Management. *Solar Energy Development Programmatic EIS*. October 2012. Available at http://solareis.anl.gov/