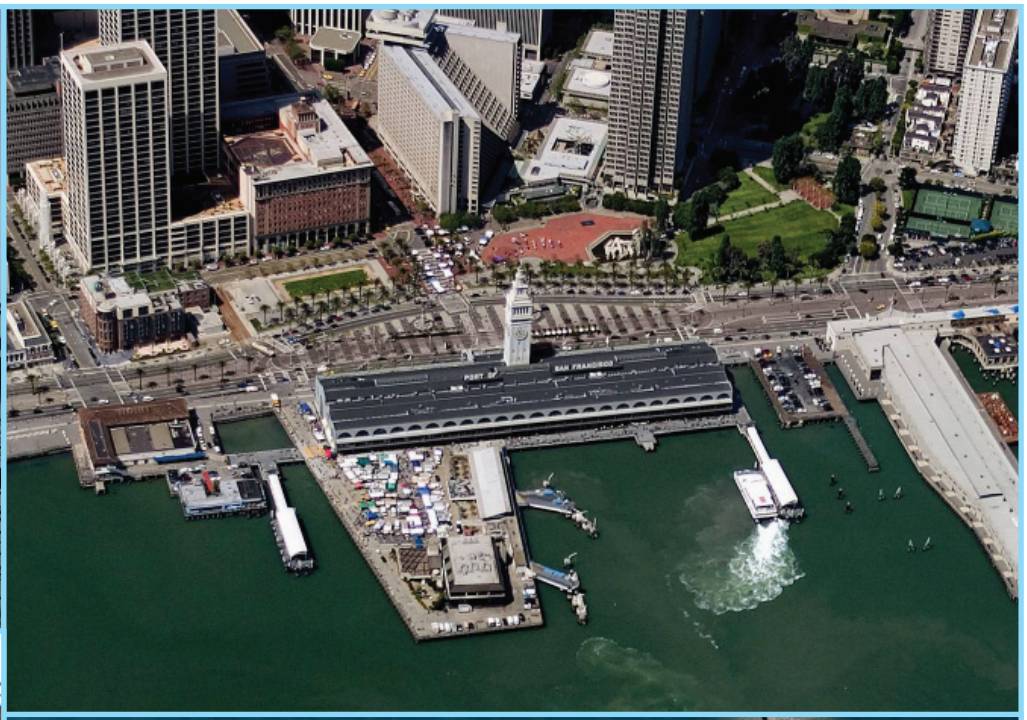
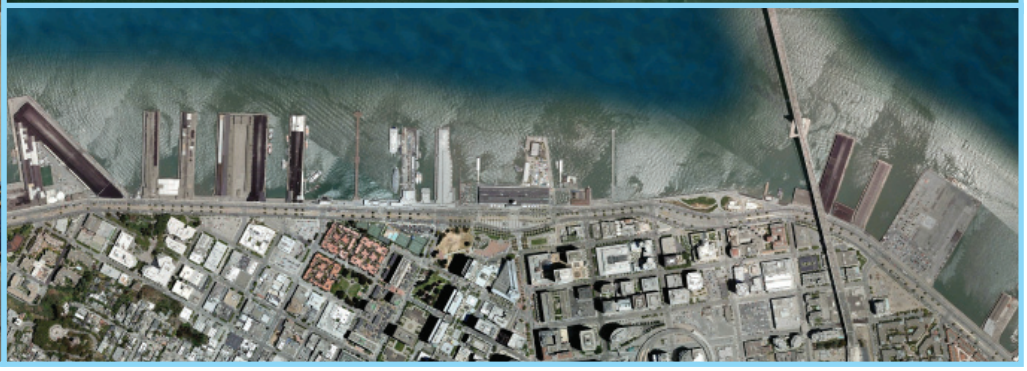
Final Environmental Impact Statement and Record of Decision/Environmental Impact Report

Downtown San Francisco Ferry Terminal Expansion Project

Volume II
Appendices





Photographs: Roma Design Group and URS, 2012.

September 2014

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SCOPING SUMMARY REPORT

San Francisco Bay Area Water Emergency Transportation Authority
Federal Transit Administration

Downtown San Francisco Ferry Terminal Expansion Project

SCOPING SUMMARY REPORT

Revision December 2011

Prepared by:

URS Corporation

Mara Feeney & Associates

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LIST OF ACRONYMS AND ABBREVIATIONS

BART	Bay Area Rapid Transit
CEQA	California Environmental Protection Act
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
FTA	Federal Transit Administration
NOAA	National Oceanic and Atmospheric Administration
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
Port	Port of San Francisco
WETA	Water Emergency Transportation Authority

1.0 INTRODUCTION AND PURPOSE

The purpose of this report is to summarize the actions taken and results achieved during the scoping process conducted to support the environmental analysis for the San Francisco Bay Area Water Emergency Transportation Authority's (WETA's) Downtown San Francisco Ferry Terminal Expansion Project. WETA is the local lead agency for this proposed project, and the Federal Transit Administration (FTA) is the federal lead agency. The agencies determined that an Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) would be jointly prepared to meet the requirements of both the federal National Environmental Policy Act (NEPA) and the California Environmental Protection Act (CEQA).

The agencies performed a series of joint and separate actions to inform interested parties and members of the public about the proposed project and to encourage comments on the scope of the planned environmental analysis. The purpose of scoping is to solicit input from the public and agencies on the appropriate scope, focus, and content of the environmental analysis. WETA and the FTA will consider all of the input received during the scoping process in the preparation of the Draft EIS/EIR. The Draft EIS/EIR will describe the existing environmental conditions of the area that could be affected by the proposed project and evaluate the potential effects of the proposed project in accordance with CEQA and NEPA. The comments provided by the public and agencies during scoping will help WETA and FTA to identify pertinent issues, methods of analyses, and level of detail that should be addressed in the Draft EIS/EIR. The scoping comments will also provide the basis for developing a reasonable range of feasible alternatives that will be evaluated in the Draft EIS/EIR. In addition to facilitating public and regulatory agency input on the scope and focus of the Draft EIS/EIR, scoping allows the lead agencies to explain the environmental review process to the public, and to identify additional opportunities for public comment and public involvement during the environmental review process.

Scoping activities were conducted during the spring of 2011. Information and outreach activities for the project included publishing required notices through the California State Clearinghouse and in the Federal Register, sending consultation letters to potentially interested resource agencies, publishing a scoping notice in a local newspaper, mailing the notice to area residents and other interested parties, holding a formal public comment period, conducting Scoping Meetings, and other measures that are described and documented in this report.

Section 2 contains a brief overview of the project. Section 3 contains information about the CEQA Notice of Preparation (NOP). Section 4 contains information about the NEPA Notice of Intent (NOI) to Prepare an EIS. Section 5 describes measures that were taken to invite resource agency participation in the scoping process. Section 6 describes public outreach activities. Section 7 describes the scoping meetings that took place on April 26, 2011, and Section 8 summarizes scoping comments that were received outside of the scoping meetings. Report appendices include copies of the NOP and NOI, proof of publication of the scoping notice, scoping meeting transcripts, and correspondence and comments received.

2.0 PROJECT OVERVIEW

WETA is proposing expansion and improvements to the Downtown San Francisco Ferry Terminal at the Port of San Francisco (Port) Ferry Building (see Figure 1). The project would expand the number of ferry gates, improve pedestrian circulation and ferry patron boarding, and enhance emergency response capabilities to evacuate people from San Francisco in the event of a major catastrophic event.

The project has the following objectives:

- Accommodate WETA's projected increase in water transit ridership and related vessel arrivals and departures from the Downtown San Francisco Ferry Terminal;
  - Provide a viable alternative mode of transportation that accommodates projected increases in transbay trips, and helps alleviate congestion over the Bay Bridge and through the San Francisco Bay Area Rapid Transit (BART) Transbay Tube;
- Address WETA and the Port of San Francisco's (Port) emergency operation needs;
  - Establish a circulation plan and improved signage that provides clear pedestrian routes for ferry to bus and ferry to rail transfers, as well as safe routes for bikes, emergency vehicles, and delivery trucks to enter, park and exit the area;
  - Provide necessary landside improvements, such as designated weather-protected areas for waiting and queuing, ticket machines and fare collection equipment, improved lighting, and improved boarding and arrival/departure information to serve water transit passengers and to enhance the Downtown San Francisco Ferry Terminal as the central hub for water transit services on San Francisco Bay; and
- Enhance the area's public access and open space with design features that create attractive, safe daytime and nighttime public spaces for both water transit passengers and other users of the Ferry Building area.

The planned improvements build on improvements that were completed by the Port in 2003 (referred to as Phase I of the Ferry Terminal Expansion Project). The first phase of this project (referred to as Phase II), which would begin in 2014 and be completed by 2017, would consist of demolition of Pier ½ and Pier 2, construction of three new ferry gates, installation of amenities such as weather-protected areas for queuing, improvements to pedestrian circulation, and filling of the lagoon for future use as a staging area for evacuees in the event of a major catastrophe. Full build out (Phase III) of the proposed improvements is contingent on potential ridership demand at full build out of the proposed Treasure Island redevelopment, expected to occur sometime between 2020 and 2030.

Figures 1 and 2 illustrate current conditions and proposed improvements.

Figure 1 – Project Area

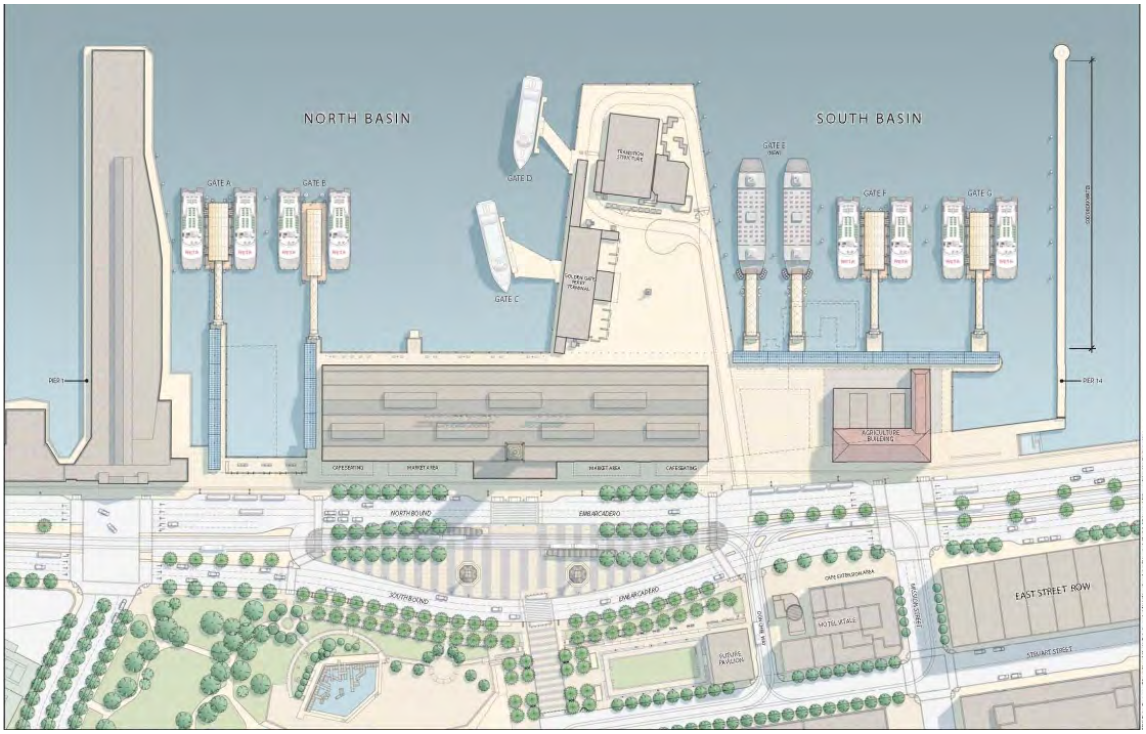

Figure 2 – Preliminary Sketch of Phase III Proposed Improvements

3.0 NOTICE OF PREPARATION, NOTICE OF COMPLETION

WETA submitted a NOP and the accompanying NOC to the State Clearinghouse on March 24, 2011. These documents are required as part of the CEQA process, to notify potentially interested parties of the project and the pending environmental analysis. The State Clearinghouse posts available documents on their website and also distributes the NOP to state agencies as requested by WETA and noted on the NOC. The NOP provides a brief description of the proposed project, identifies some of the environmental issues to be analyzed in the review process, announces dates for the public comment period and scoping meetings, and identifies project contacts for additional information.

Copies of the NOP and NOC are contained in Appendix A, along with documentation of their posting on the State Clearinghouse website.

4.0 NOTICE OF INTENT

The FTA published its NOI to prepare an EIS for the Downtown San Francisco Ferry Terminal Expansion Project pursuant to NEPA in the Federal Register on April 7, 2011. The NOI describes the project purpose and need, location and environmental setting, project alternatives, possible effects, and FTA procedures.

Appendix B contains a copy of the NOI that appeared in the Federal Register.

5.0 AGENCY OUTREACH

The FTA sent a series of letters to federal, state, and local resource agencies to invite their participation in the environmental review process for the Downtown San Francisco Ferry Terminal Expansion Project. Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users establishes an enhanced environmental review process for certain FTA projects, increasing the transparency of the process, as well as the opportunities for participation. The requirements of Section 6002 apply to this project. As part of the environmental review process for this project, the lead agencies must identify, as early as practicable, any other federal and nonfederal agencies that may have an interest in the project, and invite such agencies to become participating agencies in the environmental review process. Nine letters were mailed on April 7, 2011, and an additional six letters were mailed to agency staff on April 18, 2011. Representatives of the following agencies were invited to participate in the scoping and environmental review process for this project:

- California Department of Fish and Game
- National Oceanic and Atmospheric Administration (NOAA)
- U.S. Army Corps of Engineers
- San Francisco Bay Conservation and Development Commission
- U.S. Coast Guard, San Francisco Sector
- U.S. Environmental Protection Agency, Community and Ecosystems Division
- The Port of San Francisco
- Bay Area Air Quality Management District
- Regional Water Quality Control Board
- U.S. Fish and Wildlife Service
- California State Lands Commission

All of the letters sent to resource agency staff included a copy of a scoping meeting notice (see Appendix C) and the NOI that was published in the Federal Register (Appendix B). Federal agencies were asked explicitly to reply, even if they chose not to participate in the environmental review process for this project. Nonfederal agencies were asked to reply only if they were requesting to become a participating agency.

Copies of the agency staff outreach letters are included in Appendix D.

WETA and FTA will follow up with each of the agencies described above and confirm the agency's role in the environmental review process under both CEQA and NEPA. All agency roles and responsibilities in the environmental review process will be defined and documented in a coordination plan for the project, which will be developed separately.

6.0 PUBLIC OUTREACH

6.1 PROJECT MAILING LIST

A project mailing list was developed so that the scoping notice could be mailed to property owners, residents, or tenants in the vicinity of the project area, as well as other interested parties. The Port cooperated with WETA by providing a preliminary mailing list database containing the names of local government and agency staff, committee members, and members of the public who had expressed recent interest in other Port planning projects in the vicinity of the Ferry Building. FTA and WETA staff and consultants reviewed this preliminary list and added names of other potentially interested parties, based on their knowledge of the project vicinity and stakeholders who had previously participated in earlier planning stages of the project. Direct Mail Center was contracted to prepare a list of all property owners and residents, tenants, or occupants within a 300-foot radius of the project site. Direct Mail Center mailed copies of the scoping notice to all parties on the final project mailing list, which included names and addresses for approximately 500 interested parties.

6.2 NEWSPAPER NOTICE

A condensed scoping meeting notice, providing a brief project description, dates for the public comment period and scoping meetings, and a project site diagram indicating the location of the planned scoping meetings, was published in the *San Francisco Examiner* on March 31, 2011. A copy of the proof of publication is included in Appendix C.

6.3 FACT SHEET

WETA prepared a fact sheet to provide project information to interested parties and the public. Copies of the fact sheet were made available upon request, and were also distributed to ferry commuters via the kiosk in the Bay Crossings retail store in the Ferry Building, as well as in the Port's public lobby at Pier 1, adjacent to the Ferry Building. A copy of the fact sheet was provided to Ferry Building tenants through their property management representative. In addition, a copy of the fact sheet was provided to Clipper kiosk staff in the Embarcadero train station, with a request that they ask management to consider making it available to Clipper card purchasers, The fact sheet was also posted online, with a link provided in the scoping notice and on WETA's and the Port's websites. A copy of the fact sheet is included as Appendix E.

6.4 BAY CROSSINGS ARTICLE

Bay Crossings is a monthly publication of news and features of particular interest to commuters who patronize ferries on San Francisco Bay routes. Project information was provided to the publisher, who published a major article about the project in April 2011, in both the printed and online editions of this periodical. Appendix F contains the text and photos of this article.

6.5 OTHER

Both WETA and the Port uploaded information about the Downtown San Francisco Ferry Terminal Expansion Project on their websites, with links for more information. In addition, a special slide about the project was created to display on the flat screen monitor in the public lobby area of the Port's offices at Pier 1, where a series of slides presenting information of interest to visitors is displayed sequentially on any given day (see items in Appendix G).

7.0 SCOPING MEETINGS

Scoping meetings were held on April 26, 2011, in the Bayside Conference Rooms at Pier 1, The Embarcadero, San Francisco, California. An interagency scoping meeting was scheduled from 2:00 p.m. to 4:00 p.m. at this location, and a public scoping meeting was scheduled from 5:30 p.m. to 7:30 p.m. at the same location.

Aside from WETA staff and consultants, only one agency staff representative attended the afternoon interagency scoping meeting. Approximately a dozen members of the public attended the evening scoping meeting. The sign-in sheet from the public scoping meeting is included as Appendix H. Full transcripts of both meetings are contained in Appendix I. The paragraphs below present a brief summary of questions raised and comments made at these two meetings.

7.1 AGENCY SCOPING MEETING

The agency scoping meeting opened at 2:00 p.m. Parties present included the following:

John Sindzinski, Manager, Planning and Development, WETA
Mike Gougherty, Project Manager, WETA
Chad Mason, Planner/Analyst, WETA
James Hurley, Planner, Port of San Francisco
Boris Dramov, President, ROMA Design Group
Ian Austin, URS Corporation
Julie Bixby, URS Corporation
Mara Feeney, Mara Feeney & Associates
Cherie Lubash, Court Reporter, Jan Brown & Associates
Joshua Widmann, Associate Planner, Golden Gate Bridge and Transportation District

The meeting began with introductions and a presentation by John Sindzinski about the purpose of the meeting, the CEQA/NEPA processes, WETA and FTA roles, and a discussion of the scoping process. Mike Gougherty then presented a summary of project goals and objectives, and project purpose and need. He explained the proposed project in the context of other projects that are currently in progress or planned along the San Francisco waterfront. He reviewed the project schedule and a list of anticipated environmental issues to be addressed in the environmental analysis. He then asked if there were any questions or comments about the presentation.

Mr. Widmann asked a number of clarification questions pertaining to the various phases of the project timeline. He asked if the environmental document would discuss transportation issues such as ferry trips per day and ridership projections. He asked how much ridership was expected to increase in the future, and he asked that impacts on bicycle parking be considered in the environmental analysis. The agency scoping meeting was adjourned at 2:35 p.m.

A separate meeting was held on May 4, 2011 at the NOAA National Marine Fisheries Service (NMFS) offices in Santa Rosa because a NMFS representative was not able to attend the Agency Scoping meeting held in San Francisco on April 26, 2011. Parties Present included the following:

Korie Schaeffer, Marine Biologist, NOAA NMFS
Mike Gougherty, Project Manager, WETA
Chad Mason, Planner/Analyst, WETA
Bill Martin, URS Corporation
Ian Austin, URS Corporation

Mike Gougherty provided an overview of the proposed Downtown Ferry Terminal Expansion Project as described in the project Fact Sheet. Korie Schaeffer made the following comments: NMFS will need details of the square footage of new bay cover associated with the project (e.g., piers, ramps, and floats), of Bay fill removed (e.g.; Pier ½ and Pier 2) and of Bay covered (e.g., the BART construction hole). This information will be needed for both Phase 2 and Phase 3 build-out. Also NMFS requested that the environmental document consider potential impacts on Essential Fish Habitat and Endangered Species Act species that NMFS' regulatory authority requires it to assess including the following issues: underwater sound, overwater shading, dredging, and marine mammals.

7.2 PUBLIC SCOPING MEETING

The public scoping meeting began at 5:30 p.m. in an Open House format, allowing members of the public time to review display boards and aerial photographs that had been set up around the room. By 5:41 p.m., a small crowd of people had gathered to look at the display boards and seemed eager to hear the presentation. WETA staff then opened the meeting with presentations similar to those that had been made at the afternoon agency scoping meeting. Mike Gougherty invited questions about the presentation materials before opening the meeting for public comments. There were several clarification questions on the proposed project, about subjects such the ferry services that would be using particular future gates or berths, and Golden Gate Ferry Service's planned upgrades to their facilities.

Scoping comments made by members of the public requested that WETA and FTA:

- include pedestrians and delivery vehicles in the circulation analysis;
- consider how pile driving will affect shaking in surrounding buildings and plaza;
- consider the weight-bearing capacity of the back plaza in an emergency situation (emergency vehicles and many people present);
- consider how to accommodate emergency vehicles and personnel (ambulance, fire, police) in the circulation impact analysis;
- analyze the impact of construction on local air quality and heating, venting, and air conditioning systems in the project vicinity;
- consider noise impacts (e.g., pile driving) on adjacent offices and apartment buildings;
- consider the effect of tides, currents, wind, storm conditions, and other vessel traffic (both commercial and noncommercial—e.g., kayaks and boats) as part of the navigation and safety impact analysis.

The meeting ended at 6:30 p.m. Photos 1 through 4 were taken during the public scoping meeting.

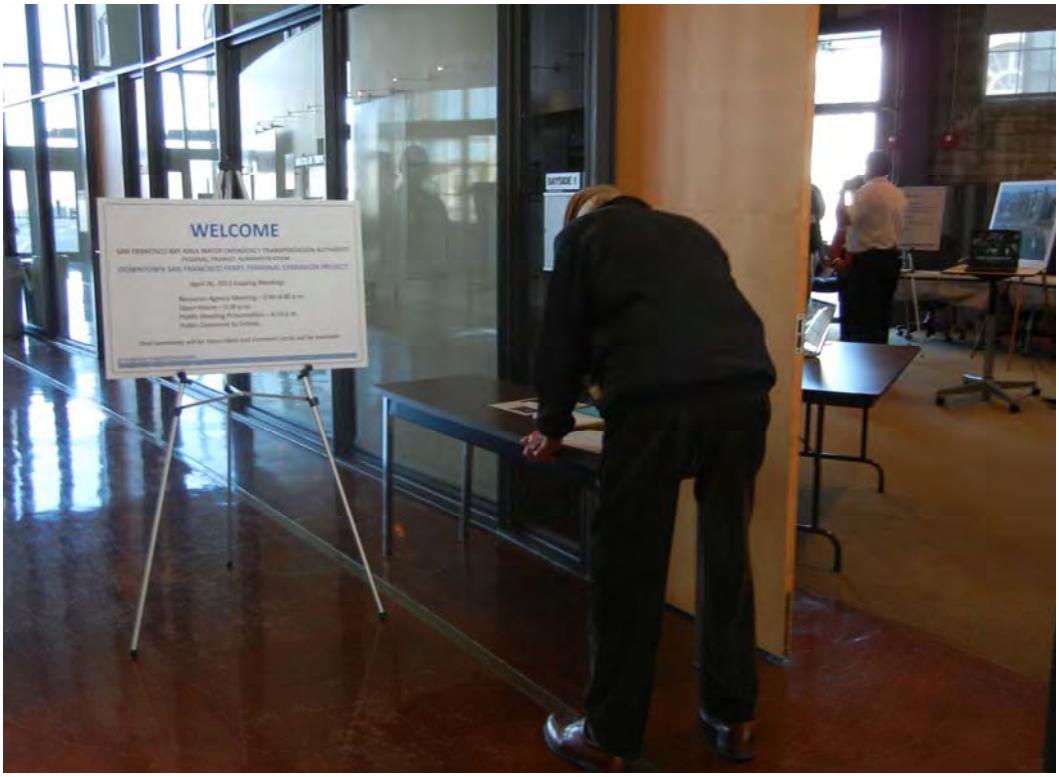

Photo 1 – Welcome Board and Sign-In Table

Photo 2 – Reviewing Project Information during Open House

Photo 3 – Presentation of Project Information

Photo 4 – Presentation of Project Information

8.0 OTHER SCOPING COMMENTS SUBMITTED

WETA and FTA received three phone calls, three e-mail messages, and six letters during the scoping period. Four of the correspondents were property owners, property managers, or tenants with real estate interests in the project vicinity. Seven correspondents were public resource agencies. Copies of electronic and printed mail correspondence are included in Appendix J.

WETA received two phone calls pertaining to the project on April 13, 2011. One phone call was a request for a copy of the scoping notice, and the other was a request that aesthetic and visual impacts from project improvements be considered in the environmental analysis. WETA also received one phone call from ACOE who did not have any specific scoping comments at the time.

One e-mail message was from the National Park Service's Pacific West Region, stating that they had no comment on the project.

The other two e-mail messages were from Ferry Building property management (May 16) and a major Ferry Building tenant (May 13). Their concerns are summarized below:

- **Air Quality.** Dust may be created during construction; identify means to prevent dust from coating windows or entering open windows and air vents. Identify impacts of idling ferries on café areas. Identify impacts of construction on indoor air quality.

- **Geology/Soils.** Evaluate effects of construction activities on subsidence of piers supporting historic Ferry Building.

- **Noise and Vibration.** Evaluate effects of pile installation on noise and vibration. Identify mitigation measures to reduce impact inside adjacent buildings.

- **Pedestrian Traffic**. Consider signage to guide passengers to ferries, and patrons to Ferry Building businesses during construction. Evaluate adequacy of planned expansion of rear plaza area to accommodate passenger queuing, and to remove queuing from congested Embarcadero sidewalk areas. Ensure compliance with ADA standards for egress/ingress.

- **Aesthetics.** Avoid obstruction of views. Identify maintenance measures to prevent bird droppings from accumulating on passenger protection and other raised structures. Evaluate effects of passenger queuing on restaurant views.

- **Energy.** Consider installing solar panels over berthing areas to power night time and emergency lighting (and/or identify location for a backup generator for this purpose).

- **Economic Impacts.** Consider potential loss of retail sales due to loss of views or outdoor seating. Identify impacts on back plaza farmer's market during construction. Address floating debris resulting from construction. Reimburse fees associated with hiring engineers, if needed, to review plans or monitor noise, vibration, or movement at the Ferry Building

- **Wake/Wave Activity.** Examine how increase in ferry activity could affect pilings that support the Ferry Building.

- **Other.** Evaluate effects of rodent or pest issues during construction. Consider need for additional restroom, storage, and bicycle storage facilities associated with the project.

Six letters were received from the NMFS (April 20), the San Francisco Municipal Transportation Agency (May 9), the California State Lands Commission (May 13), BART (May 16), the U.S. Environmental Protection Agency (May 16) and the San Francisco Bay Conservation and Development Commission

(May 18). Resource agencies were generally supportive of project goals of reducing vehicle trips and increasing transit use. Specific comments related to the scope of the environmental analysis included the following:

- **Alternatives.** Consider project alternatives that would avoid or minimize impacts to natural resources.

- **Geology and Soils.** Analyze construction impacts to slope and stability of Bay Mud. Mitigate to maintain stability. Identify risks associated with disturbing sediments that may contain hazardous materials.

- **Biological Resources.** Identify sensitive species in the project vicinity and potential impacts to those species, including potential to introduce invasive species. Identify impacts on wildlife species and habitat from dredging, filling, and other project activities. Identify impacts on wildlife from potential exposure to hazardous materials mobilized as a result of the project.

- **Water Quality.** Identify ways to minimize surface water contamination from runoff or worksite spills or litter. Identify impacts from dredging and fill on turbidity and sedimentation. Quantify impacts (e.g., identify acres of water impacted). In compliance with the Clean Water Act, demonstrate that impacts to waters of the United States have been avoided or minimized.

- **Water Surface Area and Volume.** Analyze how proposed project-related filling will affect total surface area and volume of water in San Francisco Bay.

- **Impacts on Other Transit Services.** Identify impacts on facilities, ridership demand, station area congestion, and travel times for MUNI lines and BART service. Identify transfer agreements that will facilitate passenger transfers among transit providers.

- **Air Quality.** Identify impacts of increased passenger ferry service on air quality through reductions in vehicular traffic. Consider project relationship to Bay Area's classification as nonattainment for ozone and fine particulate matter. Examine localized air quality impacts from increased ferry service. Identify ways to reduce emissions of diesel particulate matter. Identify means for controlling fugitive dust and emissions from stationary sources during construction. Identify cumulative impacts from multiple construction projects.

- **Noise and Vibration.** Consider vibration impacts on existing platforms, BART facilities, and seawall, and noise impacts on sensitive species.

- **Traffic and Parking.** Consider additional vehicle use of ferry plaza and changes in circulation patterns during construction and operation. Identify impacts of increased passenger service on parking for taxis and passenger parking. Avoidance of double parking on the Embarcadero.

- **Pedestrian Circulation.** Identify impacts of increased ferry service on pedestrian traffic around Ferry Building and Embarcadero crossings, including impacts on the fire lane and driveway at the south end of the Ferry Building. Identify impacts of the project on BART's emergency passenger evacuation route.

- **Water Vessel Circulation.** Evaluate impacts on water vessel traffic and vessel circulation patterns (including water-based access to BART facilities for maintenance activities).

- **Recreation.** Describe short-term and long-term project impacts to recreation, including boating and fishing, as well as project measures to provide maximum feasible free public access to the Bay.

- **Cultural Resources.** Consider possible presence of submerged cultural resources in the project vicinity, including historic wharves or shipwrecks.

- **Environmental Justice.** Identify how the proposed project will affect low income and minority populations in the surrounding area.

- **Flood Protection and Climate Change.** Analyze effects of proposed fill with regard to flood protection and storm surges, including consideration of future sea level rise in the project vicinity due to climate change. Include a greenhouse gas emissions analysis.

- **Other.** Evaluate consistency with the San Francisco Bay Plan. Consider earthquake safety and security in the project area. Identify adequate and feasible mitigation measures for significant impacts or cumulatively considerable impacts.

The NMFS accepted FTA's request to serve as a cooperating agency pursuant to NEPA, and requested participation in the development of the EIS/EIR as it relates to the assessment of potential impacts and conservation measures for Endangered Species Act-listed fish species under the jurisdiction of NMFS and essential fish habitat under the Magnuson Stevens Fishery Conservation and Management Act.

APPENDIX A
NOTICE OF PREPARATION/ NOTICE OF COMPLETION

WATER EMERGENCY TRANSPORTATION AUTHORITY

WETA

Notice of Preparation

To: State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

From: Mike Gougherty
WETA Project Manager
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

Subject: Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting

The San Francisco Bay Water Emergency Transportation Authority (WETA), as the lead state agency, and the Federal Transit Administration (FTA), as the lead federal agency, are planning to prepare an Environmental Impact Report (EIR) for the Downtown San Francisco Ferry Terminal Expansion Project, under the California Environmental Policy Act In addition, WETA will hold both a public and agency scoping meeting on April 26, 2011. WETA is requesting your agency's comments on the scope and content of the environmental information which is germane to your agency's statutory responsibilities regarding the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are described in the attached materials.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than 45 days after receipt of this notice.

Please send your response to Mike Gougherty at the address shown above, along with the name for a contact person in your agency.

Project Title: Downtown San Francisco Ferry Terminal Expansion Project
Project Applicant, if any: San Francisco Bay Water Emergency Transportation Authority

Date: 3/24/2011 Signature:
Title: Project Manager
Telephone: (415) 364-3189

COMMENTS AND SCOPING MEETING

A public scoping meeting to accept comments on the scope of the Environment Impact Report (EIR) will be held on the following date:

- April 26, 2011, from 5:30 p.m. to 7:30 p.m., at Pier 1, Bayside Conference Room, San Francisco, California.

An interagency scoping meeting for agencies with interest in the project will be held on the following date:

- April 26, 2011 from 2:00 p.m. to 4:00 p.m. at the Pier 1, Bayside Conference Room, San Francisco, California.

The meeting will be accessible to persons with disabilities. If special translation or signing services or other special accommodations are needed, please contact Mike Gougherty at (415) 364-3189 at least 48 hours before the meeting. A scoping information packet is available on the WETA website at http://www.watertransit.org, or by calling Mike Gougherty at (415) 364-3189. Copies will also be available at the scoping meeting.

Comments on the scope of the EIS will be accepted at the public scoping meeting, or written comments should be sent to Mike Gougherty, WETA Project Manager, San Francisco Bay Water Emergency Transportation Authority, Pier 9, Suite 111, The Embarcadero, San Francisco, CA, 94111. Comments will be accepted until May 16, 2011.

PROJECT DESCRIPTION

Project Location

The project is located in the northeastern section of San Francisco, California, at the San Francisco Ferry Building, situated at the foot of Market Street. The study area encompasses Port of San Francisco property between Pier 1 on the north and Pier 14 on the south, and includes the Ferry Building, ferry gates, and the Ferry Plaza.

Project Purpose and Need

The purpose of the Downtown San Francisco Ferry Terminal Expansion Project is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. Furthermore, the project will address deficiencies in the transportation network that impede ferry

operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. The project objectives include:

- Accommodate WETA's projected increase in ferry ridership and related ferry arrivals and departures from the Downtown San Francisco Ferry Terminal;
- Provide a viable alternative mode of transportation that accommodates projected increases in transbay trips, and helps alleviates congestion over the Bay Bridge and through the Bay Area Rapid Transit (BART) Transbay Tube;
- Address WETA's and the Port of San Francisco's (Port) emergency response needs;
- Establish a circulation plan and improved signage that provides clear pedestrian routes for ferry to bus and ferry to rail transfers, as well as safe routes for bikes, emergency vehicles, and delivery trucks to enter, park and exit the area;
- Provide necessary landside improvements, such as designated weather-protected areas for waiting and queuing, ticket machines and fare collection equipment, improved lighting, and improved boarding and arrival/departure information to serve ferry patrons and to enhance the Ferry Building as the central point of embarkation for ferries on San Francisco Bay; and
- Enhance the area's public access and open space with design features that create attractive, safe daytime and nighttime public spaces for both ferry patrons and other users of the Ferry Building area.

WETA recognizes and supports the Port's land use planning and development proposals in and around the Ferry Building, including the historic renovation of the Agricultural Building and other improvements in the Ferry Building area. These Port initiatives are being planned and funded independent of the WETA project and, as a result, are not included as project elements. WETA will stage construction, and manage and operate ferry services so they do not preclude, conflict with, or inhibit the Port's proposed development plans in the project vicinity.

Proposed Project Components

The proposed project incorporates modifications and improvements to the Ferry Terminal gates and ferry boarding areas to accommodate future WETA service and increased ferry patronage. The current estimate for 2025 projected daily ridership at the Ferry Terminal is approximately 35,000 passengers. The ridership projections account for existing service, plus new ferry services from downtown San Francisco to Berkeley, Treasure Island, Hercules, Richmond, Redwood City, Martinez, and Antioch to be initiated between 2014 and 2030. Service frequencies during the day and evenings would reflect the travel demand for commute and non-

commute periods. Existing ferry services operated by others (i.e., ferry service to Sausalito, Larkspur, and Tiburon), and existing services operated by WETA (i.e., ferry service to Vallejo, Alameda/Oakland, and Alameda Harbor Bay) would continue to operate, but the access and boarding environments for these services would be improved by the project.

In addition, landside improvements to allow staging and circulation for possible emergency evacuation at the Ferry Building are included in the proposed project. The modifications and improvements are the responsibility of WETA in cooperation with the Port of San Francisco, with funding coming from Regional Measure 2, State Proposition 1B, and FTA.

The WETA-sponsored improvements represent sequential construction phases (Phase 2 and Phase 3). The Phase 2 and Phase 3 improvements build on those elements already completed by the Port in 2003 during Phase 1. Phase 2, which is expected to be completed by 2017, will include:

- Demolition and removal of Pier ½ and Pier 2;
- Construction of Gate A in the north basin, and Gates F and G in the south basin;
- Installation of boarding area amenities such as weather-protected areas for queuing, ticket machines and fare collection equipment, improved lighting, and ferry boarding and arrival/departure information signs;
- Widening of ferry access pathways along existing pedestrian promenades, and separation of ferry patron queuing from other pedestrian and vehicular movements where possible;
- Improved wayfinding signage in the vicinity of the Ferry Building, which will indicate ferry boarding areas and transit connections; and
- Filling in the lagoon to prepare for and accommodate staging and circulation of evacuees following a catastrophic event.

As new ferry gates are constructed, existing ferry services would relocate to the new gates. Pier demolition and construction activities would be staged and sequenced to allow for the continuity of existing ferry services during construction. Demolition of Pier ½ would precede construction of Gate A. Similarly, demolition of Pier 2 would precede construction of Gate F. Gate G, which is designated for ferry services not expected to operate until 2020 or later, would serve as a vessel layover location, temporary storage area, and emergency boarding location in the interim. WETA's capital improvement plan synchronizes the purchase or leasing of vessels to meet future service and emergency response requirements.

Phase 3 is contingent on the implementation of the Treasure Island Redevelopment Plan. At full build-out, expected to occur sometime between 2020 and 2030, new commercial, recreational, and residential facilities on Treasure Island would require additional ferry capacity to serve substantial numbers of visitors and residents. The additional capacity would be provided by larger, bow-loading vessels purchased by the Treasure Island developer, and operated by WETA. The bow-loading vessels would necessitate the redesign of Gate E to accommodate the larger ferries.

Possible Impacts

The purpose of this EIR process is to study, in a public setting, the potentially significant effects of the proposed project on the environment. Primary areas of investigation for this project include, but are not limited to: land use, development potential, displacements, historic resources, visual and aesthetic qualities, air quality, noise and vibration, dredging and bay fill requirements, hazardous materials resulting from demolition and construction activities, traffic circulation and transportation linkages, pedestrian circulation, safety, security, and emergency response, bay habitat, and cumulative impacts. The environmental analysis may reveal that the proposed project will not impact or have significant impacts to many of those areas. However, if any environmental impacts are identified, measures to avoid, minimize, or mitigate those impacts will be proposed.

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Downtown San Francisco Ferry Terminal Expansion Project
Lead Agency: SF Bay Area Water Emergency Trans. Authority (WETA) Contact Person: Mike Gougherty
Mailing Address: Pier 9, Suite 111, The Embarcadero Phone: 415-364-3189
City: San Francisco Zip: 94111 County: San Francisco

Project Location: County: San Francisco City/Nearest Community: San Francisco
Cross Streets: The Embarcadero and Market Street Zip Code: 94111
Longitude/Latitude (degrees, minutes and seconds): 37 ° 47 ' 23 " N / 122 ° 23 ' 37.3 " W Total Acres: 28
Assessor's Parcel No.: 9900002, 9900200, 9900201, 9900274, 9900274H 9900275, 9900278 Section: 34 & 03 Twp.: 1.0S & 2.0S Range: 5.0 and 5.0 Base: Mount Diablo
Within 2 Miles: State Hwy #: 101 and 280 Waterways: San Francisco Bay
Airports: Railways: Caltrain/Muni/BART/Amtrak Schools: Youth Chance High School

Document Type:

CEQA: ☑ NOP ☐ Draft EIR
☐ Early Cons ☐ Supplement/Subsequent EIR
☐ Neg Dec (Prior SCH No.)
☐ Mit Neg Dec Other: Public Scoping Meeting

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other:

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☑ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☐ Other:

Development Type:

☐ Residential: Units Acres
☐ Office: Sq.ft. Acres Employees
☐ Commercial: Sq.ft. Acres Employees
☐ Industrial: Sq.ft. Acres Employees
☐ Educational:
☐ Recreational:
☐ Water Facilities: Type MGD

☑ Transportation: Type Ferry Terminal Expansion
☐ Mining: Mineral
☐ Power: Type MW
☐ Waste Treatment: Type MGD
☐ Hazardous Waste: Type
☐ Other:

Project Issues Discussed in Document:

☑ Aesthetic/Visual ☐ Fiscal ☑ Recreation/Parks ☑ Vegetation
☐ Agricultural Land ☑ Flood Plain/Flooding ☐ Schools/Universities ☑ Water Quality
☑ Air Quality ☑ Forest Land/Fire Hazard ☑ Septic Systems ☐ Water Supply/Groundwater
☑ Archeological/Historical ☑ Geologic/Seismic ☐ Sewer Capacity ☑ Wetland/Riparian
☑ Biological Resources ☑ Minerals ☑ Soil Erosion/Compaction/Grading ☑ Growth Inducement
☑ Coastal Zone ☑ Noise ☑ Solid Waste ☑ Land Use
☐ Drainage/Absorption ☑ Population/Housing Balance ☑ Toxic/Hazardous ☑ Cumulative Effects
☑ Economic/Jobs ☑ Public Services/Facilities ☑ Traffic/Circulation ☐ Other:

Present Land Use/Zoning/General Plan Designation:

Local Retail, Visitor & Specialty Retail, Office, R&D, Warehouse, Light Industry, and Ferry Excursion

Project Description: *(please use a separate page if necessary)*

The proposed project would serve commuters, visitors, and recreational users desiring an alternative way to cross San Francisco Bay, and reach nearby employment, entertainment, and recreational destinations in San Francisco. The project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building. In addition, the project enhances emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. More detailed information is provided in the attached NOP and project description.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

x	Air Resources Board	x	Office of Emergency Services
x	Boating & Waterways, Department of	x	Office of Historic Preservation
	California Highway Patrol		Office of Public School Construction
S	Caltrans District #4	x	Parks & Recreation, Department of
	Caltrans Division of Aeronautics		Pesticide Regulation, Department of
S	Caltrans Planning	x	Public Utilities Commission
	Central Valley Flood Protection Board	S	Regional WQCB # 2
	Coachella Valley Mtns. Conservancy	x	Resources Agency
	Coastal Commission	x	S.F. Bay Conservation & Development Comm.
	Colorado River Board		San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
x	Conservation, Department of		San Joaquin River Conservancy
	Corrections, Department of		Santa Monica Mtns. Conservancy
	Delta Protection Commission	x	State Lands Commission
	Education, Department of		SWRCB: Clean Water Grants
	Energy Commission		SWRCB: Water Quality
S	Fish & Game Region # 3		SWRCB: Water Rights
	Food & Agriculture, Department of		Tahoe Regional Planning Agency
	Forestry and Fire Protection, Department of	x	Toxic Substances Control, Department of
	General Services, Department of	x	Water Resources, Department of
	Health Services, Department of		
	Housing & Community Development		Other:
	Integrated Waste Management Board		Other:
x	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date April 1, 2011 Ending Date May 16, 2011

Lead Agency (Complete if applicable):

Consulting Firm: URS Corporation
Address: One Montgomery, Suite 900
City/State/Zip: San Francisco, CA 94104-4538
Contact: Ian Austin
Phone: 415-896-5858

Applicant: Water Emergency Trans. Authority (WETA)
Address: Pier 9, Suite 111, The Embarcadero
City/State/Zip: San Francisco, CA 94111
Phone: 415-291-3377

Signature of Lead Agency Representative: [signature] **Date:** 3/24/2011

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

APPENDIX B
NOTICE OF INTENT

responsibility for the incidents on the acts or omissions of any person or entity.

Two railroad employees, while each riding the side of rolling equipment to protect a shoving movement, were fatally injured (in separate incidents) when the equipment they were riding struck other equipment that was left out to foul. A common factor in both accidents was that the equipment was left in a location where it fouled an adjacent track by the very employees who were involved in the incidents.

The first incident occurred on September 2, 2010, in Bridgeport, New Jersey, when a conventional two-person switching crew was shoving rolling equipment into an industrial facility. The locomotive engineer was in the locomotive control compartment and the conductor was positioned on the leading end of a tank car directing the shoving move. The conductor had one foot on the end platform and the other on the side ladder tread as he began to pass a tank car that he had spotted at that location the previous day. Unfortunately, the car had been left in the foul of the adjacent track and the cars struck each other; the conductor sustained fatal injuries.

The second incident occurred on February 8, 2011, in Kankakee, Illinois. A conventional switching crew that consisted of a conductor, engineer, and a conductor-in-training was switching cars on a switching lead track and using various other yard tracks. The crew had left a car on one of the yard tracks in a location where it was in the foul of an adjacent track. Shortly thereafter, the conductor and conductor-in-training boarded opposite sides of the leading end of a gondola car and began a shoving movement. Subsequently, the side of the gondola on which the conductor was riding struck the car that was previously left in the foul of the adjacent track. The conductor was crushed between the two cars and sustained fatal injuries.

Although the preponderance of incidents involving equipment that is left in the foul of an adjacent track fortunately only result in railroad property damage, the potential for injury or death in such instances is always present. By issuing this safety advisory, FRA is reminding all stakeholders of the importance of situational awareness and compliance with all applicable operating and safety rules, particularly those related to leaving rolling equipment in a location that is clear of adjacent tracks.

FRA Action: Despite the significant reduction in train accidents caused by equipment being left in the foul of an adjacent track, a review of FRA's inspection data relative to 49 CFR 218.101 indicates a disturbing trend. From calendar year (CY) 2009 to CY 2010, violations of 49 CFR 218.101 recommended for prosecution by FRA inspectors increased 124 percent. Based on the results of inspection data for the first 2 months of 2011, if trends continue, violations recommended for prosecution in 2011 versus 2010 would increase by an additional 81 percent. Whether the increase in violations is due to greater vigilance by FRA or is due to an actual increase in the number of instances where equipment is being left in such locations, FRA intends to ensure that railroads take necessary steps to prevent and reduce the potential trend indicated by the statistics noted above.

Over the next several months, FRA intends to increase its inspection activity to focus on compliance with railroad operating rules that address all of the requirements contained in Subpart F. Particular emphasis will be placed on the requirements contained in 49 CFR 218.101. FRA will also focus its inspection efforts on railroad operational testing activity, particularly as it relates to Subpart F. FRA strongly encourages railroad industry members to reemphasize the importance of leaving equipment in the clear as frequently as possible, and to take such other actions as may help ensure safety on the Nation's railroads.

Recommended Railroad Action: In light of the recent accidents discussed above, and in an effort to maintain the safety of railroad employees on the Nation's rail system, FRA recommends that railroads:

(1) Review with employees the circumstances of the two most recent fatal incidents;

(2) Reinstruct supervisors and employees on the operating and safety rules applicable to leaving rolling equipment in a location that is clear of adjacent tracks. Particular emphasis should be placed on the procedures that enable employees to identify clearance points and the means to identify locations where clearance points will not permit a person to safely ride on the side of a car;

(3) Increase operational testing on those operating and safety rules that pertain to leaving rolling equipment in a location that is clear of adjacent tracks; and

(4) Review current job briefing procedures among coworkers and determine if the procedures are sufficient to encourage more effective communication regarding switching activities, specifically as the procedures relate to the positioning of rolling equipment so that the equipment is in a location that is clear of adjacent tracks.

FRA encourages railroad industry members to take action that is consistent with the preceding recommendations and to take other actions to help ensure the safety of the Nation's railroad employees. FRA may modify this Safety Advisory 2011–01, issue additional safety advisories, or take other appropriate action necessary to ensure the highest level of safety on the Nation's railroads, including pursing other corrective measures under its rail safety authority.

Issued in Washington, DC, on April 1, 2011.

Jo Strang,

Associate Administrator for Railroad Safety/ Chief Safety Officer.

[FR Doc. 2011–8232 Filed 4–6–11; 8:45 am]

BILLING CODE 4910–06–P

DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

Intent To Prepare an Environmental Impact Statement for the Downtown San Francisco Ferry Terminal Expansion Project in the City and County of San Francisco, CA

AGENCY: Federal Transit Administration (FTA), DOT.

ACTION: Notice of intent to prepare an environmental impact statement (EIS).

SUMMARY: The FTA, as the lead Federal agency, and the San Francisco Bay Area Water Emergency Transportation Authority (WETA) are planning to prepare an EIS for the proposed expansion and improvements to the Downtown San Francisco Ferry Terminal at the Port of San Francisco Ferry Building. The proposed project would serve commuters, visitors, and recreational users desiring an alternative way to cross San Francisco Bay, and reach nearby employment, entertainment, and recreational destinations in San Francisco. The project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building. In addition, the project enhances emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The EIS will be prepared in accordance with Section 102(2)C of the National Environmental Policy Act of 1969 (NEPA) and pursuant to the Council on the Environmental Quality's

regulations (40 Code of Federal Regulations [CFR] parts 1500–08) as well as provisions of the recently enacted Safe, Accountable, Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU). The purpose of this notice is to alert interested parties regarding the intent to prepare an EIS; provide information on the proposed transit project; invite participation in the EIS process, including comments on the scope of the EIS proposed in this notice; and announce when the public scoping meeting will be conducted.

DATES: Written comments on the scope of the EIS should be sent to Mike Gougherty, WETA Project Manager, by May 16, 2011. A public scoping meeting to accept comments on the scope of the EIS will be held on the following date:

• April 26, 2011, from 5:30 p.m. to 7:30 p.m., at Pier 1, Bayside Conference Room, San Francisco, California.

An interagency scoping meeting for agencies with interest in the project will be held on the following date:

• April 26, 2011 from 2 p.m. to 4 p.m. at the Pier 1, Bayside Conference Room, San Francisco, California.

The meeting will be accessible to persons with disabilities. If special translation or signing services or other special accommodations are needed, please contact Mike Gougherty at (415) 364–3189 at least 48 hours before the meeting. A scoping information packet is available on the WETA Web site at *http://www.watertransit.org* or by calling Mike Gougherty at (415) 364–3189. Copies will also be available at the scoping meeting.

ADDRESSES: Comments on the scope of the EIS will be accepted at the public scoping meeting, or written comments should be sent to Mike Gougherty, WETA Project Manager, San Francisco Bay Water Emergency Transportation Authority, Pier 9, Suite 111, The Embarcadero, San Francisco, CA, 94111.

FOR FURTHER INFORMATION CONTACT: Debra Jones, Environmental Protection Specialist, FTA, San Francisco Regional Office at (415) 744–3133.

SUPPLEMENTARY INFORMATION:

Scoping

The FTA and WETA invite all interested individuals and organizations, public agencies, and Native American Tribes to comment on the scope of the EIS, including the project's purpose and need, the alternatives to be studied, the impacts to be evaluated, and the evaluation methods to be used. Comments should address (1) feasible alternatives that may better achieve the project's need and purposes with fewer adverse impacts, and (2) any significant environmental impacts relating to the alternatives.

NEPA "scoping" (Title 40 of the CFR 1501.7) has specific and fairly limited objectives, one of which is to identify the significant issues associated with alternatives that will be examined in detail in the document, while simultaneously limiting consideration and development of issues that are not truly significant. It is in the NEPA scoping process that potentially significant environmental impacts—those that give rise to the need to prepare an environmental impact statement—should be identified; impacts that are deemed not to be significant need not be developed extensively in the context of the impact statement, thereby keeping the statement focused on impacts of consequence consistent with the ultimate objectives of the NEPA implementing regulations—"to make the environmental impact statement process more useful to decision makers and the public; and to reduce paperwork and the accumulation of extraneous background data, in order to emphasize the need to focus on real environmental issues and alternatives… [by requiring] impact statements to be concise, clear, and to the point, and supported by evidence that agencies have made the necessary environmental analyses." Executive Order 11991, of May 24, 1977.

Once the scope of the environmental study, including significant environmental issues to be addressed, is settled, a scoping report will be prepared that: (1) Documents the results of the scoping process; (2) contributes to the transparency of the process; and (3) provides a clear roadmap for concise development of the environmental document.

Purpose and Need for the Project

The purpose of the Downtown San Francisco Ferry Terminal Expansion Project is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan (IOP), and in accordance with city and regional policies to encourage transit use. Furthermore, the project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. The project objectives include:

• Accommodate WETA's projected increase in ferry ridership and related ferry arrivals and departures from the Downtown San Francisco Ferry Terminal;

• Provide a viable alternative mode of transportation that accommodates projected increases in transbay trips, and helps alleviates congestion over the Bay Bridge and through the Bay Area Rapid Transit (BART) Transbay Tube;

• Address WETA's and the Port of San Francisco's (Port) emergency response needs;

• Establish a circulation plan and improved signage that provides clear pedestrian routes for ferry to bus and ferry to rail transfers, as well as safe routes for bikes, emergency vehicles, and delivery trucks to enter, park and exit the area;

• Provide necessary landside improvements, such as designated weather-protected areas for waiting and queuing, ticket machines and fare collection equipment, improved lighting, and improved boarding and arrival/departure information to serve ferry patrons and to enhance the Ferry Building as the central point of embarkation for ferries on San Francisco Bay; and

• Enhance the area's public access and open space with design features that create attractive, safe daytime and nighttime public spaces for both ferry patrons and other users of the Ferry Building area;

• Recognize the Port's land use planning and development proposals in and around the Ferry Building so as not to preclude, conflict with, or inhibit proposed development plans in the project vicinity.

WETA recognizes and supports the Port of San Francisco's land use planning and development proposals in and around the Ferry Building, including the historic renovation of the Agricultural Building and enhancements to the Ferry Plaza area. These Port initiatives are being planned and funded independent of the WETA project and, as a result, are not included as project elements. WETA will stage construction and manage and operate ferry services so they do not preclude, conflict with, or inhibit the Port's proposed development plans in the project vicinity.

Project Location and Environmental Setting

The project is located in the northeastern section of San Francisco, California, at the San Francisco Ferry Building, situated at the foot of Market Street. The study area encompasses Port of San Francisco property between Pier 1 on the north and Pier 14 on the south, and includes the Ferry Building, ferry gates, and the Ferry Plaza.

Possible Alternatives

A study of potential ferry terminal improvements at the San Francisco Ferry Building was completed by the Port in 1994. The planning process, summarized in the Downtown San Francisco Ferry Terminal Project, Concept Design—Stage 1 Final Report, addressed deficiencies in the circulation of pedestrians across the Embarcadero and through the Ferry Building; constraints imposed by previous design modifications of the Ferry Building that obscured wayfinding to the ferry gates; limited opportunities for public gathering and access to the Bay; and restricted commercial development within the building. A variety of design, configuration, and circulation improvements were considered. The Port selected those improvements that best met its long-term public service and facility objectives, and completed those projects, including construction of Gates B and E and the south basin breakwater at Pier 14, as Phase 1 of the Downtown San Francisco Ferry Terminal Project in 2003. This project builds on the previous improvements, described under the Action Alternative below. In addition to the Action Alternative, WETA considers the effects of doing nothing, identified as the No Action Alternative. Both the Action and No Action Alternatives are being considered in the EIS, as described below.

No Action Alternative. Six ferry routes currently serve the Downtown San Francisco Ferry Terminal. Today, the Downtown San Francisco Ferry Terminal has approximately 130 ferry arrivals and departures daily, serving more than 10,000 daily ferry patrons.

The existing Ferry Terminal gate configuration serves current ferry operations and provides the circulation areas to access these gates. The No Action Alternative maintains the existing ferry services, gate configuration, and circulation areas, including the function, uses, and design of the Ferry Building, which also serves as an important public space in San Francisco. No new gates or additional boarding capacity to accommodate new ferry services would occur as part of the No Action Alternative. Similarly, circulation and boarding improvements to respond to emergency planning requirements would not be implemented.

The No Action Alternative retains vehicle circulation and drop-off areas near the Ferry Building as well as the current circulation patterns for ferry patrons to access the ferry boarding areas. Pedestrian pathways to boarding locations for San Francisco Municipal Railway (Muni) bus and streetcar lines and the Amtrak bus would remain unchanged. Programmed Transbay bus and rail transit improvements identified in the Regional Transportation Plan would be implemented as part of the No Action Alternative. This alternative serves as the baseline against which the environmental effects of the other alternatives are measured.

Action Alternative. The Action Alternative incorporates modifications and improvements to the Ferry Terminal gates and ferry boarding areas to accommodate future WETA service and increased ferry patronage. Current estimates for 2025 projected daily ridership at the Ferry Terminal are approximately 35,000 passengers. The ridership projections account for existing service, plus new ferry services from downtown San Francisco to Berkeley, Treasure Island, Hercules, Richmond, Redwood City, Martinez, and Antioch to be initiated between 2014 and 2030. Service frequencies during the day and evenings would reflect the travel demand for commute and non-commute periods. Existing services operated by others (*i.e.,* Sausalito, Larkspur, and Tiburon), and existing services operated by WETA (*i.e.,* Vallejo, Alameda/Oakland, and Alameda Harbor Bay) would remain, but the access and boarding environments for these services would be improved by the project.

In addition, landside improvements to allow staging and circulation for possible emergency evacuation at the Ferry Building are included in the Action Alternative. The modifications and improvements are the responsibility of WETA in cooperation with the Port of San Francisco, with funding coming from Regional Measure 2, State Proposition 1B, and FTA.

The WETA-sponsored improvements represent sequential construction phases (Phase 2 and Phase 3). As noted previously, the Phase 2 and Phase 3 improvements build on those elements already completed by the Port in 2003 during Phase 1. Phase 2, which is expected to be completed by 2017, will include:

- Demolition and removal of Pier ½ and Pier 2;
- Construction of Gate A in the north basin, and Gates F and G in the south basin;
- Installation of boarding area amenities such as weather-protected areas for queuing, ticket machines and fare collection equipment, improved lighting, and ferry boarding and arrival/departure information signs;
- Widening of ferry access pathways along existing pedestrian promenades, and separation of ferry patron queuing from other pedestrian and vehicular movements where possible;
- Improved wayfinding signage in the vicinity of the Ferry Building, which will indicate ferry boarding areas and transit connections; and
- Filling in the lagoon to prepare for and accommodate staging and circulation of evacuees following a catastrophic event.

As new ferry gates are constructed, existing ferry services would relocate to new gates. Pier demolition and construction activities would be staged and sequenced to allow continuity of existing ferry services during construction. Demolition of Pier ½ would precede construction of Gate A. Similarly, demolition of Pier 2 would precede construction of Gate F. Gate G, which is designated for ferry services not expected to operate until 2020 or later, would serve as a vessel layover location, temporary storage area, and emergency boarding location in the interim. WETA's capital improvement plan synchronizes the purchase or leasing of vessels to meet future service and emergency response requirements.

Phase 3 is contingent on the implementation of the Treasure Island Redevelopment Plan. At full build-out, expected to occur sometime between 2020 and 2030, new commercial, recreational, and residential facilities on Treasure Island would require additional ferry capacity to serve substantial numbers of visitors and residents. The additional capacity would be provided by larger, bow-loading vessels purchased by the Treasure Island developer, and operated by WETA. The bow-loading vessels would necessitate the redesign of Gate E to accommodate the larger ferries.

Possible Effects

The purpose of this EIS process is to study, in a public setting, the potentially significant effects of the proposed project on the quality of the human environment. Primary areas of investigation for this project include, but are not limited to: land use, development potential, displacements, historic resources, visual and aesthetic qualities, air quality, noise and vibration, dredging and bay fill requirements, hazardous materials resulting from demolition and construction activities, traffic circulation and transportation linkages, pedestrian circulation, safety, security, and emergency response, bay habitat, and cumulative impacts. The environmental analysis may reveal that

the proposed project will not affect, or affect substantially, many of those areas. However, if any adverse impacts are identified, measures to avoid, minimize, or mitigate those adverse impacts will be proposed.

FTA Procedures

Regulations implementing NEPA, as well as provisions of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU), call for public involvement in the EIS process. Section 6002 of SAFETEA–LU (23 U.S.C. 139) requires that FTA and WETA do the following: (1) Extend an invitation to other Federal and non-Federal agencies and Native American Tribes that may have an interest in the proposed project to become "participating agencies;" (2) provide an opportunity for involvement by participating agencies and the public to help define the purpose and need for a proposed project, as well as the range of alternatives for consideration in the EIS; and (3) establish a plan for coordinating public and agency participation in, and comment on, the environmental review process. An invitation to become a participating or cooperating agency, with scoping materials appended, will be extended to other Federal and non-Federal agencies and Native American Tribes that may have an interest in the proposed project. It is possible that FTA and WETA will not be able to identify all Federal and non-Federal agencies and Native American Tribes that may have such an interest. Any Federal or non-Federal agency or Native American Tribe interested in the proposed project that does not receive an invitation to become a participating agency should notify at the earliest opportunity the Project Manager identified above under **ADDRESSES**.

A comprehensive public involvement program for public and interagency involvement will be developed for the project and posted on WETA's Web site: *http://www.watertransit.org.* The public involvement program includes a full range of activities including maintaining the project Web page on the WETA Web site and outreach to local officials, community and civic groups, and the public.

Paperwork Reduction

The Paperwork Reduction Act seeks, in part, to minimize the cost to the taxpayer of the creation, collection, maintenance, use, dissemination, and disposition of information. Consistent with this goal and with principles of economy and efficiency in government, it is FTA policy to limit insofar as possible distribution of complete printed sets of environmental documents. Accordingly, unless a specific request for a complete printed set of environmental documents is received (preferably in advance of printing), FTA and its grantees will distribute only the executive summary of the environmental document together with a compact disc of the complete environmental document. A complete printed set of the environmental document will be available for review at the grantee's offices and elsewhere; an electronic copy of the complete environmental document will also be available on the grantee's Web site.

Other

The EIS will be prepared in accordance with NEPA and its implementing regulations issued by the Council on Environmental Quality (40 CFR parts 1500–1508), and with the FTA/Federal Highway Administration regulations "Environmental Impact and Related Procedures" (23 CFR part 771).

Issued on: March 31, 2011.

Leslie T. Rogers,

Regional Administrator, FTA, Region 9.

[FR Doc. 2011–8227 Filed 4–6–11; 8:45 am]

BILLING CODE 4910–57–P

DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

Notice of Limitation on Claims Against Proposed Public Transportation Projects

AGENCY: Federal Transit Administration (FTA), DOT.

ACTION: Notice of limitation on claims.

SUMMARY: This notice announces final environmental actions taken by the Federal Transit Administration (FTA) for the following projects: (1) Hatcher Pass Recreational Area Access, Trails, and Transit Facilities Project, Matanuska-Susitna Borough, Hatcher Pass, AK; (2) Bus Rapid Transit Project, Roaring Fork Transportation Authority, Pitkin, Eagle, and Garfield Counties, CO; (3) Second Avenue Subway Project, Metropolitan Transportation Authority, New York, NY; and (4) Sugar House Streetcar Project, Utah Transit Authority, South Salt Lake and Salt Lake City, Salt Lake County, UT. The purpose of this notice is to announce publicly the environmental decisions by FTA on the subject projects and to activate the limitation on any claims that may challenge these final environmental actions.

DATES: By this notice, FTA is advising the public of final agency actions subject to Section 139(l) of Title 23, United States Code (U.S.C.). A claim seeking judicial review of the FTA actions announced herein for the listed public transportation projects will be barred unless the claim is filed on or before September 30, 2011.

FOR FURTHER INFORMATION CONTACT: Katie Grasty, Environmental Protection Specialist, Office of Planning and Environment, 202–366–9139, or Christopher Van Wyk, Attorney-Advisor, Office of Chief Counsel, 202–366–1733. FTA is located at 1200 New Jersey Avenue, SE., Washington, DC 20590. Office hours are from 9 a.m. to 5:30 p.m., EST, Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION: Notice is hereby given that FTA has taken final agency actions by issuing certain approvals for the public transportation projects listed below. The actions on these projects, as well as the laws under which such actions were taken, are described in the documentation issued in connection with each project to comply with the National Environmental Policy Act (NEPA) and in other documents in the FTA administrative record for the project. Interested parties may contact either the project sponsor or the relevant FTA Regional Office for more information on these projects. Contact information for FTA's Regional Offices may be found at *http://www.fta.dot.gov.*

This notice applies to all FTA decisions on the listed projects as of the issuance date of this notice and all laws under which such actions were taken, including, but not limited to, NEPA [42 U.S.C. 4321–4375], Section 4(f) of the Department of Transportation Act of 1966 [49 U.S.C. 303], Section 106 of the National Historic Preservation Act [16 U.S.C. 470f], and the Clean Air Act [42 U.S.C. 7401–7671q]. This notice does not, however, alter or extend the limitation period of 180 days for challenges of project decisions subject to previous notices published in the **Federal Register**. For example, this notice does not extend the limitation on claims announced for earlier decisions on the Second Avenue Subway project.

The projects and actions that are the subject of this notice are:

1. *Project name and location:* Hatcher Pass Recreational Area Access, Trails, and Transit Facilities Project, Hatcher Pass, AK. *Project sponsor:* Matanuska-Susitna Borough. *Project description:* The project consists of the development of transportation access and transit-related infrastructure to improve access

APPENDIX C
SCOPING MEETING NOTICE

PROOF OF PUBLICATION

(2015.5 C.C.P.)

THE EXAMINER

71 Stevenson St, 2nd Floor, San Francisco, CA 94105
Phone 415-359-2723; Fax 415-359-2659
wweinthal@sfexaminer.com

STATE OF CALIFORNIA
County of San Francisco

SCOPING MEETING NOTICE
Mara Feeney & Associates

Walter Weinthal

deposes and says that all times herein mentioned he was and is a citizen of the United States, and a resident of the County aforesaid, over the age of eighteen years, and not a party to or interested in the above-entitled matter; and is and was during and at all said times, the Principal Clerk of the Printer and Publisher of THE EXAMINER, a newspaper of general circulation, printed and published in the County of San Francisco, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of San Francisco, State of California, under the date of October 18, 1951, Case Number 410667; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

March 31

all in the year(s) 2011

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at San Francisco, San Francisco County, California,

3/31/2011

Signature: Walter Weinthal

SCOPING MEETING NOTICE

The Federal Transit Administration and the S.F. Bay Water Emergency Transportation Authority invite you to attend a Scoping Meeting:

Tuesday, April 26, 5:30 pm
Bayside Conference Rooms
Pier 1, San Francisco CA

The purpose of the meeting is to present information on the proposed Downtown San Francisco Ferry Terminal Expansion Project, and to provide an opportunity for public comment on the scope of the environmental analysis to be conducted in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). An Open House meeting will begin at 5:30 pm, with a formal presentation at 6:15 pm. Further information is available at www.watertransit.org.

APPENDIX D
AGENCY INVITATION LETTERS

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IX
Arizona, California,
Hawaii, Nevada, Guam
American Samoa,
Northern Mariana Islands

201 Mission Street
Suite 1650
San Francisco, CA 94105-1839
415-744-3133
415-744-2726 (fax)

APR 7 2011

Mr. George Isaac
California Department of Fish and Game
20 Lower Ragsdale Drive, Suite 100
Monterey, CA 93940

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. Isaac:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users establishes an enhanced environmental review process for certain FTA projects, increasing the transparency of the process, as well as opportunities for participation. The requirements of Section 6002 apply to the project that is the subject of this letter. As part of the environmental review process for this project, the lead agencies must identify, as early as practicable, any other Federal and non-Federal agencies that may have an interest in the project, and invite such agencies to become participating agencies in the environmental review process. Your agency has been identified preliminarily as one that may have an interest in this project, because *the project could potentially affect hydrology and water quality, hazardous materials, biological resources, cultural resources, navigation, and bayside land uses*; accordingly, you are being extended this invitation to become actively involved as a participating agency in the environmental review process for the project.

As a participating agency, you will be afforded the opportunity, together with the public, to be involved in defining the purpose of and need for the project, as well as in determining the range of alternatives to be considered for the project. In addition, you will be asked to:

- Provide input on the impact assessment methodologies and level of detail in your agency's area of expertise;
- Participate in coordination meetings, conference calls, and joint field reviews, as appropriate; and
- Review and comment on sections of the pre-draft or pre-final environmental documents to communicate any concerns of your agency on the adequacy of the document, the alternatives considered, and the anticipated impacts and mitigation.

Federal agencies:

Your agency does not have to accept this invitation. If, however, you elect not to become a participating agency, you must decline this invitation in writing, indicating that your agency has no jurisdiction or authority with respect to the project, no expertise or information relevant to the project, and does not intend to submit comments on the project. The declination may be transmitted electronically to Debra Jones (debra.jones@dot.gov); please include the title of the official responding. In order to give your agency adequate opportunity to weigh the relevance of your participation in this environmental review process, written response to this invitation are not due until after the interagency scoping meeting scheduled for 2:00 to 4:00 p.m. on April 26, 2011, at the Bayside Conference Rooms, Pier 1, The Embarcadero, San Francisco. You or your delegate is invited to represent your agency at this meeting. Your agency will be treated as participating agency unless your written response declining such designation as outlined above is transmitted to this office not later than May 16, 2011.

Non-Federal agencies:

If you elect to become a participating agency, you must accept this invitation in writing. The acceptance may be transmitted electronically to Debra Jones (debra.jones@dot.gov); please include the title of the official responding. In order to give your agency adequate opportunity to weigh the relevance of your participation in this environmental review process, written responses to this invitation are not due until after the interagency scoping meeting, scheduled for 2:00 to 4:00 p.m. on April 26, 2011, at the Bayside Conference Rooms, Pier 1, The Embarcadero, San Francisco. You or your delegate is invited to represent your agency at this meeting. Written responses accepting designation as participating agencies should be transmitted to this office not later than May 16, 2011.

Additional information will be forthcoming during the scoping process. If you have questions regarding this invitation, please contact Debra Jones @ (415) 744-3112.

Sincerely,

Leslie T. Rogers
Regional Administrator

Attachments: Scoping Meeting Notice and Notice of Intent

Copy:
Michael Gougherty, Water Emergency Transportation Authority

WATER EMERGENCY TRANSPORTATION AUTHORITY

WETA

NOTICE OF PUBLIC SCOPING MEETING

Downtown San Francisco Ferry Terminal Expansion Project
Water Emergency Transportation Authority (WETA)
Federal Transit Administration (FTA)

As the federal and local Lead Agencies, respectively, the FTA and WETA are preparing a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the proposed expansion and improvements to the Downtown San Francisco Ferry Terminal at the Port of San Francisco Ferry Building. The EIS/EIR will be prepared to satisfy the requirements of the National Environmental Policy Act and the California Environmental Quality Act.

Project Location:
The project is located in the northeastern section of San Francisco, California, at the San Francisco Ferry Building, situated at the foot of Market Street. The study area encompasses Port of San Francisco property between Pier 1 on the north and Pier 14 on the south, and includes the Ferry Building, ferry gates, and the Ferry Plaza.

Project Description:
The purpose of the Downtown San Francisco Ferry Terminal Expansion Project is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. Furthermore, the project would address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal.

The project would expand the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building. In addition, the project would enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs.

The WETA-sponsored improvements represent the continuation of improvements at the San Francisco Ferry Terminal and would include:

- Demolition and removal of Pier ½ and Pier 2;
- Construction of Gate A in the north basin, and Gates F and G in the south basin;
- Installation of boarding area amenities such as weather-protected areas for queuing, ticket machines and fare collection equipment, improved lighting, and ferry boarding and arrival/departure information signs;
- Widening of ferry access pathways along existing pedestrian promenades, and separation of ferry patron queuing from other pedestrian and vehicular movements where possible;
- Improved wayfinding signage in the vicinity of the Ferry Building, that will indicate ferry boarding areas and transit connections; and
- Filling in the lagoon to prepare for and accommodate staging and circulation of evacuees following a catastrophic event.

Public Scoping Meeting: The purpose of the Scoping Meeting is to present information regarding the environmental review process, and to provide opportunities for public input on the scope of the environmental analysis to be conducted for this project. Information about future opportunities for public comment will also be provided. A resource agency staff meeting (also open to the public) will take place in the same location from 2:00 p.m. to 4:00 p.m.

The public scoping meeting will be held:

April 26, 2011
Open House 5:30 p.m., presentation 6:15 p.m.
Bayside Conference Rooms
Pier 1, The Embarcadero
San Francisco, CA 94111

A Notice of Preparation and Notice of Intent are being circulated by WETA and FTA for the purpose of defining the scope and content of the EIS/EIR. The 45-day period for the public to provide comments ends on May 16, 2011. Copies of the Notice of Preparation and Notice of Intent are available for public review via the web at: http://www.watertransit.org/, or at WETA's office: Pier 9, Suite 111, The Embarcadero, San Francisco, CA.

For More Information: Please direct questions regarding the Scoping Meeting to Mike Gougherty, WETA Project Manager, at (415) 364-3189. The meeting will be accessible to persons with disabilities. If special translation or signing services or other special accommodations are needed, please contact Mike Gougherty at least 48 hours before the meeting.

If you are not able to attend the Scoping Meeting but would like to provide written comments for consideration in the EIS/EIR, please send to:

Mike Gougherty
WETA Project Manager
San Francisco Bay Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111.

Comments must be received by May 16, 2011 to be considered.

A fact sheet providing further details about the proposed project can be found at: http://www.watertransit.org/.

responsibility for the incidents on the acts or omissions of any person or entity.

Two railroad employees, while each riding the side of rolling equipment to protect a shoving movement, were fatally injured (in separate incidents) when the equipment they were riding struck other equipment that was left out to foul. A common factor in both accidents was that the equipment was left in a location where it fouled an adjacent track by the very employees who were involved in the incidents.

The first incident occurred on September 2, 2010, in Bridgeport, New Jersey, when a conventional two-person switching crew was shoving rolling equipment into an industrial facility. The locomotive engineer was in the locomotive control compartment and the conductor was positioned on the leading end of a tank car directing the shoving move. The conductor had one foot on the end platform and the other on the side ladder tread as he began to pass a tank car that he had spotted at that location the previous day. Unfortunately, the car had been left in the foul of the adjacent track and the cars struck each other; the conductor sustained fatal injuries.

The second incident occurred on February 8, 2011, in Kankakee, Illinois. A conventional switching crew that consisted of a conductor, engineer, and a conductor-in-training was switching cars on a switching lead track and using various other yard tracks. The crew had left a car on one of the yard tracks in a location where it was in the foul of an adjacent track. Shortly thereafter, the conductor and conductor-in-training boarded opposite sides of the leading end of a gondola car and began a shoving movement. Subsequently, the side of the gondola on which the conductor was riding struck the car that was previously left in the foul of the adjacent track. The conductor was crushed between the two cars and sustained fatal injuries.

Although the preponderance of incidents involving equipment that is left in the foul of an adjacent track fortunately only result in railroad property damage, the potential for injury or death in such instances is always present. By issuing this safety advisory, FRA is reminding all stakeholders of the importance of situational awareness and compliance with all applicable operating and safety rules, particularly those related to leaving rolling equipment in a location that is clear of adjacent tracks.

FRA Action: Despite the significant reduction in train accidents caused by equipment being left in the foul of an adjacent track, a review of FRA's inspection data relative to 49 CFR 218.101 indicates a disturbing trend. From calendar year (CY) 2009 to CY 2010, violations of 49 CFR 218.101 recommended for prosecution by FRA inspectors increased 124 percent. Based on the results of inspection data for the first 2 months of 2011, if trends continue, violations recommended for prosecution in 2011 versus 2010 would increase by an additional 81 percent. Whether the increase in violations is due to greater vigilance by FRA or is due to an actual increase in the number of instances where equipment is being left in such locations, FRA intends to ensure that railroads take necessary steps to prevent and reduce the potential trend indicated by the statistics noted above.

Over the next several months, FRA intends to increase its inspection activity to focus on compliance with railroad operating rules that address all of the requirements contained in Subpart F. Particular emphasis will be placed on the requirements contained in 49 CFR 218.101. FRA will also focus its inspection efforts on railroad operational testing activity, particularly as it relates to Subpart F. FRA strongly encourages railroad industry members to reemphasize the importance of leaving equipment in the clear as frequently as possible, and to take such other actions as may help ensure safety on the Nation's railroads.

Recommended Railroad Action: In light of the recent accidents discussed above, and in an effort to maintain the safety of railroad employees on the Nation's rail system, FRA recommends that railroads:

(1) Review with employees the circumstances of the two most recent fatal incidents;

(2) Reinstruct supervisors and employees on the operating and safety rules applicable to leaving rolling equipment in a location that is clear of adjacent tracks. Particular emphasis should be placed on the procedures that enable employees to identify clearance points and the means to identify locations where clearance points will not permit a person to safely ride on the side of a car;

(3) Increase operational testing on those operating and safety rules that pertain to leaving rolling equipment in a location that is clear of adjacent tracks; and

(4) Review current job briefing procedures among coworkers and determine if the procedures are sufficient to encourage more effective communication regarding switching activities, specifically as the procedures relate to the positioning of rolling equipment so that the equipment is in a location that is clear of adjacent tracks.

FRA encourages railroad industry members to take action that is consistent with the preceding recommendations and to take other actions to help ensure the safety of the Nation's railroad employees. FRA may modify this Safety Advisory 2011–01, issue additional safety advisories, or take other appropriate action necessary to ensure the highest level of safety on the Nation's railroads, including pursing other corrective measures under its rail safety authority.

Issued in Washington, DC, on April 1, 2011.

Jo Strang,

Associate Administrator for Railroad Safety/ Chief Safety Officer.

[FR Doc. 2011–8232 Filed 4–6–11; 8:45 am]

BILLING CODE 4910–06–P

DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

Intent To Prepare an Environmental Impact Statement for the Downtown San Francisco Ferry Terminal Expansion Project in the City and County of San Francisco, CA

AGENCY: Federal Transit Administration (FTA), DOT.

ACTION: Notice of intent to prepare an environmental impact statement (EIS).

SUMMARY: The FTA, as the lead Federal agency, and the San Francisco Bay Area Water Emergency Transportation Authority (WETA) are planning to prepare an EIS for the proposed expansion and improvements to the Downtown San Francisco Ferry Terminal at the Port of San Francisco Ferry Building. The proposed project would serve commuters, visitors, and recreational users desiring an alternative way to cross San Francisco Bay, and reach nearby employment, entertainment, and recreational destinations in San Francisco. The project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building. In addition, the project enhances emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The EIS will be prepared in accordance with Section 102(2)C of the National Environmental Policy Act of 1969 (NEPA) and pursuant to the Council on the Environmental Quality's

regulations (40 Code of Federal Regulations [CFR] parts 1500–08) as well as provisions of the recently enacted Safe, Accountable, Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU). The purpose of this notice is to alert interested parties regarding the intent to prepare an EIS; provide information on the proposed transit project; invite participation in the EIS process, including comments on the scope of the EIS proposed in this notice; and announce when the public scoping meeting will be conducted.

DATES: Written comments on the scope of the EIS should be sent to Mike Gougherty, WETA Project Manager, by May 16, 2011. A public scoping meeting to accept comments on the scope of the EIS will be held on the following date:

• April 26, 2011, from 5:30 p.m. to 7:30 p.m., at Pier 1, Bayside Conference Room, San Francisco, California.

An interagency scoping meeting for agencies with interest in the project will be held on the following date:

• April 26, 2011 from 2 p.m. to 4 p.m. at the Pier 1, Bayside Conference Room, San Francisco, California.

The meeting will be accessible to persons with disabilities. If special translation or signing services or other special accommodations are needed, please contact Mike Gougherty at (415) 364–3189 at least 48 hours before the meeting. A scoping information packet is available on the WETA Web site at *http://www.watertransit.org* or by calling Mike Gougherty at (415) 364–3189. Copies will also be available at the scoping meeting.

ADDRESSES: Comments on the scope of the EIS will be accepted at the public scoping meeting, or written comments should be sent to Mike Gougherty, WETA Project Manager, San Francisco Bay Water Emergency Transportation Authority, Pier 9, Suite 111, The Embarcadero, San Francisco, CA, 94111.

FOR FURTHER INFORMATION CONTACT: Debra Jones, Environmental Protection Specialist, FTA, San Francisco Regional Office at (415) 744–3133.

SUPPLEMENTARY INFORMATION:

Scoping

The FTA and WETA invite all interested individuals and organizations, public agencies, and Native American Tribes to comment on the scope of the EIS, including the project's purpose and need, the alternatives to be studied, the impacts to be evaluated, and the evaluation methods to be used. Comments should address (1) feasible alternatives that may better achieve the project's need and purposes with fewer adverse impacts, and (2) any significant environmental impacts relating to the alternatives.

NEPA "scoping" (Title 40 of the CFR 1501.7) has specific and fairly limited objectives, one of which is to identify the significant issues associated with alternatives that will be examined in detail in the document, while simultaneously limiting consideration and development of issues that are not truly significant. It is in the NEPA scoping process that potentially significant environmental impacts—those that give rise to the need to prepare an environmental impact statement—should be identified; impacts that are deemed not to be significant need not be developed extensively in the context of the impact statement, thereby keeping the statement focused on impacts of consequence consistent with the ultimate objectives of the NEPA implementing regulations—"to make the environmental impact statement process more useful to decision makers and the public; and to reduce paperwork and the accumulation of extraneous background data, in order to emphasize the need to focus on real environmental issues and alternatives... [by requiring] impact statements to be concise, clear, and to the point, and supported by evidence that agencies have made the necessary environmental analyses." Executive Order 11991, of May 24, 1977.

Once the scope of the environmental study, including significant environmental issues to be addressed, is settled, a scoping report will be prepared that: (1) Documents the results of the scoping process; (2) contributes to the transparency of the process; and (3) provides a clear roadmap for concise development of the environmental document.

Purpose and Need for the Project

The purpose of the Downtown San Francisco Ferry Terminal Expansion Project is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan (IOP), and in accordance with city and regional policies to encourage transit use. Furthermore, the project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. The project objectives include:

• Accommodate WETA's projected increase in ferry ridership and related ferry arrivals and departures from the Downtown San Francisco Ferry Terminal;

• Provide a viable alternative mode of transportation that accommodates projected increases in transbay trips, and helps alleviates congestion over the Bay Bridge and through the Bay Area Rapid Transit (BART) Transbay Tube;

• Address WETA's and the Port of San Francisco's (Port) emergency response needs;

• Establish a circulation plan and improved signage that provides clear pedestrian routes for ferry to bus and ferry to rail transfers, as well as safe routes for bikes, emergency vehicles, and delivery trucks to enter, park and exit the area;

• Provide necessary landside improvements, such as designated weather-protected areas for waiting and queuing, ticket machines and fare collection equipment, improved lighting, and improved boarding and arrival/departure information to serve ferry patrons and to enhance the Ferry Building as the central point of embarkation for ferries on San Francisco Bay; and

• Enhance the area's public access and open space with design features that create attractive, safe daytime and nighttime public spaces for both ferry patrons and other users of the Ferry Building area;

• Recognize the Port's land use planning and development proposals in and around the Ferry Building so as not to preclude, conflict with, or inhibit proposed development plans in the project vicinity.

WETA recognizes and supports the Port of San Francisco's land use planning and development proposals in and around the Ferry Building, including the historic renovation of the Agricultural Building and enhancements to the Ferry Plaza area. These Port initiatives are being planned and funded independent of the WETA project and, as a result, are not included as project elements. WETA will stage construction and manage and operate ferry services so they do not preclude, conflict with, or inhibit the Port's proposed development plans in the project vicinity.

Project Location and Environmental Setting

The project is located in the northeastern section of San Francisco, California, at the San Francisco Ferry Building, situated at the foot of Market Street. The study area encompasses Port of San Francisco property between Pier 1 on the north and Pier 14 on the south, and includes the Ferry Building, ferry gates, and the Ferry Plaza.

Possible Alternatives

A study of potential ferry terminal improvements at the San Francisco Ferry Building was completed by the Port in 1994. The planning process, summarized in the Downtown San Francisco Ferry Terminal Project, Concept Design—Stage 1 Final Report, addressed deficiencies in the circulation of pedestrians across the Embarcadero and through the Ferry Building; constraints imposed by previous design modifications of the Ferry Building that obscured wayfinding to the ferry gates; limited opportunities for public gathering and access to the Bay; and restricted commercial development within the building. A variety of design, configuration, and circulation improvements were considered. The Port selected those improvements that best met its long-term public service and facility objectives, and completed those projects, including construction of Gates B and E and the south basin breakwater at Pier 14, as Phase 1 of the Downtown San Francisco Ferry Terminal Project in 2003. This project builds on the previous improvements, described under the Action Alternative below. In addition to the Action Alternative, WETA considers the effects of doing nothing, identified as the No Action Alternative. Both the Action and No Action Alternatives are being considered in the EIS, as described below.

No Action Alternative. Six ferry routes currently serve the Downtown San Francisco Ferry Terminal. Today, the Downtown San Francisco Ferry Terminal has approximately 130 ferry arrivals and departures daily, serving more than 10,000 daily ferry patrons.

The existing Ferry Terminal gate configuration serves current ferry operations and provides the circulation areas to access these gates. The No Action Alternative maintains the existing ferry services, gate configuration, and circulation areas, including the function, uses, and design of the Ferry Building, which also serves as an important public space in San Francisco. No new gates or additional boarding capacity to accommodate new ferry services would occur as part of the No Action Alternative. Similarly, circulation and boarding improvements to respond to emergency planning requirements would not be implemented.

The No Action Alternative retains vehicle circulation and drop-off areas near the Ferry Building as well as the current circulation patterns for ferry patrons to access the ferry boarding areas. Pedestrian pathways to boarding locations for San Francisco Municipal Railway (Muni) bus and streetcar lines and the Amtrak bus would remain unchanged. Programmed Transbay bus and rail transit improvements identified in the Regional Transportation Plan would be implemented as part of the No Action Alternative. This alternative serves as the baseline against which the environmental effects of the other alternatives are measured.

Action Alternative. The Action Alternative incorporates modifications and improvements to the Ferry Terminal gates and ferry boarding areas to accommodate future WETA service and increased ferry patronage. Current estimates for 2025 projected daily ridership at the Ferry Terminal are approximately 35,000 passengers. The ridership projections account for existing service, plus new ferry services from downtown San Francisco to Berkeley, Treasure Island, Hercules, Richmond, Redwood City, Martinez, and Antioch to be initiated between 2014 and 2030. Service frequencies during the day and evenings would reflect the travel demand for commute and non-commute periods. Existing services operated by others (*i.e.*, Sausalito, Larkspur, and Tiburon), and existing services operated by WETA (*i.e.*, Vallejo, Alameda/Oakland, and Alameda Harbor Bay) would remain, but the access and boarding environments for these services would be improved by the project.

In addition, landside improvements to allow staging and circulation for possible emergency evacuation at the Ferry Building are included in the Action Alternative. The modifications and improvements are the responsibility of WETA in cooperation with the Port of San Francisco, with funding coming from Regional Measure 2, State Proposition 1B, and FTA.

The WETA-sponsored improvements represent sequential construction phases (Phase 2 and Phase 3). As noted previously, the Phase 2 and Phase 3 improvements build on those elements already completed by the Port in 2003 during Phase 1. Phase 2, which is expected to be completed by 2017, will include:

- Demolition and removal of Pier ½ and Pier 2;
- Construction of Gate A in the north basin, and Gates F and G in the south basin;
- Installation of boarding area amenities such as weather-protected areas for queuing, ticket machines and fare collection equipment, improved lighting, and ferry boarding and arrival/departure information signs;
- Widening of ferry access pathways along existing pedestrian promenades, and separation of ferry patron queuing from other pedestrian and vehicular movements where possible;
- Improved wayfinding signage in the vicinity of the Ferry Building, which will indicate ferry boarding areas and transit connections; and
- Filling in the lagoon to prepare for and accommodate staging and circulation of evacuees following a catastrophic event.

As new ferry gates are constructed, existing ferry services would relocate to new gates. Pier demolition and construction activities would be staged and sequenced to allow continuity of existing ferry services during construction. Demolition of Pier ½ would precede construction of Gate A. Similarly, demolition of Pier 2 would precede construction of Gate F. Gate G, which is designated for ferry services not expected to operate until 2020 or later, would serve as a vessel layover location, temporary storage area, and emergency boarding location in the interim. WETA's capital improvement plan synchronizes the purchase or leasing of vessels to meet future service and emergency response requirements.

Phase 3 is contingent on the implementation of the Treasure Island Redevelopment Plan. At full build-out, expected to occur sometime between 2020 and 2030, new commercial, recreational, and residential facilities on Treasure Island would require additional ferry capacity to serve substantial numbers of visitors and residents. The additional capacity would be provided by larger, bow-loading vessels purchased by the Treasure Island developer, and operated by WETA. The bow-loading vessels would necessitate the redesign of Gate E to accommodate the larger ferries.

Possible Effects

The purpose of this EIS process is to study, in a public setting, the potentially significant effects of the proposed project on the quality of the human environment. Primary areas of investigation for this project include, but are not limited to: land use, development potential, displacements, historic resources, visual and aesthetic qualities, air quality, noise and vibration, dredging and bay fill requirements, hazardous materials resulting from demolition and construction activities, traffic circulation and transportation linkages, pedestrian circulation, safety, security, and emergency response, bay habitat, and cumulative impacts. The environmental analysis may reveal that

the proposed project will not affect, or affect substantially, many of those areas. However, if any adverse impacts are identified, measures to avoid, minimize, or mitigate those adverse impacts will be proposed.

FTA Procedures

Regulations implementing NEPA, as well as provisions of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU), call for public involvement in the EIS process. Section 6002 of SAFETEA–LU (23 U.S.C. 139) requires that FTA and WETA do the following: (1) Extend an invitation to other Federal and non-Federal agencies and Native American Tribes that may have an interest in the proposed project to become "participating agencies;" (2) provide an opportunity for involvement by participating agencies and the public to help define the purpose and need for a proposed project, as well as the range of alternatives for consideration in the EIS; and (3) establish a plan for coordinating public and agency participation in, and comment on, the environmental review process. An invitation to become a participating or cooperating agency, with scoping materials appended, will be extended to other Federal and non-Federal agencies and Native American Tribes that may have an interest in the proposed project. It is possible that FTA and WETA will not be able to identify all Federal and non-Federal agencies and Native American Tribes that may have such an interest. Any Federal or non-Federal agency or Native American Tribe interested in the proposed project that does not receive an invitation to become a participating agency should notify at the earliest opportunity the Project Manager identified above under **ADDRESSES**.

A comprehensive public involvement program for public and interagency involvement will be developed for the project and posted on WETA's Web site: *http://www.watertransit.org*. The public involvement program includes a full range of activities including maintaining the project Web page on the WETA Web site and outreach to local officials, community and civic groups, and the public.

Paperwork Reduction

The Paperwork Reduction Act seeks, in part, to minimize the cost to the taxpayer of the creation, collection, maintenance, use, dissemination, and disposition of information. Consistent with this goal and with principles of economy and efficiency in government, it is FTA policy to limit insofar as possible distribution of complete printed sets of environmental documents. Accordingly, unless a specific request for a complete printed set of environmental documents is received (preferably in advance of printing), FTA and its grantees will distribute only the executive summary of the environmental document together with a compact disc of the complete environmental document. A complete printed set of the environmental document will be available for review at the grantee's offices and elsewhere; an electronic copy of the complete environmental document will also be available on the grantee's Web site.

Other

The EIS will be prepared in accordance with NEPA and its implementing regulations issued by the Council on Environmental Quality (40 CFR parts 1500–1508), and with the FTA/Federal Highway Administration regulations "Environmental Impact and Related Procedures" (23 CFR part 771).

Issued on: March 31, 2011.

Leslie T. Rogers,

Regional Administrator, FTA, Region 9.

[FR Doc. 2011–8227 Filed 4–6–11; 8:45 am]

BILLING CODE 4910–57–P

DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

Notice of Limitation on Claims Against Proposed Public Transportation Projects

AGENCY: Federal Transit Administration (FTA), DOT.

ACTION: Notice of limitation on claims.

SUMMARY: This notice announces final environmental actions taken by the Federal Transit Administration (FTA) for the following projects: (1) Hatcher Pass Recreational Area Access, Trails, and Transit Facilities Project, Matanuska-Susitna Borough, Hatcher Pass, AK; (2) Bus Rapid Transit Project, Roaring Fork Transportation Authority, Pitkin, Eagle, and Garfield Counties, CO; (3) Second Avenue Subway Project, Metropolitan Transportation Authority, New York, NY; and (4) Sugar House Streetcar Project, Utah Transit Authority, South Salt Lake and Salt Lake City, Salt Lake County, UT. The purpose of this notice is to announce publicly the environmental decisions by FTA on the subject projects and to activate the limitation on any claims that may challenge these final environmental actions.

DATES: By this notice, FTA is advising the public of final agency actions subject to Section 139(l) of Title 23, United States Code (U.S.C.). A claim seeking judicial review of the FTA actions announced herein for the listed public transportation projects will be barred unless the claim is filed on or before September 30, 2011.

FOR FURTHER INFORMATION CONTACT: Katie Grasty, Environmental Protection Specialist, Office of Planning and Environment, 202–366–9139, or Christopher Van Wyk, Attorney-Advisor, Office of Chief Counsel, 202–366–1733. FTA is located at 1200 New Jersey Avenue, SE., Washington, DC 20590. Office hours are from 9 a.m. to 5:30 p.m., EST, Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION: Notice is hereby given that FTA has taken final agency actions by issuing certain approvals for the public transportation projects listed below. The actions on these projects, as well as the laws under which such actions were taken, are described in the documentation issued in connection with each project to comply with the National Environmental Policy Act (NEPA) and in other documents in the FTA administrative record for the project. Interested parties may contact either the project sponsor or the relevant FTA Regional Office for more information on these projects. Contact information for FTA's Regional Offices may be found at *http://www.fta.dot.gov*.

This notice applies to all FTA decisions on the listed projects as of the issuance date of this notice and all laws under which such actions were taken, including, but not limited to, NEPA [42 U.S.C. 4321–4375], Section 4(f) of the Department of Transportation Act of 1966 [49 U.S.C. 303], Section 106 of the National Historic Preservation Act [16 U.S.C. 470f], and the Clean Air Act [42 U.S.C. 7401–7671q]. This notice does not, however, alter or extend the limitation period of 180 days for challenges of project decisions subject to previous notices published in the **Federal Register**. For example, this notice does not extend the limitation on claims announced for earlier decisions on the Second Avenue Subway project.

The projects and actions that are the subject of this notice are:

1. *Project name and location:* Hatcher Pass Recreational Area Access, Trails, and Transit Facilities Project, Hatcher Pass, AK. *Project sponsor:* Matanuska-Susitna Borough. *Project description:* The project consists of the development of transportation access and transit-related infrastructure to improve access

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IX
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201 Mission Street
Suite 1650
San Francisco, CA 94105-1839
415-744-3133
415-744-2726 (fax)

APR 7 2011

Mr. Gary Stern
SF Bay Region Supervisor
National Oceanographic and Atmospheric Administration Fisheries
– National Marine Fisheries Service
777 Sonoma Avenue, Room 325
Santa Rosa, CA 95404

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. Stern:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users establishes an enhanced environmental review process for certain FTA projects, increasing the transparency of the process, as well as opportunities for participation. The requirements of Section 6002 apply to the project that is the subject of this letter. As part of the environmental review process for this project, the lead agencies must identify, as early as practicable, any other Federal and non-Federal agencies that may have an interest in the project, and invite such agencies to become participating agencies in the environmental review process. Your agency has been identified preliminarily as one that may have an interest in this project, because *the project could potentially affect hydrology and water quality, hazardous materials, biological resources, cultural resources, navigation, and bayside land uses*; accordingly, you are being extended this invitation to become actively involved as a participating agency in the environmental review process for the project.

As a participating agency, you will be afforded the opportunity, together with the public, to be involved in defining the purpose of and need for the project, as well as in determining the range of alternatives to be considered for the project. In addition, you will be asked to:

- Provide input on the impact assessment methodologies and level of detail in your agency's area of expertise;
- Participate in coordination meetings, conference calls, and joint field reviews, as appropriate; and
- Review and comment on sections of the pre-draft or pre-final environmental documents to communicate any concerns of your agency on the adequacy of the document, the alternatives considered, and the anticipated impacts and mitigation.

Federal agencies:

Your agency does not have to accept this invitation. If, however, you elect not to become a participating agency, you must decline this invitation in writing, indicating that your agency has no jurisdiction or authority with respect to the project, no expertise or information relevant to the project, and does not intend to submit comments on the project. The declination may be transmitted electronically to Debra Jones (debra.jones@dot.gov); please include the title of the official responding. In order to give your agency adequate opportunity to weigh the relevance of your participation in this environmental review process, written response to this invitation are not due until after the interagency scoping meeting scheduled for 2:00 to 4:00 p.m. on April 26, 2011, at the Bayside Conference Rooms, Pier 1, The Embarcadero, San Francisco. You or your delegate is invited to represent your agency at this meeting. Your agency will be treated as participating agency unless your written response declining such designation as outlined above is transmitted to this office not later than May 16, 2011.

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Additional information will be forthcoming during the scoping process. If you have questions regarding this invitation, please contact Debra Jones @ (415) 744-3112.

Sincerely,

Leslie T. Rogers
Regional Administrator

Attachments: Scoping Meeting Notice and Notice of Intent

Copy:
Michael Gougherty, Water Emergency Transportation Authority

U.S. Department
of Transportation
**Federal Transit
Administration**

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APR 7 2011

Thomas R. Kendall
Chief of Planning Branch, SF District
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103-1399

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. Kendall:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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Sincerely,

Leslie T. Rogers
Regional Administrator

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Michael Gougherty, Water Emergency Transportation Authority

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APR 7 2011

Mr. Joe LaClair
Chief Planning Officer
San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. LaClair:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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Sincerely,

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Regional Administrator

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Michael Gougherty, Water Emergency Transportation Authority

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APR 7 2011

Ms. Leann Lusk
Lieutenant Commander
U.S. Coast Guard, San Francisco Sector
1 Yerba Buena Island, Bldg. 278
San Francisco, CA 94130

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Ms. Lusk:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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Leslie T. Rogers
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APR 7 2011

Ms. Leann Lusk
Lieutenant Commander
U.S. Coast Guard, San Francisco Sector
1 Yerba Buena Island, Bldg. 278
San Francisco, CA 94130

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Leslie T. Rogers
Regional Administrator

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415-744-3133
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APR 7 2011

Mr. Enrique Manzanilla
Director, Community and Ecosystems Division
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. ~~Manzanilla~~ Enrique:

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Additional information will be forthcoming during the scoping process. If you have questions regarding this invitation, please contact Debra Jones @ (415) 744-3112.

Sincerely,

Leslie T. Rogers
Regional Administrator

Attachments: Scoping Meeting Notice and Notice of Intent

Copy:
Michael Gougherty, Water Emergency Transportation Authority

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IX
Arizona, California,
Hawaii, Nevada, Guam
American Samoa,
Northern Mariana Islands

201 Mission Street
Suite 1650
San Francisco, CA 94105-1839
415-744-3133
415-744-2726 (fax)

APR 7 2011

Mr. Brad McCrea
Regulatory Program Director
San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. McCrea:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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As a participating agency, you will be afforded the opportunity, together with the public, to be involved in defining the purpose of and need for the project, as well as in determining the range of alternatives to be considered for the project. In addition, you will be asked to:

- Provide input on the impact assessment methodologies and level of detail in your agency's area of expertise;
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APR 7 2011

Mr. Jonathan Stern
Port of San Francisco
Pier 1, The Embarcadero
San Francisco, CA 94111

Re: Invitation to Participate in the Environmental Review Process for the Downtown San Francisco Ferry Terminal Expansion Project

Dear Mr. Stern:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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Sincerely,

Leslie T. Rogers
Regional Administrator

Enclosure: Scoping Meeting Notice and Notice of Intent

Copy: Michael Gougherty, Water Emergency Transportation Authority

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**Federal Transit
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APR 7 2011

Mr. William C. Norton
Executive Officer/Air Pollution Control Officer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. Norton:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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Regional Administrator

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Michael Gougherty, Water Emergency Transportation Authority

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415-744-3133
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APR 18 2011

Mr. Al Storm
California Department of Fish and Game
PO Box 94244
Sacramento, CA 94244

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. Storm:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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Sincerely,

Leslie T. Rogers
Regional Administrator

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Michael Gougherty, Water Emergency Transportation Authority

U.S. Department
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San Francisco, CA 94105-1839
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APR 18 2011

Will Travis
Executive Director
San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. Travis:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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Sincerely,

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Regional Administrator

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APR 18 2011

Mr. Bruce Wolfe
Executive Officer
Regional Water Quality Control Board (RWQCB)
1515 Clay Street, Suite 1400
Oakland, CA 94612

Re: Invitation to Participate in the Environmental Review Process for the Downtown San Francisco Ferry Terminal Expansion Project

Dear Mr. Wolfe:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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APR 18 2011

Mr. Ryan Olah
Coast Bay Delta Chief
U.S. Fish and Wildlife Service (FWS)
2800 Cottage Way, Room W2605
Sacramento, CA 95828

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Mr. Olah:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users establishes an enhanced environmental review process for certain FTA projects, increasing the transparency of the process, as well as opportunities for participation. The requirements of Section 6002 apply to the project that is the subject of this letter. As part of the environmental review process for this project, the lead agencies must identify, as early as practicable, any other Federal and non-Federal agencies that may have an interest in the project, and invite such agencies to become participating agencies in the environmental review process. Your agency has been identified preliminarily as one that may have an interest in this project, because *the project could potentially affect hydrology and water quality, hazardous materials, biological resources, cultural resources, navigation, and bayside land uses*; accordingly, you are being extended this invitation to become actively involved as a participating agency in the environmental review process for the project.

As a participating agency, you will be afforded the opportunity, together with the public, to be involved in defining the purpose of and need for the project, as well as in determining the range of alternatives to be considered for the project. In addition, you will be asked to:

- Provide input on the impact assessment methodologies and level of detail in your agency's area of expertise;
- Participate in coordination meetings, conference calls, and joint field reviews, as appropriate; and
- Review and comment on sections of the pre-draft or pre-final environmental documents to communicate any concerns of your agency on the adequacy of the document, the alternatives considered, and the anticipated impacts and mitigation.

Federal agencies:

Your agency does not have to accept this invitation. If, however, you elect not to become a participating agency, you must decline this invitation in writing, indicating that your agency has no jurisdiction or authority with respect to the project, no expertise or information relevant to the project, and does not intend to submit comments on the project. The declination may be transmitted electronically to Debra Jones (debra.jones@dot.gov); please include the title of the official responding. In order to give your agency adequate opportunity to weigh the relevance of your participation in this environmental review process, written response to this invitation are not due until after the interagency scoping meeting scheduled for 2:00 to 4:00 p.m. on April 26, 2011, at the Bayside Conference Rooms, Pier 1, The Embarcadero, San Francisco. You or your delegate is invited to represent your agency at this meeting. Your agency will be treated as participating agency unless your written response declining such designation as outlined above is transmitted to this office not later than May 16, 2011.

Non-Federal agencies:

If you elect to become a participating agency, you must accept this invitation in writing. The acceptance may be transmitted electronically to Debra Jones (debra.jones@dot.gov); please include the title of the official responding. In order to give your agency adequate opportunity to weigh the relevance of your participation in this environmental review process, written responses to this invitation are not due until after the interagency scoping meeting, scheduled for 2:00 to 4:00 p.m. on April 26, 2011, at the Bayside Conference Rooms, Pier 1, The Embarcadero, San Francisco. You or your delegate is invited to represent your agency at this meeting. Written responses accepting designation as participating agencies should be transmitted to this office not later than May 16, 2011.

Additional information will be forthcoming during the scoping process. If you have questions regarding this invitation, please contact Debra Jones @ (415) 744-3112.

Sincerely,

Leslie T. Rogers
Regional Administrator

Attachments: Scoping Meeting Notice and Notice of Intent

Copy:
Michael Gougherty, Water Emergency Transportation Authority

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IX
Arizona, California,
Hawaii, Nevada, Guam
American Samoa,
Northern Mariana Islands

201 Mission Street
Suite 1650
San Francisco, CA 94105-1839
415-744-3133
415-744-2726 (fax)

APR 18 2011

Ms. Korie Schaeffer
Fishery Biologist
National Oceanographic and Atmospheric Administration Fisheries
– National Marine Fisheries Service (NMFS)
777 Sonoma Ave., Room 325
Santa Rosa, CA 95404

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Ms. Schaeffer:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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Additional information will be forthcoming during the scoping process. If you have questions regarding this invitation, please contact Debra Jones @ (415) 744-3112.

Sincerely,

Leslie T. Rogers
Regional Administrator

Attachments: Scoping Meeting Notice and Notice of Intent

Copy:
Michael Gougherty, Water Emergency Transportation Authority

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IX
Arizona, California,
Hawaii, Nevada, Guam
American Samoa,
Northern Mariana Islands

201 Mission Street
Suite 1650
San Francisco, CA 94105-1839
415-744-3133
415-744-2726 (fax)

APR 18 2011

Nanci Smith
California State Lands Commission
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

Re: Invitation to Participate in the
Environmental Review Process for the
Downtown San Francisco Ferry Terminal
Expansion Project

Dear Ms. Smith:

The Federal Transit Administration (FTA), in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) is initiating the preparation of an Environmental Impact Statement and Environmental Impact Report for the proposed Downtown San Francisco Ferry Terminal Expansion Project. The proposed project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building located at the foot of Market Street in downtown San Francisco. The purpose of the project, as currently defined, is to support and expand ferry service on San Francisco Bay, as established by WETA in its Implementation and Operations Plan, and in accordance with city and regional policies to encourage transit use. The project will address deficiencies in the transportation network that impede ferry operation and ferry patron access and circulation at the Downtown San Francisco Ferry Terminal. In addition, the project will enhance emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs. The enclosed Scoping Meeting Notice and Notice of Intent provide more details.

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Additional information will be forthcoming during the scoping process. If you have questions regarding this invitation, please contact Debra Jones @ (415) 744-3112.

Sincerely,

Leslie T. Rogers
Regional Administrator

Attachments: Scoping Meeting Notice and Notice of Intent

Copy:
Michael Gougherty, Water Emergency Transportation Authority

APPENDIX E
FACT SHEET

Downtown San Francisco Ferry Terminal Expansion Project

Fact Sheet

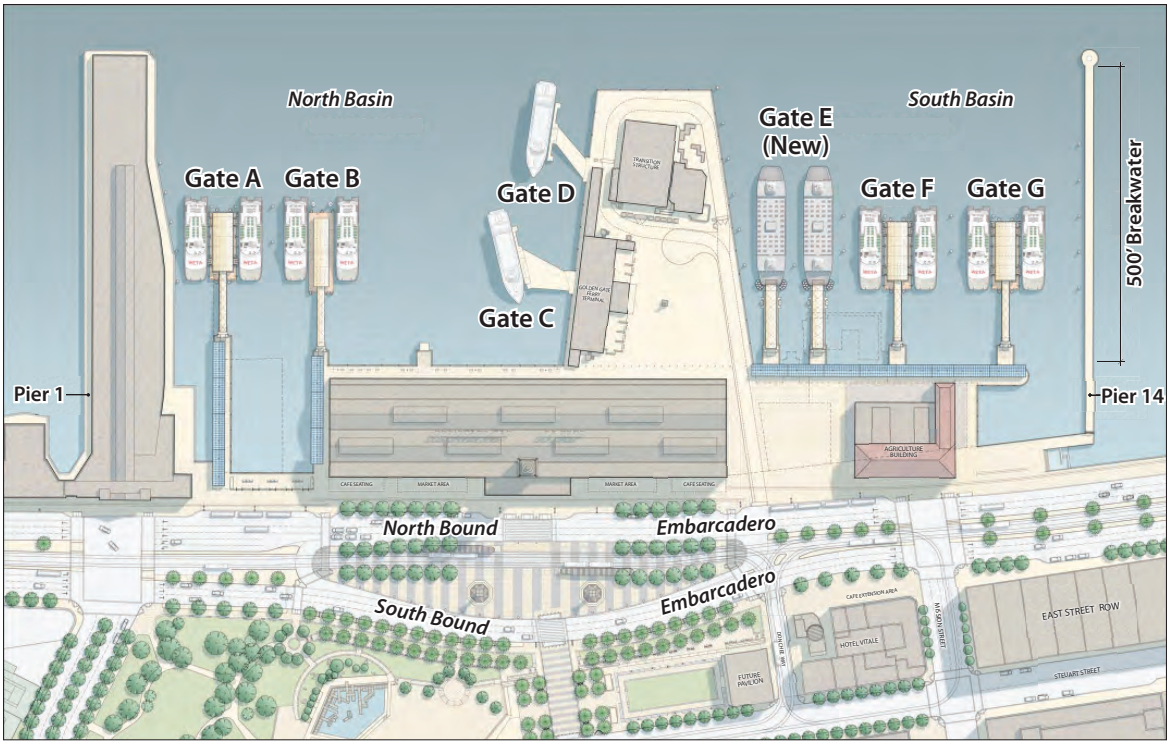
April 2011

The San Francisco Bay Area Water Emergency Transportation Authority (WETA) is proposing expansion and improvements to the Downtown San Francisco Ferry Terminal at the Port of San Francisco Ferry Building (see project area figure). The project would expand the number of ferry gates, improve pedestrian circulation and ferry patron boarding, and enhance emergency response capabilities to evacuate people from San Francisco in the event of a major catastrophic event.

The project is located in the northeastern section of San Francisco, California, at the San Francisco Ferry Building, situated at the foot of Market Street. The study area encompasses Port of San Francisco property between Pier 1 on the north and Pier 14 on the south, and includes the Ferry Building, ferry gates, and the Ferry Plaza. The Downtown San Francisco Ferry Terminal currently accommodates six ferry routes serving more than 10,000 passengers with approximately 130 ferry arrivals and departures daily. The proposed project would make improvements to gates and boarding areas to accommodate anticipated increases in ferry ridership as new ferry services from downtown San Francisco to Berkeley, Treasure Island, Hercules, Richmond, Redwood City, Martinez, and Antioch are introduced between 2014 and 2030.

Project Area

The planned improvements build on improvements that were completed by the Port of San Francisco in 2003 (Phase 1). Phase 2 of the Downtown San Francisco Ferry Terminal Expansion Project would begin in 2014 and be completed by 2017, and would consist of demolition of Pier ½ and Pier 2, construction of three new ferry gates, installation of amenities such as weather-protected areas for queuing, improvements to pedestrian circulation, and filling of the lagoon for future use as a staging area for evacuees in the event of a major catastrophe. Full build-out of the proposed improvements is contingent on potential ridership demand at full build-out of the proposed Treasure Island redevelopment, expected to occur sometime between 2020 and 2030. A preliminary sketch of proposed improvements in shown below.



Preliminary Sketch of Proposed Improvements

Environmental Review

As the federal and local Lead Agencies, respectively, the Federal Transit Administration and WETA are preparing a joint Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) to satisfy the requirements of the National Environmental Policy Act and the California Environmental Quality Act. The EIS/EIR will address potential impacts to land use, development potential, displacements, historic resources, visual and aesthetic qualities, air quality, noise and vibration, dredging and Bay fill requirements, hazardous materials resulting from demolition and construction activities, traffic circulation and transportation linkages, pedestrian circulation, safety, security, and emergency response, Bay habitat, and cumulative impacts. The environmental analysis may reveal that the proposed project will not affect, or affect substantially, many at those areas. However, if any adverse impacts are identified, measures to avoid, minimize or mitigate those adverse impacts will be proposed.

Opportunities for Public Involvement

A comprehensive public involvement program for public and interagency involvement will be developed for the project and posted on WETA's website: http://www.watertransit.org. The public involvement program will include maintaining the project webpage on the WETA website, and outreach to local officials, community and civic groups, and the public. Scoping meetings will be held in April 2011 to obtain comments on the scope of the environmental analysis. Comments will also be accepted by mail. When the environmental analysis is complete, the document will be circulated for public review and comment prior to finalizing it.

Contact Information:

Mike Gougherty
WETA Project Manager

San Francisco Bay Water Emergency Transportation Authority
Pier 9, Suite 111
The Embarcadero
San Francisco, CA, 94111.

(415) 364-3189

www.watertransit.org

APPENDIX F
BAY CROSSINGS ARTICLE

San Francisco Weather Forecast

Search: GO

WETA Proposes Expanding Downtown S.F. Ferry Terminal

The San Francisco Bay Area Water Emergency Transportation Authority (WETA) is proposing expansion and improvements to the Downtown San Francisco Ferry Terminal at the Ferry Building.

Above is an aerial image of the San Left: Francisco Ferry Building and the gates as they look today. The artist rendering on the right shows the proposed expansion project.

Published: April 1, 2011

The San Francisco Bay Area Water Emergency Transportation Authority (WETA) is proposing expansion and improvements to the Downtown San Francisco Ferry Terminal at the Ferry Building. The project, which will soon undergo an environmental impact review, would expand the number of ferry gates, improve pedestrian circulation and ferry patron boarding, and enhance emergency response capabilities to evacuate people from San Francisco in the event of a major catastrophic event.

The objectives of this project include:

- Accommodate WETA's projected increase in ferry ridership and related ferry arrivals and departures from the Downtown San Francisco Ferry Terminal;
- Provide a viable alternative mode of transportation that accommodates projected increases in transbay trips, and help alleviates congestion over the Bay Bridge and through the BART Transbay Tube;
- Address WETA's and the Port of San Francisco's emergency response needs;
- Establish a circulation plan and improved signage that provides clear pedestrian routes for ferry to bus and ferry to rail transfers, as well as safe routes for bikes, emergency vehicles, and delivery trucks to enter, park and exit the area;
- Provide necessary landside improvements, such as designated weather-protected areas for waiting and queuing, ticket machines and fare collection equipment, improved lighting, and improved boarding and arrival/departure information to serve ferry patrons and to enhance the Ferry Building as the central point of embarkation for ferries on San Francisco Bay; and
- Enhance the area's public access and open space with design features that create attractive, safe daytime and nighttime public spaces for both ferry patrons and other users of the Ferry Building area.

CURRENT ISSUE

June 2011

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» America's Cup to Revolutionize Live Sports Coverage
» Watching It Grow
» 80 New Electric-Vehicle Charging Stations Coming to S.F.
» Increasing Water Quality and Quality of Life, One Block at a Time

The planned improvements build on improvements that were completed by the Port of San Francisco in 2003. The first phase of this project, which would begin in 2014 and be completed by 2017, would consist of demolition of Pier ½ and Pier 2, construction of three new ferry gates, installation of amenities such as weather-protected areas for queuing, improvements to pedestrian circulation, and filling of the lagoon for future use as a staging area for evacuees in the event of a major catastrophe. Full build-out of the proposed improvements is contingent on potential ridership demand at full build-out of the proposed Treasure Island redevelopment, expected to occur sometime between 2020 and 2030.

Environmental Review

As the federal and local lead agencies, respectively, the Federal Transit Administration and WETA are preparing a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to satisfy the requirements of the National Environmental Policy Act and the California Environmental Quality Act.

A Notice of Preparation and Notice of Intent have been prepared and are being circulated by the Port and FTA for the purpose of defining the scope and content of the EIS/EIR. A 45-day review period on these documents will be held from April 1 through May 16, 2011.

A public meeting will be held on Tuesday, April 26, at the Bayside Conference Rooms, Pier 1 at the Embarcadero. The purpose of the meeting is to present information regarding the environmental review process, alternatives considered, and opportunities for public comment on the scope of the environmental analysis to be conducted for this project. An Open House will begin at 5:30 p.m., with a formal presentation beginning at 6:15 p.m. A resource agency staff meeting (also open to the public) will take place on the same day and at the same location from 2 – 4 p.m.

If you are not able to attend the Scoping Meeting but would like to provide written comments for consideration in the EIS/EIR, please send to: Mike Gougherty, WETA Project Manager, San Francisco Bay Water Emergency Transportation Authority, Pier 9, Suite 111, The Embarcadero, San Francisco, CA, 94111. Comments must be received by May 16 to be considered.

Once the draft environmental analysis is complete, the document will be circulated for public review and comment. Additional information about the proposed project—including the documents discussed in this article—is available on WETA's website at www.watertransit.org.

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» Congress Considers Exempting Pesticides from Clean Water Act
» I Want You: To Help Protect the Bay-Delta
» WATERFRONT ACTIVITIES JUNE 2011
» Music and Dance Enliven Jack London Square
» Fauves and Fillies
» A Unique Museum in the Heart of the Delta
» Around the bay in June 2011

APPENDIX G
PORT AND WETA OUTREACH INFORMATION

Downtown San Francisco Ferry Terminal Expansion Project

Sponsored by the Federal Transit Administration and the
San Francisco Bay Area Water Emergency Transportation Authority

Public Scoping Meeting on the Preparation of an EIS/EIR

Tuesday, **April 26**, 2011 **5:30 pm** at Pier 1, Bayside Conference Rooms

Learn more at *www.watertransit.org*

ABOUT US

GO

DOWNTOWN SAN FRANCISCO FERRY TERMINAL EXPANSION PROJECT

About | **Environmental Review** | **Opportunities for Public Involvement** | **Downloads and Public Notices**

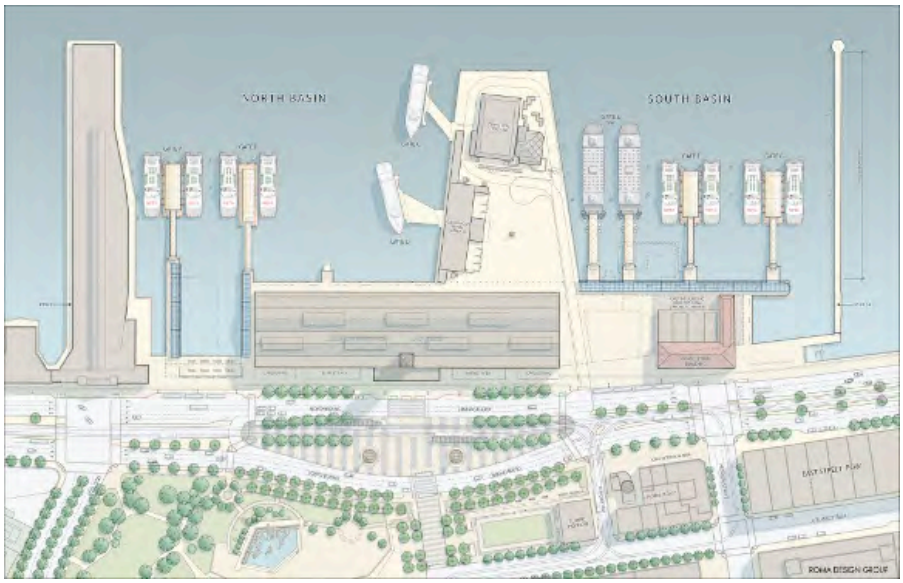
ABOUT THE PROJECT

The San Francisco Bay Area Water Emergency Transportation Authority (WETA) is proposing expansion and improvements to the Downtown San Francisco Ferry Terminal at the Port of San Francisco Ferry Building (see project area figure below). WETA and the Port have entered into a Memorandum of Understanding (MOU) to undertake a coordinated planning effort for the Downtown San Francisco Ferry Terminal Expansion project in accordance with the Port's objectives for stewardship of the San Francisco waterfront and WETA's mission to provide ferry service and emergency operations (see MOU attached **below**). The project would expand the number of ferry gates, improve pedestrian circulation and ferry patron boarding, and enhance emergency response capabilities to evacuate people from San Francisco in the event of a major catastrophic event.

The project is located in the northeastern section of San Francisco, California, at the San Francisco Ferry Building, situated at the foot of Market Street. The study area encompasses Port of San Francisco property between Pier 1 on the north and Pier 14 on the south, and includes the Ferry Building, ferry gates, and the Ferry Plaza. The Downtown San Francisco Ferry Terminal currently accommodates six ferry routes serving more than 10,000 passengers with approximately 130 ferry arrivals and departures daily. The proposed project would make improvements to gates and boarding areas to accommodate anticipated increases in ferry ridership as new ferry services from downtown San Francisco to Berkeley, Treasure Island, Hercules, Richmond, Redwood City, Martinez, and Antioch are introduced between 2014 and 2030.

The planned improvements build on improvements that were completed by the Port of San Francisco in 2003 (Phase 1). Phase 2 of the Downtown San Francisco Ferry Terminal Expansion Project would begin in 2014 and be completed by 2017, and would consist of demolition of Pier 1/2 and Pier 2, construction of three new ferry gates, installation of amenities such as weather-protected areas for queuing, improvements to pedestrian circulation, and filling of the

lagoon for future use as a staging area for evacuees in the event of a major catastrophe. Full build-out of the proposed improvements is contingent on potential ridership demand at full build-out of the proposed Treasure Island redevelopment, expected to occur sometime between 2020 and 2030. A preliminary sketch of proposed improvements in shown below.



ENVIRONMENTAL REVIEW

As the federal and local Lead Agencies, respectively, the Federal Transit Administration and WETA are preparing a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to satisfy the requirements of the National Environmental Policy Act and the California Environmental Quality Act. A Notice of Intent (NOI) and Notice of Preparation (NOP) have been prepared and are being circulated by FTA and WETA for the purpose of defining the scope and content of the EIS/EIR. The EIS/EIR will address potential impacts to land use, development potential, displacements, historic resources, visual and aesthetic qualities, air quality, noise and vibration, dredging and Bay fill requirements, hazardous materials resulting from demolition and construction activities, traffic circulation and transportation linkages, pedestrian circulation, safety, security, and emergency response, Bay habitat, and cumulative impacts. The environmental analysis may reveal that the proposed project will not affect, or affect substantially, these areas. However, if any adverse impacts are identified, measures to avoid, minimize or mitigate those adverse impacts will be proposed.

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

A comprehensive public involvement program for public and interagency involvement will be developed for the project and made available on this website. The public involvement program will include maintaining this webpage and outreach to local officials, community and civic groups, and the public. Comments on the scope of the environmental analysis for this project will be accepted during public scoping meetings held on April 26, 2011, or may be submitted in writing to WETA Project Manager, Mike Gougherty, by May 16, 2011. When the environmental analysis is complete, the document will be circulated for public review and comment prior to finalizing it.

DOWNLOAD THE NOTICE OF PREPARATION (NOP)

Notice of Preparation (PDF, 406KB)

DOWNLOAD THE NOTICE OF INTENT (NOI) TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT (EIS)

Notice of Intent (PDF, 35KB)

DOWNLOAD THE NOTICE OF PUBLIC SCOPING MEETING (APRIL 26, 2011)

Notice of Public Scoping Meeting (PDF, 183KB)

DOWNLOAD THE MOU BETWEEN WETA AND THE PORT OF SAN FRANCISCO

WETA/Port of San Francisco Memorandum of Understanding (PDF, 2.02MB)

DOWNLOAD A COPY OF THE DOWNTOWN TERMINAL EXPANSION PROJECT FACT SHEET

Fact Sheet (PDF, 3.02MB)

top ◊

APPENDIX H
SCOPING MEETING SIGN-IN SHEET

WETA

April 26, 2011 Scoping Meeting
SIGN-IN SHEET

NAME	ADDRESS	Telephone or e-mail address
ERNESTINE WEISS	440 DAVIS CT. #714, SF 94111	(391-6912)
Jim Swindler	GOLDEN GATE	415.925.5570
John Sandrinti	WETA	
TOM DOUGHERTY	B+G, MMP	
CAROL LASTRUCCI	440 DAVIS CT., #1213	415-956-1460
VERNE D. FINKS	550 PAMS ST #2	-897-7781
Veronica Sanchez	223 Tingley St SF 94112	VSANS8@sbcglobal.net
MMP		
Jane Connors	1 FERRY BLD	jane.connors@equityoffice.com
Bobby Winston	1 Ferry Bldg	bwc bayrossinps.com
Simon Darling	1 Ferry Bldg #17	simon@cayurlcreamery.com
FRANCIS LO	1111 BROADWAY SUITE 2150 OAKLAND CA 94607	FRANCIS.LO@TYLIN.COM
GARY HIRANO	1 FERRY PLAZA	GTHIRANO@SBCGLOBAL.NET
Aida Villagracia		vi88LL88@hotmail.com

APPENDIX I
SCOPING MEETING TRANSCRIPTS

1
2 **SCOPING MEETING**
3 **DOWNTOWN SF FERRY TERMINAL EXPANSION PROJECT**
4 ---
5 **at**
6 **Bayside Conference Rooms**
7 **Pier One**
8 **San Francisco, California**
9
10 **1st Session**
11
12
13 **Reported by:**
14 **CHERIE L. LUBASH**
15
16 ---
17 **JAN BROWN & ASSOCIATES**
18 **WORLDWIDE DEPOSITION AND VIDEOGRAPHY SERVICES**
19 **701 Battery Street, 3rd Floor**
20 **San Francisco, California 94111**
21
22
23
24
25

1 **APPEARANCES**

2

3 **CHAD MASON, Planner/Analyst, of WATER EMERGENCY**
4 **TRANSPORTATION AUTHORITY, Pier 9, Suite 111, The**
5 **Embarcadero, San Francisco, California 94111**
6 **(415) 291-3377X165**
7 **mason@watertransit.org**

8

9 **MIKE GOUGHERTY, Project Manager, of WATER**
10 **EMERGENCY TRANSPORTATION AUTHORITY, Pier 9, Suite 111,**
11 **The Embarcadero, San Francisco, California 94111**
12 **(415) 364-3189**
13 **gougherty@watertransit.org**

14

15 **JOHN SINDZINSKI, Manager, Planning &**
16 **Development, of WATER EMERGENCY TRANSPORTATION**
17 **AUTHORITY, Pier 9, Suite 111, The Embarcadero, San**
18 **Francisco, California 94111**
19 **(415) 364-3182**
20 **sindzinski@watertransit.org**

21

22 **MARA FEENEY, Principal, Mara Feeney &**
23 **Associates, 19B Beaver Street, San Francisco,**
24 **California 94114**
25 **(415) 863-8760**

mara@marafeeney.com

BORIS DRAMOV, President, ROMA Design Group, 1527 Stockton Street, San Francisco, California 94133
(415) 616-9900
borisd@roma.com

JAMES HURLEY, Feasibility Analyst, Port of San Francisco, Pier 1, San Francisco, CA 94111
(415) 274-0598
james.hurley@sfport.com

JULIE BIXBY, Senior Environmental Planner, URS Corporation, Post Montgomery Center, One Montgomery Street, Suite 900, San Francisco, CA 94104-4538
(415) 896-5858
julie_bixby@urscorp.com

Guest, JOSHUA H. WIDMANN, Associate Planner, Golden Gate Bridge Highway & Transportation District, 1011 Andersen Drive, San Rafael, CA 94901-5318
(415) 257-4490
jwidmann@goldengate.org

1 (On the record at 2:14 p.m.)
2 MR. SINDZINSKI: Hi, my name is John
3 Sindzinski. I'm the planning and development manager
4 with the Water Emergency Transportation Authority. So
5 today we have present besides WETA staff, which include
6 the project manager, Mike Gougherty, we also have Chad
7 Mason of the planning staff. In attendance also Boris
8 Dramov with ROMA, the project designer; and from URS we
9 have Julie Bixby and Ian Austin. And last but not
10 least, our partner here Jamie Hurley with Port of San
11 Francisco.
12 The purpose of today's meeting is to solicit
13 comments from resources agencies concerning the
14 environmental impacts of the proposed expansion of the
15 Downtown Ferry Terminal. We would have FTA here, but
16 evidently the FTA representative has been delayed. FTA
17 is our NEPA lead agency partner, and it's the Federal
18 Transit Administration. We are the lead agency under
19 CEQA.
20 Also note that we have a court reporter here
21 today who will be transcribing your comments. If you
22 wish to speak, we will take your questions, and if you
23 have comments we will at that point in time take your
24 comments and move from a more colloquial discussion
25 into a formal comment period.

1 So maybe I'll speak a little about FTA's role
2 in this. FTA's involvement is, of course, a funding
3 partner to WETA on the project. We'll be doing a joint
4 CEQA/NEPA document. The NEPA side of the document will
5 include coordination with the Federal Resource Agency,
6 which were invited to today's meeting.
7 And then the last thing I want to say is I'm
8 going to turn it over to Mike and let him carry forward
9 with an overview of the project.
10 MR. GOUGHERTY: Thanks, John.
11 I'm Mike Gougherty, I'm the project manager for
12 WETA on the Downtown San Francisco Ferry Terminal
13 Expansion Project. Before we get into opening up the
14 meeting for scoping comments, I just wanted to give you
15 a brief background on the Downtown Ferry Terminal
16 Expansion Project.
17 The purpose of the project is to accommodate
18 expansion of ferry service to downtown San Francisco
19 and projected increases in ridership. On the water
20 side that will entail construction of new berthing
21 floats to support new service coming into San
22 Francisco, as well as land side improvements in the
23 Ferry Building area to support additional waiting and
24 queuing areas required to support the additional
25 ridership.

1 A secondary, but equally important, objective
2 is to enhance the emergency capabilities of WETA and
3 the Port and having the Ferry Building area serve as a
4 potential area for staging emergency evacuations in the
5 event of a regional disaster.
6 Taking a look at the project area here, you'll
7 see to the north the project area is roughly bounded
8 Pier 1; on the east the Embarcadero promenade; to the
9 north the Pier 14 breakwater and public access; and
10 obviously on the east bounded by the Bay. The entire
11 project area is under the land use jurisdiction of the
12 Port. As such, we have been working in close
13 collaboration with the Port to develop the planning
14 environmental clearance of the WETA project, taking
15 into account the multiple uses within the project area,
16 namely the Marketplace in the Ferry Building,
17 activities along the ferry plaza, the Farmers' Market,
18 general public access to the waterfront, as well as
19 ferry service operated by the Golden Gate Ferry, Golden
20 Gate Bridge and Transportation District.
21 In addition to the multiple uses, the Port and
22 WETA are working together to make sure that this
23 project is compatible with the future projects in the
24 project area, which would include Golden Gate and their
25 proposed rehabilitation of their existing berthing

1 floats. There are BART security improvements taking
2 place on the eastern edge of the ferry plaza. The Port
3 is contemplating the future rehabilitation and re use
4 of the Agriculture Building. And additionally the Port
5 is also undertaking design efforts to improve areas at
6 the ferry plaza that are currently in disrepair.
7 Moving along to a plan view of the existing
8 conditions, you can see the improvements that took
9 place as Phase 1 of the Downtown Ferry Terminal
10 Project. These were undertaken by the Port in 2003 and
11 include the construction of the existing Gate D, which
12 supports the Vallejo and Tiburon service, as well as
13 Gate E, which supports Alameda, Oakland and Harbor Bay
14 services.
15 In addition to the construction of these two
16 new floats, there were several improvements made to the
17 deck and promenade areas to support passenger
18 circulation required to operate the services out of
19 these floats.
20 Part of the Phase 1 project is the future
21 expansion of the ferry terminal to support additional
22 services. Those efforts were not included in the
23 environmental analysis conducted at the time. In a
24 larger, in a general way WETA is picking up where those
25 efforts left off, proposing a Phase 2 and Phase 3 of

1 expansion of the Downtown Ferry Terminal, which
2 ultimately results in build out of the Downtown Ferry
3 Terminal facility.
4 Taking a look at Phase 2 of the proposed WETA
5 project, which is scheduled to be constructed between
6 2014 and 2017, you'll see that there are three new
7 ferry gates added along the water side as well as
8 several land side improvements to support additional
9 pedestrian waiting and queuing areas. In general the
10 improvements are clustered in two primary areas. We
11 have the north basin between Pier 1 and the south side
12 of the ferry plaza, as well as the south basin between
13 Pier 14 and to the north side of the ferry plaza.
14 Taking a look at each of those areas
15 specifically, you'll see in the north basin we're
16 proposing to add Gate A which would be required to
17 ferry services to San Francisco from Berkeley and
18 Richmond. Part of those improvements would entail the
19 removal of Pier 1/2; improvements to the promenade on
20 the marginal wharf between Pier 1 and the Ferry
21 Building; and additional improvements, namely the
22 addition of weather shelters to protect customers from
23 inclement weather as well as promote better
24 organization of the queuing areas and waiting spaces.
25 Looking at the proposed improvements in the

1 south basin you'll see in addition to existing Gate E,
2 the project is proposing to add Gate F and Gate G.
3 These two new berthing floats required to support
4 future Treasure Island service as well as to provide
5 additional berthing capacity and potential layover
6 capacity for other services that are contemplated as
7 part of WETA's expansion plans as well at as existing
8 services.
9 On the land side you'll see there are several
10 improvements made to deck areas; namely the covering of
11 the currently open lagoon area, in addition to the
12 expansion of promenade and deck spacing to the south of
13 the Ag Building, as well as the expansion of the
14 promenade along the Bay side over here. That
15 additional deck space is required in order to support
16 the day-to-day passenger circulation of in regular
17 service as well as provide an adequate amount of space
18 for WETA emergency response functions.
19 The other land side improvement you'll see is
20 the provision of weather sheltering along the promenade
21 to the east of the Ag Building. In a similar fashion
22 that's proposed in the north basin for Gate A and Gate
23 B. While the Ag Building is shown in the plans here,
24 it's not part of the WETA project, but again, in the
25 collaborative spirit of supporting that WETA

1 undertaking, we want to make sure our project is
2 compatible with any future project to rehabilitate and
3 reuse the Ag Building.
4 The third phase of the expansion which would
5 reflect the build-out of the Downtown Ferry Terminal
6 Facility is generally projected to occur, if at all,
7 between 2020 and 2030. This would entail the
8 construction of a bow-loading berthing facility at the
9 existing Gate E. The larger bow-loading vessels would
10 be required to support ridership projections. That
11 assumes full build-out of the Treasure Island
12 redevelopment. There are certain studies that show
13 side-loading vessels would be unable to handle the
14 projected volume of ferry passengers. Again, this
15 phase is contingent upon full build-out of Treasure
16 Island and the necessary ridership demand from that
17 build-out.
18 So the CEQA/NEPA analysis being undertaken by
19 WETA and the FTA is going to consider the entire
20 build-out of the project, so the improvements that were
21 considered in Phase 2 and Phase 3 in the north basin
22 and Phase 3 in a the south basin. This is viewed as
23 the maximum impact of the project and will be the basis
24 for analysis. In WETA and URS preliminary
25 investigations we'd like to identify with you

1 environmental issues of specific concern that will be
2 addressed in the draft EIR. Of particular interest are
3 potential circulation impacts regarding pedestrian and
4 traffic flows; aquatic resource impacts, there will be
5 in-water work involving demolition of existing piers,
6 pile driving, and some amount of dredging associated
7 with the project. Also we'll be looking at the
8 cumulative impacts of the projects as they relate to
9 other projects in the waterfront area, including the
10 America's Cup Cruise Terminal Project.
11 Schedule wise we're currently in the scoping
12 period for EIR/EIS right now. We have a scoping period
13 that extends through May 16th. We're anticipating to
14 have a draft EIR prepared for release and public
15 comment by early 2012. Once comments have been
16 reviewed on the draft, we are anticipating a final EIR
17 that addresses comments received on the draft ready for
18 release by fall 2012.
19 At this point I'd be happy to address any
20 questions as they specifically relate to the
21 presentation before opening up for formal comments on
22 the scope of the EIR/EIS; Josh?
23 MR. WIDMANN: Can you -- I got the time line
24 for Phase 2, 2014 through 2017 and Phase 3, 2020 to
25 2030. But can you just refresh me on the Phase 1? Is

1 that happening regardless?
2 MR. GOUGHERTY: Sorry if it wasn't clear in the
3 presentation. Phase 1 really reflects the existing
4 conditions. So Phase 1 was a project that was
5 undertaken and completed by the Port in 2003 and really
6 entailed the construction of the existing Gate B and
7 Gate E that support the Tiburon/Vallejo service and
8 Alameda/Oakland service.
9 MR. WIDMANN: And then I saw Gate E that was
10 going to be Phase 3. If you could just refresh me on
11 the time line for Gate E, F and G.
12 MR. GOUGHERTY: Yeah. So we have our existing
13 conditions in the slide. The existing Gate B and Gate
14 E --
15 MR. WIDMANN: So E doesn't change, well, except
16 for the western part?
17 MR. GOUGHERTY: In Phase 2 --
18 MR. WIDMANN: E is there.
19 MR. GOUGHERTY: In Phase 2 we're proposing to
20 add Gate A to support the Richmond/Berkeley services in
21 the north basin. In the south basin we would add Gate
22 F and Gate G. From an operational standpoint, we're
23 currently projecting that once these two gates are
24 active in the south basin, the Alameda, Oakland, Harbor
25 Bay services that currently operate out of Gate E would

move to Gate F. The Treasure Island service, after the of Treasure Island redevelopment, would operate out of Gate E, and those services are projected to have the highest ridership demand, so it made sense from an operational standpoint to have them in closer proximity to the Ferry Building amenities. Gate G would be built to provide spare berthing capacity, layover berthing capacity, and berthing capacity for other services that are currently in various stages of development.

MR. WIDMANN: And the bow-loading would be Phase 3?

MR. GOUGHERTY: So Phase 3 is projected to occur sometime between 2020 and 2030 depending on full build-out of the Treasure Island redevelopment. Certain studies associated with the environmental document for that project have demonstrated projected ridership demands that would require a larger bow-loading vessels to meet the head ways that support the service. So once that threshold is met WETA would propose to replace the existing Gate E with a bow-loading facility to support the larger vessels to Treasure Island.

MR. WIDMANN: Was there -- was there analysis done on -- are you going to talk about the transportation aspect, total number of trips per day in

each phase? Total number of crossings?

MR. AUSTIN: Yes, there would be ridership projections.

MR. GOUGHERTY: Part of a supportive effort of this project, WETA is currently undertaking an update of its ridership forecast model that was prepared in the early 2000s. We anticipate having updated ridership projections for 2035 in the coming months, and that data will be used and incorporated into the CEQA/NEPA evaluation of this project.

MR. WIDMANN: Do you have an estimate currently of just the scale, the magnitude of operations that's going to be -- the level this is going to be expanded, is this going to be 3 times, 10 times?

MR. GOUGHERTY: In terms of ridership?

MR. WIDMANN: Ridership or crossings, just a general estimate.

MR. GOUGHERTY: In can be in WETA's implementation and operations plan. The expansion of water transit called for or was projected to result in a tripling of ferry ridership over existing levels.

MR. WIDMANN: Does that include Golden Gate Ferry?

MR. GOUGHERTY: Based on the implementation operations find from 2003, they're projecting a

1 tripling of existing ferry ridership.
2 MR. WIDMANN: By 2035?
3 MR. GOUGHERTY: That was for 2025. Those
4 numbers are being updated as part of our ridership
5 forecast.
6 MR. WIDMANN: And what is the current total
7 number? I think it's 10,000 at the moment?
8 MR. AUSTIN: It's roughly 10,000 at the moment.
9 MR. GOUGHERTY: Did you have any additional
10 questions kind of concerning the concept design before
11 we move into --
12 MR. WIDMANN: No, I have no --
13 MR. GOUGHERTY: -- the formal scoping --
14 MR. WIDMANN: No further questions.
15 MR. GOUGHERTY: Thank you.
16 At this point I'd like to provide everyone,
17 Josh, an opportunity to verbally express comments
18 concerning the scope of the environmental impact report
19 statement analysis. Not really an opportunity to
20 engage in a question and answer period, it's more
21 stating comments regarding the scope of the project for
22 the record. Those can be submitted verbally today or
23 in writing today, or alternatively via mail or e-mail
24 through the end of the comment period, which will be
25 completed on May 16th.

So on that note --

MR. WIDMANN: What's the email address?

MR. AUSTIN: It's on here.

MR. GOUGHERTY: Is it in the scoping meeting notes?

MR. AUSTIN: It just says watertransit.org.

MR. WIDMANN: We can write you a letter. I see the address.

MR. AUSTIN: It's on the board.

MR. GOUGHERTY: So we'll make sure you have the contact information. You can submit to me at gougherty@watertransit.org. We'll make sure we get you the contact information.

MR. WIDMANN: Got it.

MS. FEENEY: Mike, your address is on this comment card.

MR. WIDMANN: A question I guess is for the design concept, there are no -- if it is modified, I'm just curious to know what things are actually, what can change from this proposal in terms of -- we're just concerned about access to our facilities from the Embarcadero and that pathway on the south side of the Ferry Building and --

MR. GOUGHERTY: Well, we'll certainly be looking at circulation impacts, and any level of

specificity you can give us in terms of detailed things to look at would be helpful so we could go forward.

MR. AUSTIN: Josh, you were mentioning bicycles. Is the bicycle of more concern or the people?

MR. WIDMANN: They're equal. I mean, it doesn't seem like you have gotten down to the details of bike parking or anything. Is that something that is going to be considered?

MR. GOUGHERTY: We're going to consider that in the process of evaluating the circulation impacts.

MR. SINDZINSKI: Let's stick to comments.

MR. WIDMANN: I don't think there's anything else.

MR. GOUGHERTY: Okay. Well again, feel free to submit comments in writing by mail or email. May 16th is the end of our scoping period.

Unless there are any other questions or follow-up information. Thank you for coming today.

(Off the record at 2:39 p.m.)

I do hereby certify that the foregoing meeting was taken at the time and place therein stated; that the testimony of said parties was reported by me, a shorthand reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

CHERIE L. LUBASH

1
2 **SCOPING MEETING**
3 **DOWNTOWN SF FERRY TERMINAL EXPANSION PROJECT**
4 ---
5 **at**
6 **Bayside Conference Rooms**
7 **Pier One**
8 **San Francisco, California**
9
10 **2nd Session**
11
12
13 **Reported by:**
14 **CHERIE L. LUBASH**
15
16 ---
17 **JAN BROWN & ASSOCIATES**
18 **WORLDWIDE DEPOSITION AND VIDEOGRAPHY SERVICES**
19 **701 Battery Street, 3rd Floor**
20 **San Francisco, California 94111**
21
22
23
24
25

1 **APPEARANCES**

2 **CHAD MASON, Planner/Analyst, of WATER EMERGENCY**
3 **TRANSPORTATION AUTHORITY, Pier 9, Suite 111, The**
4 **Embarcadero, San Francisco, California 94111**
5 **(415) 291-3377 X165**
6 **mason@watertransit.org**
7
8 **MIKE GOUGHERTY, Project Manager, of WATER**
9 **EMERGENCY TRANSPORTATION AUTHORITY, Pier 9, Suite 111,**
10 **The Embarcadero, San Francisco, California 94111**
11 **(415) 364-3189**
12 **gougherty@watertransit.org**
13
14 **JOHN SINDZINSKI, Manager, Planning &**
15 **Development, of WATER EMERGENCY TRANSPORTATION**
16 **AUTHORITY, Pier 9, Suite 111, The Embarcadero, San**
17 **Francisco, California 94111**
18 **(415) 364-3182**
19 **sindzinski@watertransit.org**
20
21 **MARA FEENEY, Principal, Mara Feeney &**
22 **Associates, 19B Beaver Street, San Francisco,**
23 **California 94114**
24 **(415) 863-8760**
25 **mara@marafeeney.com**

1
2 BORIS DRAMOV, President, ROMA Design Group,
3 1527 Stockton Street, San Francisco, California 94133
4 (415) 616-9900
5 borisd@roma.com
6
7 JAMES HURLEY, Feasibility Analyst, Port of San
8 Francisco, Pier 1, San Francisco, CA 94111
9 (415) 274-0598
10 james.hurley@sfport.com
11
12 JULIE BIXBY, Senior Environmental Planner, URS
13 Corporation, Post Montgomery Center, One Montgomery
14 Street, Suite 900, San Francisco, CA 94104-4538
15 (415) 896-5858
16 julie_bixby@urscorp.com
17
18
19
20
21
22
23
24
25

1 (On the record at 5:41 p.m.)
2 MR. SINDZINSKI: So I'm John Sindzinski, I'm
3 with the Water Emergency Transportation Authority. I'm
4 manager of planning, and I'm sort of MC tonight, but
5 then I get to sit down and let the real work be done by
6 the real staff.
7 For those of you who don't know us, the Water
8 Emergency Transportation Authority was created by the
9 state legislature originally as the Water Transit
10 Authority to expand commuting on the San Francisco Bay
11 with ferry transit services. We have been added and
12 transformed a bit to the WETA and are in the process of
13 building a ferry terminal in South San Francisco, the
14 most resent ferry terminal since Gates B and E, built
15 in --
16 MR. AUSTIN: Well, completed in 2003
17 MR. SINDZINSKI: So a few weeks ago to say the
18 least. We're also working on the environmental process
19 in Berkeley, and we hope to be in construction of that
20 project before 2013. And we're also working with the
21 City on its redevelopment plans for Treasure Island,
22 which has a lot to do with this project. This project
23 is principally concerned with the expansion of ferry
24 terminal services at the Ferry Building and recognition
25 of the fact that as we bring on new services from these

1 outlying communities, we'll need more facilities in
2 downtown San Francisco to accommodate our boats and the
3 passengers.
4 So tonight's meeting is the public kick-off of
5 what's called scoping. Scoping is a process in the
6 California Environmental Quality Act and in the federal
7 act that provides public input to what the potential
8 impacts of our project may be. We will record those
9 concerns, and our environmental team will do an
10 assessment of your concerns.
11 Tonight we have a whole cast of staff and
12 consultants. Mike Gougherty is our project manager for
13 this particular project.
14 Over there to my far right is Chad Mason, who
15 is also with WETA staff.
16 We have Ian Austin with URS who's doing the
17 environmental work for the project.
18 We also have Jamie Hurley, he's with the Port
19 of San Francisco. We have a memorandum of agreement
20 with the Port to walk through this whole process
21 because we have certain responsibilities as the
22 developer of the project, but the Port, as the land
23 owner, has their own responsibilities. And this is the
24 way we're approaching most of our projects now, so you
25 have to do it in a partnership way with the land

owners.

And then last, but certainly not least, is Boris Dramov, who is the architect of this endeavor and the designer.

Tonight's process is to begin both the CEQA and NEPA. This is federal and state environmental process. Under NEPA we have the Federal Transit Administration, which is the lead agency. They're involved because they're providing some funding for the project, and before we can secure that funding, we have to meet the federal environmental requirements. So sometimes for people in California there's a little confusion between CEQA and NEPA, and that's why we have the brain trust of Julie, who I failed to introduce, and Ian to walk us through as necessary the intricacies of how those two particular environmental rules effect the development of the assessment. So they're here to guide us through that.

But FTA is our federal partner, we're the state, for the CEQA process we are the lead agency. We also have a court reporter who will be transcribing everything this evening.

Our general process will be to open up the meeting after Mike does an overview of the project just for some questions and answers. You might have some

burning questions, what is this project all about, why are we doing it, what does this mean, that we would like to try to answer. Everyone can hear the answers to the extent we can answer those. But then we'll move into a formal comment period. At that time, we'll ask you to make your comments. We will not answer questions during the comment period because that's really your opportunity to make comments, which as I said, will be recorded in both the CEQA and NEPA documents and will have to be specifically addressed throughout those documents.

With no further -- one last thing, if you plan on speaking, could you fill out one of these little blue cards? If you prefer not to speak to us with comments and would just like to send them in, you can do it on one of these white cards. We can also accept comments through carrier pigeon, e-mail, and almost any way that a human being could communicate to other human being. Thank you.

MR. GOUGHERTY: Thanks, John.

So we have some concept designs on our boards here, but I'd like to just take the opportunity to walk you through a little detail of what we're proposing as part of the Downtown San Francisco Ferry Terminal Expansion Project. I think John touched on the primary

1 goals of the project. First and foremost to accomodate
2 not only the expansion of new services to the downtown
3 San Francisco Ferry Terminal, but also a projected
4 increase in ridership. A secondary, but equally
5 important goal is to address both to emergency response
6 needs of the Port and WETA in providing and using the
7 Ferry Building as an emergency staging area in the
8 event of a required evacuation.
9 Just to define our project area, here is the
10 Ferry Building area bounded on the north by Pier 1,u To
11 the west by the Embarcadero promenade, the south Pier
12 14 breakwater public access area, and the east San
13 Francisco Bay. The entire project area is within the
14 land use jurisdiction of the Port. As such, we are
15 working in close partnership with the Port as we
16 undertake the design project as well as the CEQA and
17 NEPA environmental clearance.
18 You can see within the project area there are
19 really a multitude of uses beyond just the Ferry
20 Terminal. The Ferry building supports a marketplace;
21 on the ferry plaza we have the Farmers' Market that
22 occurs every Saturday; in addition to several public
23 access pathways to the waterfront. In addition to the
24 multiple uses there are several planned projects in the
25 project area that WETA and the Port will be making sure

1 that the proposed project is consistent with. These
2 include the future potential adaptive reuse of the
3 Agriculture Building in effort by Golden Gate to
4 rehabilitate their existing berthing floats as well as
5 improvements related to the BART leasehold on the
6 eastern end of the Ferry Plaza.
7 So this is a plan view of the existing
8 conditions. And these include what was Phase 1 of the
9 Downtown Ferry Terminal Expansion Project. It was
10 completed in 2003, as we mentioned previously, by the
11 Port of San Francisco and entailed the construction of
12 the existing Gate B, which today supports the Vallejo
13 and Tiburon ferry services to San Francisco, as well as
14 the construction of Gate E, which supports the Alameda,
15 Oakland and Harbor Bay ferry services to San Francisco.
16 In addition to the construction of the two new
17 ferry gates, there were several improvements made to
18 the deck and promenade spaces to support passenger
19 circulation. As part of the completed Phase 1 efforts
20 undertaken by the Port, there was a future expansion
21 contemplated in the conceptual designs prepared. That
22 expansion wasn't part of the environmental analysis of
23 the project board or obviously part of the
24 construction. What WETA is proposing at the Downtown
25 Ferry Terminal Expansion Project is really a

1 continuation of those expansion efforts that were
2 contemplated during the Phase 1 efforts. What WETA is
3 proposing as part of the project are two additional
4 phases, Phase 2 and Phase 3 which would represent
5 build-out of the downtown ferry terminal facilities.
6 This is a plan view of Phase 2, which would include the
7 construction of three new ferry gates; Gate A, Gate F
8 and Gate G. These improvements would occur between
9 2014 and 2017. Generally the improvements proposed as
10 Phase 2 are clustered in two areas. We have the north
11 basin between Pier 1 and the Ferry Plaza and the south
12 basin between Pier 14 and the Ferry Plaza.
13 Looking a little more closely in these areas
14 where the improvements are clustered, in the North Bay
15 obviously we see the addition of Gate A, which would be
16 required to support the future services to Berkeley and
17 Richmond that are being developed by WETA. And as part
18 of the improvements required to build Gate A and
19 support the Berkeley and Richmond ferry services, we
20 would be removing the existing Pier 1/2, making some
21 minor improvements to the promenade to support
22 day-to-day commuter services, as well as adequate
23 waiting and queuing areas in the event of an emergency,
24 and some other improvements on the land side including
25 along both of these landside areas here weather

1 shelters that would provide customers protection from
2 inclement weather in addition to add some organization
3 to the queueing and waiting areas for the ferry
4 services.
5 Moving to the south basin, we'll see the
6 existing Gate E remains. As the Treasure Island
7 service that is being proposed as part of the Treasure
8 Island Redevelopment Project, and WETA would play a
9 role in supporting and providing that service, when
10 that service comes on line we'll need additional
11 berthing capacity in the south basin.
12 So the Treasure Island service in conjunction
13 with WETA's need for spare berthing capacity as well as
14 layover berthing capacity for its existing services
15 would really necessitate the construction of Gate F and
16 Gate G. Currently, Alameda and Oakland operate out of
17 Gate E. In the event that -- when these new gates are
18 constructed, we would actually transfer the
19 Alameda/Oakland services to Gate F and implement the
20 Treasure Island Services at Gate E. In addition to the
21 construction of the two new ferry gates in the south
22 basin, you'll see some land side improvements here as
23 well. Again, just to support day-to-day passenger
24 circulation and emergency staging areas in the event of
25 a regional disaster.

1 Notable improvements include the expansion of
2 the promenade along the bay side toward the Bay and
3 south toward Pier 13 and the additional deck
4 improvements on the south side of the Agriculture
5 Building. The south basin improvements also entail the
6 removal of Pier 2, which is currently occupied by
7 Sinbad's restaurant.
8 Phase 3 is proposed, the construction of Phase
9 3 is projected for sometime between 2020 and 2030. It
10 would entail the remodeling of the existing Gate E to
11 support larger bow-loading vessels. These vessels
12 would potentially be required should full build-out of
13 Treasure Island happen and the ridership demand for
14 ferry service between Treasure Island and San Francisco
15 achieve a significant enough volume that the
16 side-loading vessels are no longer able to support the
17 services. In that instance, we would require the
18 larger, bow-loading vessels to move the anticipated
19 demand of people between Treasure Island and downtown
20 San Francisco.
21 The NEPA/CEQA analysis that WETA is currently
22 undertaking for this project will consider the entire
23 build-out of both Phase 2 and Phase 3, really looking
24 at the maximum potential impact of the build-out of the
25 Downtown Ferry Terminal facility.

1 WETA working with its environmental consultant,
2 URS, has identified a few preliminary environmental
3 issues that will warrant special attention as we
4 prepare the draft EIR/EIS. We've listed a couple of
5 those in the slide. Of particular note, our potential
6 circulation issues regarding traffic and pedestrian
7 flows; aquatic resource impacts, there will be in-water
8 work required as part of this project which will entail
9 demolition of existing pier facilities; installation of
10 new piles; as well as a minor amount of dredging. And
11 the project will also look at cumulative impacts of
12 this project in combination with other projects being
13 planned and developed along the waterfront, for
14 instance, the America's Cup cruise terminal project and
15 other projects contemplated along the waterfront.
16 In terms of schedule, we're obviously right now
17 in the scoping process. The scoping period is
18 scheduled to extend May 16th. You're free to submit
19 your comments verbally today or in writing via email or
20 mail to WETA through the end of the scoping period at
21 May 16th. We're anticipating preparation and release
22 of the draft EIR/EIS by early next year, spring 2012.
23 At that point public and resource agencies will have an
24 opportunity to comment on the draft EIR/EIS. WETA will
25 address all comments received on the draft EIR/EIS, the

1 final EIR/EIS which is tentatively scheduled release in
2 late 2012. We're calling it fall 2012 in the schedule.
3 So before we open up for public comments in the
4 scope of the EIR/EIS, I'd just like to give everyone an
5 opportunity to kind of field any questions they have
6 about the presentation before we move to a more formal
7 documentation of the comments on the scope.
8 Were there any questions about phasing or the
9 concept designs presented today? Veronica?
10 UNIDENTIFIED SPEAKER: Yes. Mike, would you
11 just repeat the services that are coming in to Gate A?
12 You said Richmond, and what was the other service?
13 MR. GOUGHERTY: Berkeley.
14 UNIDENTIFIED SPEAKER: Berkeley. I'm sorry, I
15 missed it. And then Gate G?
16 MR. GOUGHERTY: Gate G would function as a
17 spare berthing facility well as a layover berthing
18 facility and potentially support other services that
19 are in various stages of development.
20 UNIDENTIFIED SPEAKER: And my last question,
21 can you offer any updates on the Golden Gate Ferry
22 project that's been in design for the last decade?
23 MR. GOUGHERTY: It's really not part of our
24 project. We have been in preliminary talks with them
25 as to where they are in the environmental review of the

1 project, but I'm just honestly not well-informed enough
2 about where they are in the project. It will be one of
3 the projects that is considered in the cumulative
4 analysis of our project.
5 UNIDENTIFIED SPEAKER: Oh, it will?
6 MR. DOUGHERTY: Mike, I was wondering if you
7 could outline for us the, for lack of a better word,
8 the real estate that Golden Gate has access to that we
9 do not infringe on in the basin there?
10 MR. GOUGHERTY: I don't have that information
11 readily available right now. What we'd like to do
12 right now is really focus on the scope of the EIR/EIS,
13 really looking at potentially significant environmental
14 impacts that will need to be addressed in the draft
15 EIR/EIS. I'd be happy to get that information to you
16 at another point.
17 MS. CONNERS: A question about the
18 environmental impacts with circulation. Is that
19 including pedestrians, delivery vehicles? That was one
20 of the bullet points.
21 MR. GOUGHERTY: So I think it's kind of a good
22 opportunity to turn it really over to you guys to
23 submit your comments on what you would like to see
24 evaluated in the draft EIR/EIS. Not so much for us to
25 respond to what we think should and shouldn't be

1 included, but for a chance for you to go on the record
2 and state what you feel should be included in the
3 scope.
4 With that understanding, if you would like to
5 formalize that in a comment.
6 MS CONNERS: Jane Conners with the Ferry
7 Building. I would definitely have concerns just about
8 the improvements impacting pedestrians, just habits and
9 what people are used to back there, and also obviously
10 vehicular with regard to our deliveries and stuff.
11 Those are my major concerns just to be considered
12 during the study.
13 MS. WISE: My name is Ernestine Wise, and I'm
14 concerned with the area in the south side of the wall
15 where the statue is. The fencing along there is so
16 neglected. That whole area needs a lot of improvement.
17 Will that be included in your scheme?
18 MR. GOUGHERTY: Is there a particular
19 environmental impact associated with that area that we
20 would need to address in the EIR/EIS?
21 MS. WISE: It's part of the whole plan to
22 improve that area.
23 MR. GOUGHERTY: The scope of our project right
24 now is really limited to the expansion of the Downtown
25 Ferry Terminal facilities, so that is not part of the

1 scope of the project at this point.
2 MS. WISE: Okay.
3 MS. CONNERS: Jane again from the Ferry
4 Building. The potential pile driving to cover the
5 lagoon, just to look at a variety of how the pilings
6 would be driven down through the mud and stuff so that
7 it would impact -- the building definitely shakes as it
8 is very now and then, it's on pilings, but just how
9 that would impact the building. I think also the
10 weight bearing capacity of the back plaza if it's
11 staged for emergency evacuation, I think that's
12 something that might need to be looked at for the
13 environmental process. If there's 25,000 people with
14 emergency vehicles, et cetera, that might be something
15 we need to look at.
16 MR. GOUGHERTY: We have a court reporter taking
17 all this. Thank you.
18 MS. CONNERS: Okay, great.
19 MR. GOUGHERTY: Any other comments on the scope
20 of the EIR/EIS?
21 MS. WISE: How would they accommodate the
22 ambulance and fire and police people in case of
23 emergency?
24 MR. GOUGHERTY: Again, the circulation impact.
25 MS. CONNERS: I think another scope is just the

1 air quality for HVAC systems for any of the surrounding
2 buildings, which would include the Ag Building, Ferry
3 Building, Pier 1, pedestrian, there's a lot of joggers
4 along the Embarcadero, and I think during the
5 construction just sort of information about the air
6 quality during construction would probably come up.
7 UNIDENTIFIED SPEAKER: Will they be refueling
8 all the water vehicles there in that area?
9 MR. GOUGHERTY: I'm sorry, was the question --
10 UNIDENTIFIED SPEAKER: Will there be fueling?
11 MR. GOUGHERTY: No, there will be no fueling at
12 this terminal facility of the vessels.
13 MS. WISE: And also, what about noise like the
14 pile driving and all that stuff?
15 MR. GOUGHERTY: So noise impacts?
16 MS. WISE: Because the large apartments across
17 the way and office buildings that might be impacted.
18 MR. GOUGHERTY: Any additional comments?
19 MR. SINDZINSKI: I was just going to say, Mike,
20 that we will stay here at least until 6:15, but people
21 don't have to feel like they have to stay. We do.
22 You're welcome to stay.
23 MR. GOUGHERTY: So we won't be providing
24 anymore information about the project, but we will be
25 staying here to accept comments on the scope. So if

1 anybody has additional comments, feel free to stay
2 behind. If not, you're more than welcome, as John
3 mentioned, to look at the boards further or hang around
4 or take off.
5 UNIDENTIFIED SPEAKER: You said the comments
6 period is open until May 16th. So any comment made now
7 by some interested party is no more valuable then one
8 made to you?
9 MR. GOUGHERTY: All comments are considered
10 equally.
11 MR. DOUGHERTY: One last comment. Tom
12 Dougherty with MMP. Under navigation and safety, I'd
13 like that to include a more detailed look at the
14 dynamics of vessel operations here of the tides,
15 currents, wind, storm conditions, as well as vessel
16 traffic, commercial and otherwise, recreational traffic
17 swimmers, row boats, kayaks, things like that so
18 there's a lot to consider besides environment impacts
19 on the Bay itself. The effects of the location of the
20 terminals and the positioning of the berthing as to the
21 safety of navigation of the vessels.
22 MR. GOUGHERTY: Thanks.
23 MR. DOUGHERTY: Thank you.
24 (Off the record at 6:30 p.m.)
25

I do hereby certify that the foregoing meeting was taken at the time and place therein stated; that the testimony of said parties was reported by me, a shorthand reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

CHERIE L. LUBASH

APPENDIX J
LETTERS AND E-MAILS SUBMITTED

"Michael Gougherty" <Gougherty@watertransit.org>

07/01/2011 02:06 PM

To

<Julie_Bixby@URSCorp.com>

cc

Subject FW: WETA Downtown Ferry Terminal Expansion Project Contact Info

Hi Juile,

This is an email from the date I spoke with ACOE concerning the DFTX project. I provided general information about the project, ACOE did not have any specific scoping comments at the time.

Thanks,

Mike

Planner/Analyst

San Francisco Bay Area

Water Emergency Transportation Authority

Pier 9, Suite #111, The Embarcadero

San Francisco, CA 94110

ph: 415.364.3189 fx: 415.291.3388

From: Michael Gougherty

Sent: Tuesday, June 14, 2011 10:15 AM

To: holly.n.costa@usace.army.mil

Cc: Debra Jones

Subject: WETA Downtown Ferry Terminal Expansion Project Contact Info

Hi Holly,

My contact information is below, feel free to forward me any specific comments about the project that the Corps has.

Thanks,

Mike Gougherty

Planner/Analyst

San Francisco Bay Area

Water Emergency Transportation Authority

Pier 9, Suite 111, The Embarcadero

San Francisco, CA 94111

P: 415.364.3189 F: 415.291.3388

From: Fraser, Tim [mailto:ttf@cpdb.com]

Sent: Friday, May 13, 2011 3:25 PM

To: Michael Gougherty

Cc: Doherty, Ann

Subject: Concerns to address on the Environmental Impact Report regarding the Ferry Terminal Expansion Project

Dear Mr. Gougherty,

Thank you for coming to the Ferry Building last Wednesday, May 11, 2011, to communicate the plans for the Ferry Terminal Expansion Project, and for facilitating the ability to see our concerns addressed on the Environmental Impact Report. With the time we have had between the meeting last Wednesday and tomorrow's deadline to submit our concerns, the following are concerns of the environmental impact that could be caused by the design or construction of the expansion project, and that we would like to see addressed on the Environmental Impact Report:

Air Quality- Will this work create a lot of dust? If so, what will be done to prevent the dust from covering the windows and entering through windows and air vents?

Pile Driving- I was very happy to hear that you are considering a method of vibrating the pilings into the earth, rather than driving/pounding them in, to reduce noise. Our question is this; how severe is this vibration, will this be felt by Ferry Building tenants, and will we need to take precautions so that things won't slide off tables & shelves, or that pictures & art that's hung on the wall won't bang against the wall or fall?

Pedestrians Traffic- will there be signage with directions to the Ferry Building, and anything else that needs to be done, in the event of blocked sidewalks or closed pedestrian areas, to make sure that our clients and visitors are informed as to how to find our office during construction?

Aesthetics- In the meeting it was mentioned that the structure to be built for a weather-protected area for queuing for Gate B (and possibly similar construction for other gates) would probably have panes of glass overhead to block rain. I can tell you from working here for almost eight years that windows and glass around the ferry building are a magnet for bird droppings. The north end of our suite

overlooks this area and we do not want to look out upon a long pile of bird droppings. What will be done to maintain this, and any other structures, as a clean, aesthetically pleasing amenity? Another example of an aesthetic concern would be that any and all debris be removed promptly after its accumulation. Also, a large part of what makes the Ferry Building such a wonderful place to work, visit, and do business are the wonderful views. What will be done to make sure that these views remain unobstructed?

Thank you again for taking time to come to the Ferry Building to share details of the Ferry Building Expansion Project with us, and for your attention to these matters.

Sincerely,

Tim Fraser Facilities Department Coblentz, Patch, Duffy & Bass, LLP (415) 677-5210 [Direct]

This transmittal is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this transmittal is not the intended recipient or the employee or agent responsible for delivering the transmittal to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited .

From: Jane Connors [mailto:Jane_Connors@equityoffice.com] Sent: Monday, May 16, 2011 4:14 PM To: Michael Gougherty Cc: Dan Hodapp; elsa.lamb@sfport.com; James.Hurley@sfport.com Subject: [!! SPAM] Ferry Building - Comments for WETA for the purpose of defining the scope and content of the EIS/EIR

May 15, 2011

Mike Gougherty

Planner/Analyst

San Francisco Bay Area

Water Emergency Transportation Authority

Pier 9, Suite 111, The Embarcadero

San Francisco, CA 94111

RE: Water Emergency Transit Authority (WETA) - Downtown Ferry Expansion Plan –

Comments for WETA for the purpose of defining the scope and content of the EIS/EIR.

Dear Michael:

Thank you for the opportunity to comment on the scope and content of the EIS and EIR for WETA's Downtown Ferry Expansion Plan. Equity Office understands the vital importance of the WETA's Downtown Ferry Expansion Plan. As the Ferry Building landlord we have the responsibility to fully evaluate the implementation of this project and minimize the environmental impacts to our tenants needs on the back plaza, while simultaneously supporting WETA's Ferry Expansion Plan. Please address the following Ferry Building concerns in the EIR:

- WETA to consider extending a full plaza from Gate B to Pier 1 rather than finger pier/planks from Embarcadero sidewalk – so that there is abundant queuing area for ferry passengers. Passenger ridership will increase three fold in the next 20 years – so we should take queuing off already congested Embarcadero sidewalks.

- WETA should consider install of solar panels on queuing canopies over berthing areas for night time and emergency lights.

- Determine an area for a back up generator to power dock lights, pier hydraulics, etc.

- Noise and dust impacts on retail and office tenants of the Ferry Building could lead to requests for rent reductions, loss of revenue and possible requests for interim relocation or lease terminations. Equity Office would ask that WETA look for ways to mitigate noise & dust. Or have a method to reimburse EOP if tenant claims are legitimate.

- Study increase in wake/wave activity due to increase of ferry activity and how that may affect the pilings under Ferry Building.

- The queuing canopy by Gate B will obstruct views from Slanted Door's café and restaurant areas. Because queuing only happens seasonally – and often only one ferry ride in mid-afternoon during work week – we ask that this not be included in final design.

- WETA to provide assurances that proves it meets all current ADA standards for egress/ingress near and on the expansion areas.

- WETA to investigate how construction work could affect the settlement or structure to Ferry Building (a historic structure) – or ferry plaza platform as a result of ferry expansion.

- Loss of retail views and outside seating due to construction

could lead to reduced retail sales and retailer requests for rent reductions or lease termination. Equity Office requests that WETA look for ways to enhance barricades with farmers market, ferry transit and local food messaging.

- WETA will mitigate any rodent, pest or bird control issues that may arise due to ferry expansion construction. In EIR please study the potential impacts.
- Please incorporate bird deterrents on any up high structures or ledges.
- Please incorporate a cleaning plan for all up high facilities in designs (accumulation of debris & bird droppings on roof canopies)
- Make sure idling ferry fumes are required BAAQD distance from café areas.
- WETA to keep Ferry Plaza Farmer's Market operating on back plaza during the project. Equity Office asks that WETA look for ways to keep majority of construction site on barges.
- WETA to provide prompt removal of any floating debris from construction immediately. Please consider a marine barrier during construction that would mitigate this need.
- Equity Office requests WETA to hire structural engineer to take initial and subsequent surveys of Ferry Building structure to ensure it remains undamaged by the ferry expansion project.
- WETA to provide a study of ferry passenger circulation that provides stats on ridership numbers, ferry commuter habits, ferry passenger bike commuting and rest room uses on boats and at Ferry Building.
- WETA to reimburse Equity Office fees associated hire a structural or geotechnical engineer to review WETA's plans, as they relate to the Ferry Building, or monitoring information. Equity Office will need them if we experience excessive noise, vibration or movement.

- During Construction request that WETA use Ferry Building approved vendors for Pest Control, Bird Abatement, cleaning and/or other areas that require mitigation of impact on Ferry Building Property..
- Specifically request air quality testing for the interior of building in accordance with ASHRAE 62.1-2007
- Request addition of restroom, storage, and bike storage facilities to plaza build-out.

Thank you for consideration and we look forward to working with WETA. Should you require further information or have any questions, please contact me at (415) 983-8001.

Sincerely,

Jane Connors

Equity Office Properties

Senior Property Manager

The Ferry Building

This message is for the designated recipient(s) only and may contain privileged, proprietary, or otherwise confidential information. If you have received it in error, please notify the sender immediately and delete the original.

-----Original Message-----
From: Debbie_Allen@nps.gov [mailto:Debbie_Allen@nps.gov]
Sent: Friday, May 06, 2011 6:29 PM
To: Michael Gougherty
Cc: waso_eqd_extrev@nps.gov; Alan_Schmierer@nps.gov;
lisa_treichel@ios.doi.gov
Subject: Re: ER-11/0311:San Francisco Ferry Terminal Expansion Project

PWR has no comment regarding subject document.

Debbie Allen
National Park Service
Partnerships Programs, PWR
1111 Jackson Street #700
Oakland, CA 94607
510/817-1446
510/817-1505 Fax

"Don't dwell on what went wrong. Instead, focus on what to do next. Spend your energies on moving forward toward finding the answer." -- Denis Waitley

Ellen_Singleton@n
ps.gov
04/08/2011 10:35
AM

To
Debbie_Allen@nps.gov
cc

Subject
ER-11/0311:San Francisco Ferry
Terminal Expansion Project

EIS/Related Document Review: Detail View
http://er2000/detail.cfm?ernum=15472

Document Information

Record #15472

ER Document Number
ER-11/0311
Document Title
San Francisco Ferry Terminal Expansion Project
Location

State
California
County
San Francisco County

Document Type
Notice of Intent, Prepare Environmental Impact Statement
Doc. Classification
Transportation Project
Applicant
Federal Transit Administration
Web Review Address

http://edocket.access.gpo.gov/2011/2011-8227.htm

http://www.watertransit.org/

Document Uploads

Documents Uploaded

File Name	Description

File Size

Bytes

ER 11-0311 [NOI FTA SAN FRANCISCO FERRY TERMINAL EXPANSION, SAN FRANCISCO CITY & COUNTY, CA] - NOI.pdf

OEPC Memo

39237

Document Reviewers

WASO Lead Reviewer

WASO Reviewers

Carl Wang(2420), David Vana-Miller(2380), Bill Commins(2200), Lee Dickinson(2460), Dave Kreger(2033), Marchelle Dickey(2310), Sandy Lardinois(2310), Roxanne Runkel(2310), Ellen Singleton(2310), David Jacob(2310), Wayne Strum(2225), Joe Carriero(2310), Daniel Odess(2255), Jennifer Lee(2340), Kerry Moss(2360), Pat Gillespie(2225), Fred Sturniolo(2420)

Regional Lead Reviewer

Alan Schmierer (PWR-O)

Regional Reviewers

Alan Schmierer(PWR-O), Cassie Thomas(AKRO), Debbie Allen(PWR-O), Michael Taylor(PWR-O), Joseph Balachowski(PWR-S)

OEPC Contact

Lisa Chetnik Treichel

Action

Lead Bureau
REO/Office of Environmental Policy and Compliance
Response Type
Directly
Instructions
Comments sent directly to Applicant. NPS Lead consolidates comments, prepares and sends comment/no comment letter directly to Applicant with copy to EQD (WASO-2310), OEPC, and (if applicable) appropriate REO. See DI Remarks Section below for specifics.

Topic Context

The proposed project would serve commuters, visitors, and recreational users desiring an alternative way to cross San Francisco Bay, and reach nearby employment, entertainment, and recreational destinations in San Francisco. The project expands the number of ferry gates and improves ferry patron circulation, boarding, and wayfinding in and around the Ferry Building. In addition, the project enhances emergency response capabilities to evacuate people from San Francisco and/or mobilize first responders to San Francisco via ferries if a catastrophic event occurs.

DI Remarks

Reviewers: Please email comments, if any, to NPS Lead Alan Schmierer, PWRO, by May 4, 2011.

NPS Lead: Alan, please consolidate NPS comments in letter format (or no comment email) and send directly to the person listed in the notice by May 12, 2011, with copy to waso_eqd_extrev@nps.gov and Lisa_Treichel@ios.doi.gov

Workflow

Send Comments to Lead Office: PWR-O
Send to: Alan Schmierer (PWR-O) by 05/04/11

Lead DOI Bureau: REO/Office of Environmental Policy and Compliance
DUE TO: Lead Bureau by 05/12/11
DATE DUE OUT: 05/12/11

OEPC Memo to EQD: 04/08/11
Comments Due To Lead WASO Div:
Comments Due Out to
OEPC/Wash or Applicant: 05/12/11
Comments Due To Lead Region: 05/04/11
Comments Due in EQD:
Comments Due to REO:

Tracking Dates

Rcvd. Region Comments:
Comments Sent to OEPC, REO, or Applicant:
New Instructions:
Recvd. Ext. Letter:
Reg. Cmts. to Bureau:
Cmts. Called In:
Comments Sent to EQD Chief:
Comment Letter/Memo Signed:
Recvd. Extension:
Sent Add. Info:
Reg. Cmts. Listed:
Rcvd. Bureau Cmts:

Tracking Notes

Reviewer Notes

Documentation

Document Last Modified: 04/08/2011
Complete: False

Date Created: 04/08/2011
Date Last Email Sent:

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
300 Lakeside Drive, P.O. Box 12688
Oakland, CA 94604-2688
(510) 464-6000

2011

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Lynette Sweet
7TH DISTRICT

James Fang
8TH DISTRICT

Tom Radulovich
9TH DISTRICT

By Hand Delivery

May 16, 2011

Mike Gougherty
WETA Project Manager
SanFrancisco Bay Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

Re: Scoping Comments on Preparation of a Draft Environmental Impact Statement/Environmental Impact Report for the Downtown San Francisco Ferry Terminal Expansion Project

Dear Mr. Gougherty:

Thank you for the opportunity to comment on the Notice of Intent ("NOI") to prepare an Environmental Impact Report ("EIS") issued by the Federal Transit Administration ("FTA") and Notice of Preparation ("NOP") of an Environmental Impact Report ("EIR") issued by San Francisco Bay Water Emergency Transportation Authority ("WETA") for the Downtown San Francisco Ferry Terminal Expansion Project ("Project").[1] The Project will support and expand ferry service on the San Francisco Bay by reconfiguring existing and adding new ferry terminals in the vicinity of the San Francisco Ferry Building. The Project will encourage transit use and in principle will be a positive addition to the Bay Area's transit system.

BART has a strong interest in the Project, both as the operator of rapid transit facilities and the owner of property interests within the Project area. In fact, the platform east of the Ferry Building ("Platform") was constructed originally by BART, pursuant to a 1965 Agreement for Joint Exercise of Powers between BART and the State of California, then-owner of the Port of San Francisco. In addition to BART's facilities, the Platform today contains the San Francisco Ferry Plaza and the Golden Gate Bridge, Highway and Transportation District ferry terminal, as well as a restaurant and other amenities. Nevertheless, pursuant to the Agreement for Joint Exercise of Powers, the express purpose of the Platform is to protect BART's facilities in the San Francisco Bay. In addition to the Agreement for Joint Exercise of Powers, BART also enjoys

[1] It is not clear from the NOI and NOP whether FTA and WETA intend to prepare separate EIS and EIR documents or a single joint EIS/EIR. For convenience, we refer in these comments to a joint EIS/EIR.

certain statutory and other rights to use the San Francisco Bay tidelands and submerged lands and the Platform, including, but not limited to California Public Utilities Code Sections 29031 and Section 29033 and the Public Trust Doctrine. Additionally, BART operates its Embarcadero Station which would become a significant transfer point for new transit riders arriving and leaving San Francisco using the proposed expanded ferry terminal.

The Project will impact these BART facilities in the vicinity of the Project area. Moreover, the Project will require BART's approval for use of BART's property interests at and around the Platform, and BART will rely on the EIS/EIR for purposes of its own California Environmental Quality Act ("CEQA") compliance in issuing such approval. Therefore, BART should be consulted and listed in the EIS/EIR as a "Responsible Agency" under CEQA.

To facilitate the CEQA and National Environmental Policy Act ("NEPA") review processes, we offer the following scoping comments regarding issues and potential impacts of the Project of concern to BART.

1. **Impacts on Existing Transit:** In general, under NEPA and CEQA, the lead agencies are responsible for identifying all adverse impacts, and mitigation measures and alternatives to avoid or minimize impacts. In addition, the Transportation section of CEQA Guidelines Appendix G, recently amended by the Resources Agency in response to SB 97, specifically includes impacts on mass transit as a component of CEQA analysis, as do the "Transportation Impact Analysis Guidelines for Environmental Review" of the San Francisco Planning Department. The EIS/EIR analysis should include a full accounting of increased passenger uses of the Embarcadero Station attributable to the proposed ferry terminal improvements as well as increased use of the overall BART System, during both regular service and special events. In addition, to the extent that the Project requires any modifications to BART facilities or property, WETA is fully responsible for mitigating both direct and indirect environmental impacts.

2. **Land Use:** BART operates and maintains rapid transit facilities within the Project area. The EIS/EIR should address the Project impacts on land use for public transportation purposes and Public Trust uses of the bay and waterfront, particularly existing easement rights for public transportation facilities and potential future rail and rapid transit.

3. **Noise and Vibration:** The EIS/EIR should address the Project impacts of construction vibration on the Platform, BART Facilities, and the seawall along the Embarcadero.

4. **Geology and Soils:** The EIS/EIR should analyze construction impacts to the stability of the bay mud and slope and include mitigation to maintain stability.

5. **Dredging And Bay Fill:** The EIS/EIR should address impacts of any dredging or soil displacement, such as scouring and sediment build-up,both due to construction activities and in the long term as a result of the Project. In particular, the use of piers or piles should be studied in relationship to impacts on existing and future uses of the Project area.

6. **Hazardous Materials Resulting From Demolition and Construction Activities:** Hazardous materials that may be introduced or disturbed as a result of the Project which have potential impacts to BART's facilities and workers must be assessed and impacts fully mitigated. In particular, risks from mobilizing contaminated sediments also must be addressed.

7. **Water Quality and Biological Resources:** Mobilizing contaminated sediments during construction activities also must be analyzed for potential impacts to water quality and marine life.

8. **Water Vessel Circulation:** The EIS/EIR should take into account BART's water-based access to its facilities in identifying and analyze the impact of added water vessels traffic and changed vessel circulation patterns, both during construction and in the long term. BART requires access to its facilities for maintenance, repair, and operation-related activities necessary to ensure the safe and efficient operation of its rapid-transit system. Any proposed changes to ferry service and other vessel circulation must take into account BART's water-based access to its facilities as part of existing conditions.

9. **Traffic Circulation:** The EIS/EIR should identify and analyze the impact of added vehicles and equipment and changed vehicle circulation patterns on the Platform and at the driveway on the south end of the Ferry Building, both during construction and in the long term as a result of the Project, including the following impacts:
   - Additional vehicle use of the Platform for construction activities, ongoing maintenance activities, deliveries, and other purposes; and
   - Access and circulation to and around BART facilities;

   As noted above, BART requires access to its facilities for maintenance, repair and operations-related activities. BART's current level of access to its facilities must be maintained and any impacts that may impair such access must be mitigated.

10. **Pedestrian Circulation:** The EIS/EIR should identify and analyze the impact of added pedestrian use of the Platform and at and across the fire lane and driveway on the south end of the Ferry Building, including the following impacts:

- Access and circulation to and around BART Facilities;
- Capacity of sidewalks and pedestrian routes to allow effective travel between points without stopping and gathering within the fire lane/BART's access route;
- Prominent wayfinding signs that will encourage smooth pedestrian and bicycle flow through and away from the Platform to prevent milling and blocking the fire lane/BART access route; and

Any proposed circulation plan must include safe routes for pedestrians, taking into account BART's vehicular access to its facilities as part of existing conditions.

11. **Fire and Life Safety:** The Embarcadero Station and BART's facilities in the Project area are subject to specific fire and life regulatory frameworks enforced by the San Francisco Fire Marshall, California Public Utilities Commission (CPUC) and the National Fire Protection Association (NFPA). The added passenger loads resulting from the Project could impede and increase the existing overall evacuation times at these locations. The impact on safety from increasing the number of passengers, particularly during peak periods, must be mitigated by contribution to a "fair share" of fire and life safety system improvements.
    - BART's facilities within the Project area provide an emergency evacuation route for BART passengers from BART's transbay tube to the Platform. The EIS/EIR analysis should include a full accounting of the impacts of ferry passenger uses of the Platform in relation to BART's need to maintain an effective evacuation route in the event of an emergency or major catastrophe.

12. **Security:** The EIS/EIR should address the security of structures and improvements at the Platform due to the added number of users of the Platform as a result of the Project. BART also has additional security concerns which it intends to raise during the EIS/EIR process.

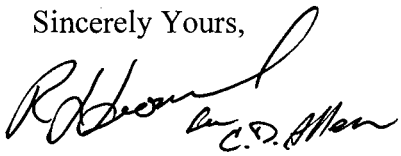
13. **Cumulative Impacts:** In considering cumulative impacts of the Project together with other reasonably foreseeable projects, the EIS/EIR should take into account BART's ongoing work on Earthquake Safety Program and security improvements at and in the vicinity of the Ferry Plaza. Any contribution to significant cumulative impacts by the Project, during construction or in the long term, must be mitigated.

Thank you for considering our comments. BART requests to be added to the mailing list for all notices, documents and other information related to the Project. Please direct such correspondence to:

Carlton D. Allen
Chief Engineer
San Francisco Bay Area Rapid Transit District
300 Lakeside Drive, 9th Floor
Oakland, CA 94612

BART looks forward to collaborating with you to develop a successful Project with substantial benefits for the public and transit systems. Please feel free to contact me at 510-464-7283 if you have any questions.

Sincerely Yours,



Carlton D. Allen
Chief Engineer
San Francisco Bay Area Rapid Transit District

CDA/bjl

CC: BART Board Members
BART Executive Staff

Making San Francisco Bay Better

received 5.18.11

May 16, 2011

Mr. Mike Gougherty
WETA Project Manager
San Francisco Bay Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

SUBJECT: Notice of Preparation of a Draft Environmental Impact Report for the Downtown San Francisco Ferry Terminal Expansion Project; SCH #2011032066 (BCDC File No. MC.MC.7812.1)

Dear Mr. Gougherty:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Downtown San Francisco Ferry Terminal Expansion Project at the San Francisco Ferry Building, which our office received on April 1, 2011.

The Commission is a responsible agency for this project and will rely on the DEIR when it considers the project. The project is not specific enough at this time for us to comment on every issue raised with respect to the Commission's laws and policies. However, we have prepared comments outlining specific BCDC issues that should be addressed either in the DEIR or through the BCDC permitting process. Once we receive more details on the project, we will be able to provide more detailed responses and can work closely with the project applicant to ensure the project is consistent with the Commission's laws and policies. Although the Commission itself has not reviewed the NOP, the staff comments are based on the McAteer-Petris Act, the Commission's *San Francisco Bay Plan* (Bay Plan), the *San Francisco Waterfront Special Area Plan*, the Commission's federally-approved management program for the San Francisco Bay, and the federal Coastal Zone Management Act (CZMA).

Jurisdiction

The majority of the project would be located within the Commission's jurisdiction. The Commission's jurisdiction at this location includes all tidal areas of the Bay up to the line of mean high tide, all areas formerly subject to tidal action that have been filled since September 17, 1965, and the "shoreline band," which extends 100 feet inland from and parallel to the Bay shoreline. In addition, a majority of the project is located within the detailed planning area of the *San Francisco Waterfront Special Area Plan* (SAP).

The Commission's jurisdiction over piers that predate its establishment in 1965 are treated differently, depending on the scope of work proposed on the piers. Proposed development that does not involve any additional coverage of Bay water and that does not involve any work on the pier deck itself or its substructure is treated as within the Commission's shoreline band jurisdiction. Work that involves the removal and replacement of all or a substantial portion of a pier deck or its supporting pilings or substructure that would "significantly extend the life of the pier" or work on the pier that would allow the use or utility of the structure to change, is treated as within the Commission's Bay jurisdiction.

Commission permits are required for the demolition of piers, the construction of docks, gangways, ferry structures, and new pile decks, and changes in use within its area of jurisdiction. To authorize a project, the Commission must be able to find the activities are consistent with the McAteer-Petris Act, the policies and findings of the Bay Plan, and the policies and findings of any Special Area Plan for the site. In addition to any needed permits under its state authority, federal actions, permits, and grants that affect the Commission's jurisdiction are subject to review by the Commission, pursuant to the CZMA, for their consistency with the Commission's federally-approved management program for the Bay.

The Commission will need a detailed site plan that depicts the Commission's Bay and shoreline band jurisdictions, the existing conditions and the proposed project, areas where fill would be placed and removed, the proposed uses at the site, and proposed public access areas and improvements, in order to determine the extent of work proposed and to evaluate the project's consistency with its laws and policies.

Bay Fill

Section 66605 of the McAteer-Petris Act sets forth the criteria necessary to authorize placing fill in the Bay and certain waterways. It states, among other things, that further filling of the Bay should only be authorized if it is the minimum necessary to achieve the purpose of the fill and if harmful effects associated with its placement are minimized. According to the Act, fill is limited to water-oriented uses or minor fill for improving shoreline appearance or public access and should be authorized only when no alternative upland location is available for such purpose. Under the SAP, piers not designated for removal may be repaired or wholly reconstructed for uses that are consistent with the Public Trust Doctrine and the Port's Legislative Trust Grant without triggering the water-oriented use and no alternative upland location criteria of Section 66605 of the McAteer-Petris Act, subject to additional criteria and policies.

Under the SAP, both Piers ½ and 2 are designated for removal.[1] Special Condition II-B-7 of BCDC Permit No. 7-97 (as amended through January 10, 2007, Amendment #9) requires the removal of 16,000 square feet of Pier ½ to expand the open water area at this location. Within newly created open water areas at Piers ½ and 2, new fill is limited to certain uses defined in the SAP, including minor pile-supported or floating fill for water transportation uses, areas appropriate for additional ferry terminals, minor fill for improving shoreline appearance or public access to the Bay, or seismic and safety repairs to an existing pier that is not being wholly reconstructed.[2]

The Draft EIR should evaluate the amount of fill that would be removed from the demolition of Piers ½ and 2 in light of the SAP and BCDC permit requirements for these areas, and include a description of the amount of new fill for the project as a whole and for each specific area and the uses associated with the proposed new fill for each specific area. The description should include all new fill proposed including fill required for ferry service (docks, gangways, piles), fill for public access, fill within the area commonly known as the "lagoon" for emergency evacuation needs identified in the NOP, fill to reconstruct and raise the Agriculture Building, and fill for any other proposed uses. Depending on the amount of net total fill proposed and the uses proposed on fill, the Commission may require that fill be removed elsewhere on the waterfront to mitigate the amount of new fill proposed. Based on the project description in the NOP, it appears that most, if not all of the proposed fill would be for ferry or public access purposes, which is consistent with our Bay Plan policies.

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[1] See San Francisco Waterfront Special Area Plan, as amended through July 2000 (SAP), Figure 2: Open Water Basins, Open Water Areas and Public Plazas.
[2] See SAP, pp. 26-27.

Applicable Bay Plan Policies

The proposed project raises the following issues that the Commission has addressed through its Bay Plan policies. These issues should be addressed in the DEIR whenever possible and/or during the pre-application and permitting process.

1. **Public Access.** Section 66602 of the McAteer-Petris Act states, "...that maximum feasible public access, consistent with a proposed project, should be provided." According to the SAP, public access should be provided free of charge to the public, be generally accessible at any time, emphasize passive recreation, and focus on its proximity to the Bay and on the views and unique experiences that nearness to the Bay affords. BCDC Permit No. 7-97, issued to the Port of San Francisco for work on the downtown San Francisco Ferry Terminal, requires various public access improvements at the site, including a phased public access plan and program to enliven and improve public use of the Ferry Platform.

   The construction of three new ferry gates at the site will undoubtedly bring more people and passengers to the site and impact already heavily-used public access spaces. In addition to mitigating adverse impacts to existing public access areas and use at the site, BCDC requires that maximum feasible public access consistent with the project be provided. In order to fully evaluate the public access proposed with the project, the DEIR should include more detailed information regarding existing and proposed public access. If pedestrian promenades are proposed to be widened, new plazas on fill constructed, or existing areas improved, these should be fully described in the DEIR to allow the Commission to fully evaluate the public access proposed with the project.

   The DEIR should analyze the number of new ferry passengers and users to the site, their impact to existing public access areas, and evaluate whether the proposed new public access areas will accommodate these visitors and/or mitigate for these impacts. Providing this information will aid the Commission in determining whether the public access proposed with the project is the maximum feasible, consistent with the project.

   The DEIR should also consider the possible impacts the project may have on public access along the Embarcadero from the increased passengers arriving and departing from this location and possible queuing of passengers in public access areas. Any proposed plans to improve the Ferry Platform should seek to encourage more pedestrian and public access use of this area, should address limited service vehicle and valet parking requirements and should include provisions for limiting vehicle activity to authorized uses.

   The project will require review by BCDC's Design Review Board.

2. **Transportation.** Policy 5 of this section states that, "Ferry terminals should be sited at locations that are near navigable channels, would not rapidly fill with sediment and would not significantly impact tidal marshes, tidal flats or other valuable wildlife habitat. Wherever possible, terminals should be located near higher density, mixed-use development served by public transit. Terminal parking facilities should be set back from the shoreline to allow for public access and enjoyment of the Bay." The DEIR should address how the proposed project would meet this policy of the Bay Plan, including whether maintenance dredging would be required in the future.

3. **Fish, Other Aquatic Organisms and Wildlife.** The policies in this Bay Plan section address the benefits of fish, other aquatic organisms and wildlife and the importance of protecting the Bay's subtidal habitats, native, threatened or endangered species and species that are candidates for listing as endangered or threatened. The DEIR should address how the construction and use of the proposed project would meet these policies and minimize impacts to special-status species and habitat in the Bay. In particular, because the site is a highly-productive spawning ground for Pacific herring, a species of special concern, the DEIR should address the project's impacts to this species and discuss how these impacts would be mitigated.

4. **Water Surface Area and Volume.** Policy 1 in this Bay Plan section states that the surface area of the Bay and the total volume of water should be kept as large as possible and that filling that reduces area and water volume should be allowed only for purposes providing substantial public benefits and only if there is no reasonable alternative. The DEIR should discuss how the proposed project would maintain or improve open water areas in the Bay, with particular attention to the proposed increase in Bay fill from new docks and gangways and the filling of the "lagoon".

5. **Water Quality.** The policies in this Bay Plan section address water quality and require Bay water pollution to be prevented to the greatest extent feasible. Policy 3 in particular requires new projects to be sited, designed, constructed and maintained to prevent or minimize the discharge of pollutants in the Bay by controlling pollutant sources at the project site, using appropriate construction materials, and applying best management practices. The DEIR should address how the construction and use of the proposed project would be designed to control stormwater runoff and pollution to the Bay, including litter management.

6. **Safety of Fills and Sea Level Rise.** Policy 4 in this Bay Plan section states that structures on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by competent engineers. The policy states, "as a general rule, structures on fill or near the shoreline should be above the wave runup level or sufficiently set back from the edge of the shore so that the structure is not subject to dynamic wave energy. In all cases, the bottom floor level of structures should be above the highest estimated tide elevation. Exceptions to the general height rule may be made for developments specifically designed to tolerate periodic flooding."

   In order to approve the project, the Commission will need to find that the public access and Bay fill project elements are designed with adequate flood protection, including consideration of future sea level rise. The DEIR should explain how the project elements are designed to address sea level rise and flooding during the life of the project (including storm surges). In particular, because the area of the Embarcadero near the Agricultural Building often experiences flooding during storm events, the DEIR should include a detailed discussion on the existing elevation at the site, the proposed finished elevation at the site and an analysis of whether the structures in this project area have been designed to withstand flooding, or set at an elevation to accommodate sea level rise. If the structures cannot be constructed at an elevation high enough to withstand periodic flooding, the DEIR should explain why this cannot be done at this time, and how the structures could be adapted in the future.

   The project will likely require review by BCDC's Engineering Criteria Review Board.

7. **Public Trust.** The State Lands Commission will need to determine that the project use is consistent with the public trust. BCDC will also be relying on this determination in deciding whether the project is consistent with its laws and policies. In order to evaluate the public trust uses, the DEIR should describe the proposed uses at the project site and the approximate square footage and percentage that each use would occupy.

Thank you for providing staff with the opportunity to review the NOP of a DEIR for the Downtown San Francisco Ferry Terminal Expansion project. We recognize the importance and scope of this project and hope these comments aid you in the preparation of the DEIR. We look forward to working with you and the project applicant as the project is developed and through the permitting stage. Please feel free to contact me at (415) 352-3616, or email me at mingy@bcdc.ca.gov if you have any questions regarding this letter or the Commission's policies and permitting process.

Sincerely,

MING YEUNG
Coastal Program Analyst

MY/gg

cc: James Hurley, Port of San Francisco
State Clearinghouse

WETA – Downtown Ferry Terminal Expansion Project
Record of Meeting: Agency Scoping with NMFS in Santa Rosa
May 4, 2011

Attendees:

NOAA National Marine Fisheries Service - Korie Schaeffer, Marine Biologist
WETA – Mike Gougherty, Chad Mason
URS – Bill Martin, Ian Austin

The meeting was held in the NOAA National Marine Fisheries Service (NMFS) offices in Santa Rosa because a NMFS representative was not able to attend the Agency Scoping meeting held in San Francisco on April 26, 2011.

Mike Gougherty provided an overview of the proposed Downtown Ferry Terminal Expansion Project as described in the project Fact Sheet. The project includes demolition of Piers ½ and 2 on the north and south side of the San Francisco Ferry building Gates B and E respectively, and construction of three new gates (Gates A, F, and G).

Korie Schaeffer comments:

- NMFS will need details of the square footage of new bay cover associated with the project (e.g., piers, ramps, and floats), of Bay fill removed (e.g.; Pier ½ and Pier 2) and of Bay covered (e.g., the BART construction hole). This information will be needed for both Phase 2 and Phase 3 build-out.

- NMFS requested that the same list of topics be addressed as the list that had just been discussed for the Berkeley ferry terminal project. The topics are related to potential impacts on Essential Fish Habitat and Endangered Species Act species that NMFS' regulatory authority requires it assess:

    - Underwater Sound
    - Overwater shading
    - Dredging
    - Marine mammals

Edwin M. Lee | Mayor
Tom Nolan | Chairman
Jerry Lee | Vice-Chairman
Leona Bridges | Director
Cheryl Brinkman | Director
Malcolm Heinicke | Director
Bruce Oka | Director
Nathaniel P. Ford Sr. | Executive Director/CEO

May 9, 2011

Mike Gougherty
WETA Project Manager
San Francisco Bay Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

RE: Downtown San Francisco Ferry Terminal Expansion Project, Scope and Content of the EIR/EIS

Dear Mr. Gougherty:

The San Francisco Municipal Transportation Agency (SFMTA) has received the Notice of Public Scoping Meeting for the Downtown San Francisco Ferry Terminal Expansion Project. On behalf of the SFMTA I would like to express our support for the proposed expansion of the Downtown Ferry Terminal. The expansion could help to reduce vehicle trips in the City and the region and is consistent with San Francisco's Transit First and Climate Actions policies.

We have reviewed the expansion proposal and would like the following issues to be included in the analysis of the EIR/EIS document:

Transit Transfer Agreements: The EIR/EIS should describe existing transfer agreements between ferry operators and Muni landside transit services. In order to increase the convenience of regional transit connections, transfers should be as seamless and economical as possible.

Pedestrian Impacts: With the increased ferry service pedestrian activities in front of the Ferry Terminal would increase. Please include an analysis of the impacts of the increased passengers on the sidewalks and the crossings of The Embarcadero in front of the Ferry Terminal in the EIR/EIS document.

Impact on the Public Transit System: With the increased ferry ridership, it is expected that Muni ridership around the Ferry Terminal in the outbound and inbound directions

would increase. Please include a line-by-line analysis of the impacts of the increased demand on Muni lines serving the area. We are attaching the F-Line data for the summer to be used in the analysis. Any potential increased dwell time to Muni operations as a result of increased vehicular congestion along The Embarcadero or pedestrian activities need to be assessed in the EIR/EIS.

Taxis: The current Ferry Terminal building curbside design does not allocate an area for taxi pick-ups or drop-offs or for bus or general passenger loading. With the increased ferry ridership taxi and other passenger pick-up and drop-offs are expected to increase. This area needs to accommodate taxis and other passenger loading demand so that double parking does not occur on The Embarcadero. Parking regulations on The Embarcadero are overseen by the Port of San Francisco, not SFMTA.

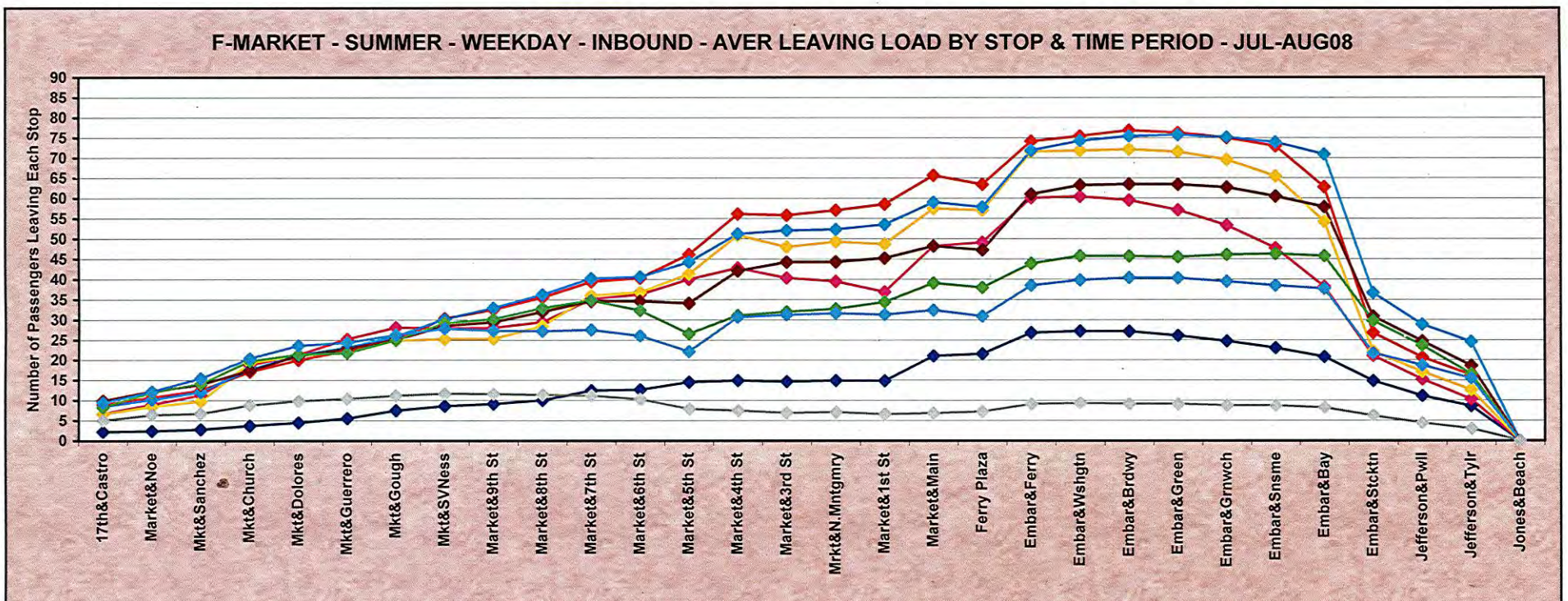
Parking Impact: With the increased ferry ridership, parking usage in the area is expected to increase. Please include an analysis of parking availability around the Ferry Building and how any increase in parking demand would be met.

Please feel free to contact Jerry Robbins at 415-701-4490 or Rana Ahmadi at 415-701-4451 if you have any questions or need further information.

Sincerely,

Bond M. Yee
Director of Sustainable Streets

Attachment


F-MARKET - SUMMER - WEEKDAY - INBOUND - AVER LEAVING LOAD BY STOP & TIME PERIOD - JUL-AUG08
Number of Passengers Leaving Each Stop
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
17th&Castro
Market&Noe
Mkt&Sanchez
Mkt&Church
Mkt&Dolores
Mkt&Guerrero
Mkt&Gough
Mkt&SVNess
Market&9th St
Market&8th St
Market&7th St
Market&6th St
Market&5th St
Market&4th St
Market&3rd St
Mrkt&N.Mntgmry
Market&1st St
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Ferry Plaza
Embar&Ferry
Embar&Wshgtn
Embar&Brdwy
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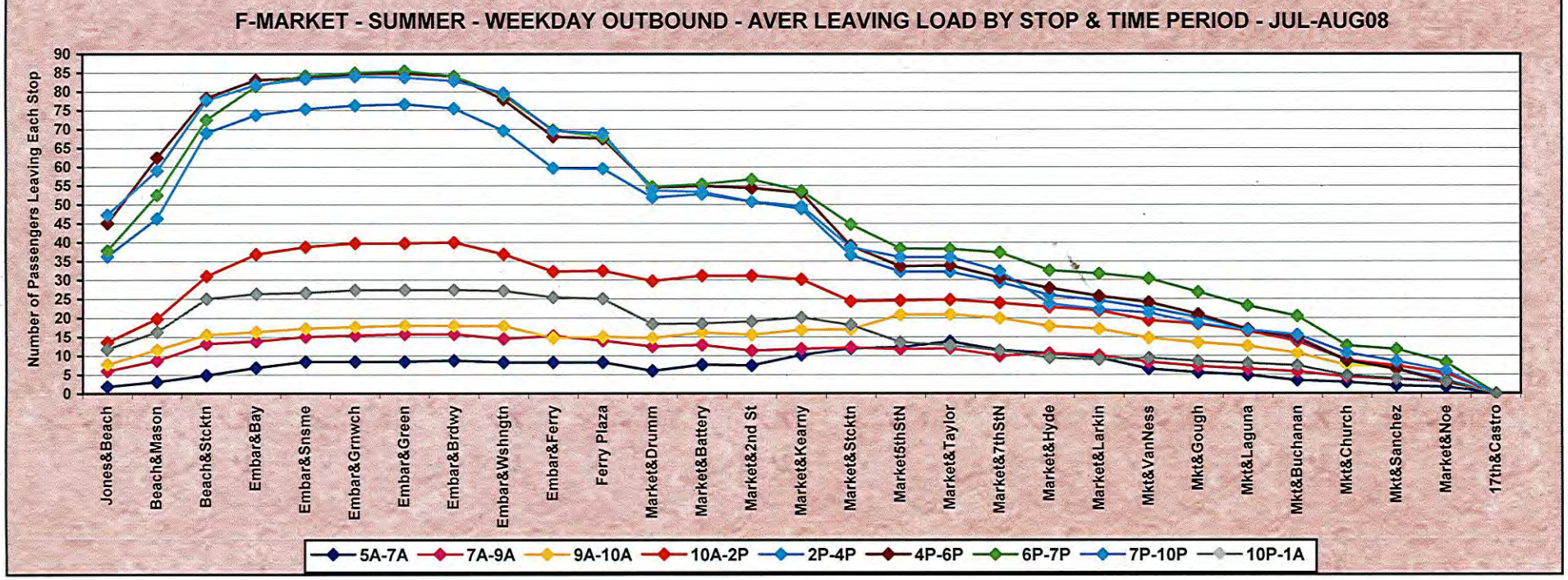
Embar&Stcktn
Jefferson&Pwll
Jefferson&Tylr
Jones&Beach


F-MARKET - SUMMER - WEEKDAY OUTBOUND - AVER LEAVING LOAD BY STOP & TIME PERIOD - JUL-AUG08
Number of Passengers Leaving Each Stop
0
5
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75
80
85
90
Jones&Beach
Beach&Mason
Beach&Stcktn
Embar&Bay
Embar&Snsme
Embar&Grnwch
Embar&Green
Embar&Brdwy
Embar&Wshngtn
Embar&Ferry
Ferry Plaza
Market&Drumm
Market&Battery
Market&2nd St
Market&Kearny
Market&Stcktn
Market5thStN
Market&Taylor
Market&7thStN
Market&Hyde
Market&Larkin
Mkt&VanNess
Mkt&Gough
Mkt&Laguna
Mkt&Buchanan
Mkt&Church
Mkt&Sanchez
Market&Noe
17th&Castro
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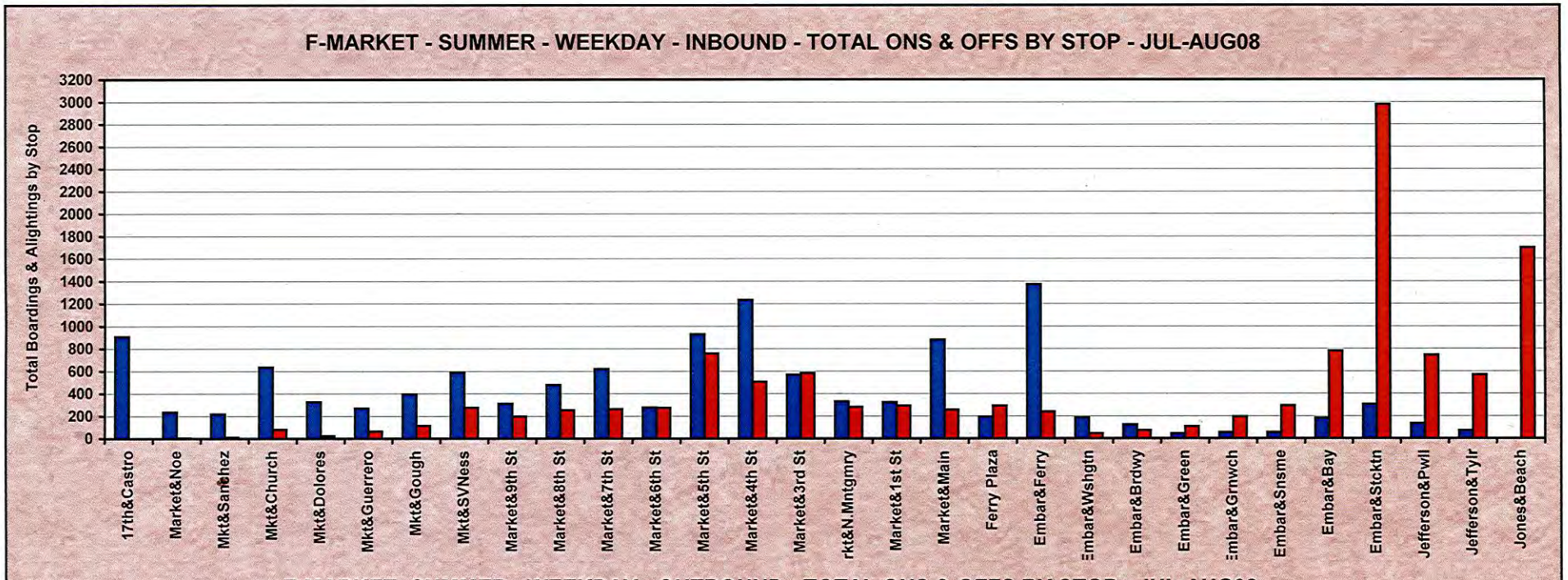
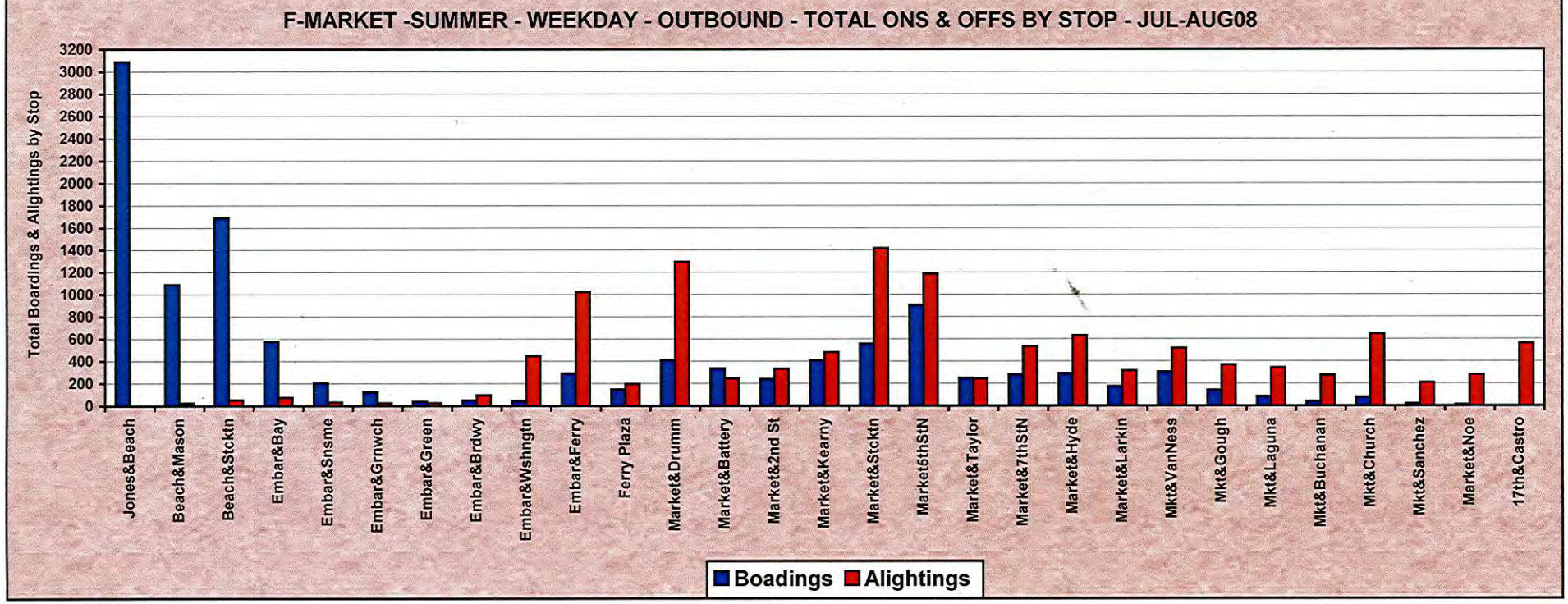

F-MARKET - SUMMER - WEEKDAY - INBOUND - TOTAL ONS & OFFS BY STOP - JUL-AUG08
Total Boardings & Alightings by Stop
3200
3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
17th&Castro
Market&Noe
Mkt&Sanchez
Mkt&Church
Mkt&Dolores
Mkt&Guerrero
Mkt&Gough
Mkt&SVNess
Market&9th St
Market&8th St
Market&7th St
Market&6th St
Market&5th St
Market&4th St
Market&3rd St
rkt&N.Mntgmry
Market&1st St
Market&Main
Ferry Plaza
Embar&Ferry
Embar&Wshgtn
Embar&Brdwy
Embar&Green
Embar&Grnwch
Embar&Snsme
Embar&Bay
Embar&Stcktn
Jefferson&Pwll
Jefferson&Tylr
Jones&Beach


F-MARKET -SUMMER - WEEKDAY - OUTBOUND - TOTAL ONS & OFFS BY STOP - JUL-AUG08
Total Boardings & Alightings by Stop
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Jones&Beach
Beach&Mason
Beach&Stcktn
Embar&Bay
Embar&Snsme
Embar&Grnwch
Embar&Green
Embar&Brdwy
Embar&Wshngtn
Embar&Ferry
Ferry Plaza
Market&Drumm
Market&Battery
Market&2nd St
Market&Kearny
Market&Stcktn
Market5thStN
Market&Taylor
Market&7thStN
Market&Hyde
Market&Larkin
Mkt&VanNess
Mkt&Gough
Mkt&Laguna
Mkt&Buchanan
Mkt&Church
Mkt&Sanchez
Market&Noe
17th&Castro
Boadings
Alightings

F-MARKET - SUMMER
WEEKDAY - INBOUND - JUN08 SIGNUP
DATA GATHERED JUL08-AUG08

AVERAGE ON, OFF, PASSENGER LOAD

LOCATION	EARLY AM PEAK 4:00AM-6:59AM			AM PEAK 7:00AM-08:59AM			LATE AM PEAK 9:00AM-9:59AM			MIDDAY 10:00AM-1:59PM			EARLY PM PEAK 2:00PM-3:59PM			PM PEAK 4:00PM-5:59PM			LATE PM PEAK 6:00PM-6:59PM			EARLY EVENING 7:00PM-9:59PM			LATE EVENING 10:00PM-1:59AM		
	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD
17th St&Castro St	2.2	0.0	2.2	6.7	0.0	6.7	6.7	0.0	6.7	9.0	0.0	9.0	8.5	0.0	8.5	9.9	0.0	9.9	8.3	0.0	8.3	9.5	0.0	9.5	5.0	0.0	5.0
Market St&Noe St	0.2	0.0	2.4	2.3	0.0	9.0	1.9	0.1	8.5	1.7	0.0	10.7	1.8	0.1	10.2	2.4	0.1	12.2	3.8	0.1	12.0	2.7	0.0	12.2	1.4	0.0	6.4
Market St&Sanchez St	0.4	0.0	2.8	2.3	0.0	11.3	1.4	0.1	9.8	1.9	0.1	12.5	2.0	0.1	12.1	1.9	0.2	13.9	2.1	0.0	14.1	3.3	0.0	15.5	0.4	0.1	6.7
Market St&Church St	1.2	0.3	3.7	7.7	0.3	18.7	9.9	0.3	19.4	5.3	0.7	17.1	6.3	0.8	17.6	4.8	1.3	17.4	7.1	1.4	19.8	5.6	0.7	20.4	2.4	0.3	8.8
Market St&Dolores St	0.8	0.0	4.5	2.7	0.1	21.3	1.9	0.2	21.1	3.1	0.2	20.0	3.9	0.3	21.2	4.0	0.3	21.1	1.9	0.3	21.4	3.4	0.2	23.6	1.2	0.2	9.8
Market St&Guerrero St	1.0	0.0	5.5	4.2	0.3	25.2	1.7	0.6	22.2	3.0	0.6	22.4	2.7	0.8	23.1	2.4	0.7	22.8	1.8	1.4	21.8	1.1	0.4	24.3	0.9	0.3	10.4
Market St&Gough St	2.0	0.0	7.5	3.8	0.9	28.1	3.4	0.7	24.9	3.8	1.0	25.2	4.2	1.4	25.9	3.6	1.3	25.1	4.8	1.6	25.0	3.1	1.1	26.3	1.3	0.5	11.2
Market St&South Van Ness Av	1.7	0.6	8.6	4.2	4.4	27.9	5.1	4.8	25.2	7.2	2.1	30.3	6.4	2.1	30.2	5.4	2.0	28.5	7.9	3.7	29.2	3.3	1.8	27.8	1.7	1.2	11.7
Market St&9th St	0.9	0.4	9.1	2.2	2.1	28.0	2.0	1.9	25.3	4.2	1.9	32.6	4.7	2.0	32.9	2.9	2.0	29.4	2.3	1.3	30.2	1.5	2.0	27.3	0.4	0.5	11.6
Market St&8th St	1.2	0.3	10.0	3.5	2.1	29.4	6.9	3.7	28.5	5.5	2.6	35.5	5.5	2.1	36.2	5.2	2.6	32.0	5.0	2.3	32.9	2.3	2.4	27.2	0.8	1.0	11.4
Market St&7th St	3.4	1.0	12.4	7.6	1.9	35.1	9.7	2.2	36.0	7.0	3.1	39.4	6.5	2.6	40.2	4.7	2.1	34.6	4.0	2.1	34.8	2.6	2.3	27.5	1.3	1.5	11.2
Market St&6th St	0.9	0.7	12.6	2.7	1.6	36.2	3.3	2.5	36.8	3.4	2.5	40.3	3.4	3.0	40.6	2.5	2.5	34.6	1.6	4.1	32.3	1.4	2.9	26.0	0.5	1.4	10.3
Market St&5th St	3.1	1.2	14.5	7.2	3.4	40.0	10.7	6.2	41.3	12.7	6.9	46.1	10.9	7.3	44.2	8.5	9.0	34.1	5.9	11.7	26.5	4.8	8.7	22.1	1.1	3.5	7.9
Market St&4th St	1.5	1.1	14.9	5.7	2.9	42.8	14.0	4.4	50.9	16.4	6.4	56.1	12.1	5.1	51.2	12.9	4.9	42.1	9.5	4.9	31.1	12.4	3.9	30.6	1.8	2.2	7.5
Market St&3rd St	2.6	2.9	14.6	4.2	6.7	40.3	3.9	6.8	48.0	6.9	7.2	55.8	5.9	5.1	52.0	5.5	3.4	44.2	5.1	4.2	32.0	4.9	4.3	31.2	1.0	1.6	6.9
Market St&New Montgomery St	1.5	1.2	14.9	4.5	5.3	39.5	3.6	2.3	49.3	4.1	2.9	57.0	3.0	2.7	52.3	2.6	2.5	44.3	2.4	1.7	32.7	1.3	0.9	31.6	0.6	0.4	7.1
Market St&1st St	1.2	1.3	14.8	3.1	5.7	36.9	2.4	3.0	48.7	4.2	2.7	58.5	3.5	2.3	53.5	2.7	1.8	45.2	3.5	1.8	34.4	1.6	1.9	31.3	0.6	1.1	6.6
Market St&Main St	8.0	1.8	21.0	15.1	3.8	48.2	11.4	2.6	57.5	9.5	2.4	65.6	7.5	2.0	59.0	5.0	2.0	48.2	5.8	1.1	39.1	3.4	2.3	32.4	0.9	0.7	6.8
Ferry Plaza	1.4	0.9	21.5	2.8	1.9	49.1	2.5	2.9	57.1	2.0	4.2	63.4	1.4	2.5	57.8	1.6	2.6	47.2	1.3	2.4	38.0	1.1	2.6	30.9	0.5	0.1	7.2
The Embarcadero&Ferry Term	5.5	0.2	26.8	11.8	0.8	60.1	16.6	2.1	71.6	14.6	3.9	74.1	17.1	3.2	71.8	16.1	2.3	61.0	6.9	1.0	43.9	9.2	1.6	38.5	2.1	0.2	9.1
The Embarcadero&Washington St	0.5	0.1	27.2	0.6	0.3	60.4	0.5	0.3	71.8	2.0	0.7	75.4	2.7	0.4	74.2	2.8	0.6	63.2	1.9	0.0	45.8	1.5	0.2	39.8	0.3	0.1	9.3
The Embarcadero&Broadway	0.2	0.3	27.1	0.3	1.2	59.5	0.9	0.6	72.1	2.0	0.6	76.8	1.8	0.5	75.4	1.2	0.9	63.5	0.6	0.7	45.7	1.0	0.4	40.4	0.0	0.1	9.2
The Embarcadero&Green St	0.1	1.1	26.1	0.3	2.7	57.1	0.6	1.2	71.5	0.4	1.0	76.2	0.5	0.3	75.7	0.5	0.6	63.4	0.1	0.3	45.5	0.5	0.6	40.3	0.1	0.2	9.1
The Embarcadero&Greenwich St	0.2	1.6	24.7	0.0	3.8	53.3	0.5	2.4	69.6	0.6	1.8	75.0	0.7	1.3	75.1	0.7	1.4	62.7	1.6	1.0	46.1	0.2	1.0	39.5	0.0	0.3	8.8
The Embarcadero & Sansome St	0.2	1.9	23.0	0.4	6.0	47.7	0.7	4.8	65.5	0.7	2.8	72.9	0.6	1.7	73.9	0.3	2.5	60.5	0.8	0.6	46.3	0.3	1.3	38.5	0.1	0.2	8.7
The Embarcadero&Bay St	0.0	2.2	20.8	0.3	9.8	38.2	0.1	11.3	54.3	1.9	12.0	62.8	3.0	6.0	70.9	3.7	6.3	57.9	2.1	2.6	45.8	1.1	1.9	37.7	0.0	0.5	8.2
The Embarcadero&Stockton St	0.0	6.0	14.8	0.2	17.3	21.1	1.0	33.1	22.2	2.0	38.0	26.8	5.0	39.3	36.7	5.1	32.2	30.8	6.8	22.8	29.8	3.9	19.9	21.7	0.0	2.0	6.2
Jefferson St&Powell St	0.0	3.7	11.1	0.2	6.1	15.2	0.4	5.5	17.1	1.2	7.3	20.7	2.1	9.8	28.9	1.5	7.6	24.7	0.8	6.9	23.7	2.9	5.9	18.7	0.0	1.8	4.4
Jefferson St&Taylor St	0.1	2.6	8.6	0.2	5.1	10.3	0.2	4.7	12.6	0.5	4.9	16.3	1.1	5.4	24.6	1.1	7.2	18.6	1.3	8.4	16.6	0.9	4.1	15.5	0.0	1.4	3.0
Jones St&Beach St	0.0	8.6	0.0	0.0	10.3	0.0	0.0	12.6	0.0	0.0	16.3	0.0	0.0	24.6	0.0	0.0	18.6	0.0	0.0	16.6	0.0	0.0	15.5	0.0	0.0	3.0	0.0
Average Passengers per Trip	42.0			106.8			123.9			136.8			134.8			121.5			107.0			90.8			26.4		
Maximum Passenger Load	27.2			60.4			72.1			77.0			75.5			63.5			46.3			40.4			11.7		
Maximum Load Point (Leaving)	Embar&Wshngtn			Embar&Wshngtn			Embarc&Brdwy			Embarc&Brdwy			Embarc&Green			Embarc&Brdwy			Embar&Sansome			Embarc&Brdwy			Market&SVNess		

F-MARKET - SUMMER
WEEKDAY - OUTBOUND - JUN08 SIGNUP
DATA GATHERED JUL08-AUG08

AVERAGE ON, OFF, PASSENGER LOAD

LOCATION	EARLY AM PEAK 4:00AM-6:59AM			AM PEAK 7:00AM-08:59AM			LATE AM PEAK 9:00AM-9:59AM			MIDDAY 10:00AM-1:59PM			EARLY PM PEAK 2:00PM-3:59PM			PM PEAK 4:00PM-5:59PM			LATE PM PEAK 6:00PM-6:59PM			EARLY EVENING 7:00PM-9:59PM			LATE EVENING 10:00PM-1:59AM		
	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD	AVG ON	AVG OFF	AVG LOAD
Jones St&Beach St	1.9	0.0	1.9	6.0	0.0	6.0	7.8	0.0	7.8	13.6	0.0	13.6	36.3	0.0	36.3	45.1	0.0	45.1	37.8	0.0	37.8	47.3	0.0	47.3	11.8	0.0	11.8
Beach St&Mason St	1.3	0.1	3.1	2.7	0.0	8.7	3.9	0.1	11.6	6.3	0.1	19.8	10.0	0.0	46.3	17.8	0.5	62.4	14.8	0.1	52.5	12.1	0.4	59.0	4.7	0.2	16.3
Beach St&Stockton St	1.8	0.0	4.9	4.7	0.2	13.2	3.9	0.0	15.5	11.7	0.5	31.0	23.4	0.7	69.0	16.5	0.6	78.3	20.2	0.2	72.5	19.3	0.6	77.7	8.8	0.1	25.0
The Embarcadero&Bay St	1.9	0.0	6.8	1.5	0.9	13.8	1.6	0.8	16.3	6.7	0.9	36.8	5.4	0.6	73.8	5.1	0.4	83.0	10.0	1.1	81.4	4.3	0.2	81.8	1.5	0.2	26.3
The Embarcadero&Sansome St	1.6	0.0	8.4	1.4	0.2	15.0	1.2	0.3	17.2	2.3	0.4	38.7	1.8	0.2	75.4	1.2	0.6	83.6	2.8	0.0	84.2	1.7	0.2	83.3	0.3	0.0	26.6
The Embarcadero&Greenwich St	0.1	0.1	8.4	0.3	0.0	15.3	0.7	0.3	17.6	1.1	0.1	39.7	1.5	0.6	76.3	1.6	0.4	84.8	0.8	0.0	85.0	0.9	0.2	84.0	0.7	0.0	27.3
The Embarcadero&Green St	0.0	0.0	8.4	0.4	0.0	15.7	0.6	0.2	18.0	0.3	0.3	39.7	0.5	0.2	76.6	0.2	0.3	84.7	0.7	0.2	85.5	0.1	0.4	83.7	0.1	0.0	27.4
The Embarcadero&Broadway	0.3	0.0	8.7	0.3	0.3	15.7	0.1	0.2	17.9	0.5	0.3	39.9	0.6	1.7	75.5	0.3	0.9	84.1	0.3	1.7	84.1	0.7	1.6	82.8	0.1	0.1	27.4
The Embarcadero&Washington St	0.1	0.6	8.2	0.1	1.4	14.4	0.3	0.4	17.8	0.4	3.5	36.8	1.0	6.9	69.6	0.3	6.5	77.9	0.0	5.1	79.0	0.3	3.5	79.6	0.1	0.4	27.1
The Embarcadero&Ferry Building	0.8	0.8	8.2	3.9	3.1	15.2	1.6	4.7	14.7	2.9	7.5	32.2	3.0	13.0	59.6	3.0	12.9	68.0	2.5	11.7	69.8	1.1	11.1	69.6	0.1	1.8	25.4
Ferry Plaza	0.6	0.6	8.2	0.6	1.9	13.9	1.5	1.2	15.0	1.9	1.7	32.4	1.3	1.4	59.5	1.6	2.1	67.5	1.0	2.9	67.9	0.4	1.1	68.9	0.2	0.6	25.0
Market St&Drumm St	0.3	2.5	6.0	1.2	2.7	12.4	2.9	3.2	14.7	3.7	6.4	29.7	4.8	12.5	51.8	4.7	17.7	54.5	3.5	16.7	54.7	3.0	18.2	53.7	1.7	8.3	18.4
Market St&Battery St	2.1	0.5	7.6	1.9	1.5	12.8	2.1	0.7	16.1	3.6	2.2	31.1	3.2	2.3	52.7	2.9	2.5	54.9	3.3	2.6	55.4	2.2	2.6	53.3	0.9	0.8	18.5
Market St&2nd St	0.5	0.7	7.4	0.9	2.4	11.3	1.8	2.4	15.5	2.2	2.2	31.1	2.0	4.0	50.7	2.6	3.2	54.3	3.3	2.1	56.6	1.9	4.5	50.7	1.0	0.4	19.1
Market St&Kearny St	3.3	0.5	10.2	2.1	1.6	11.8	3.3	2.0	16.8	3.4	4.4	30.1	3.5	5.4	48.8	4.2	5.4	53.1	4.1	7.1	53.6	3.2	4.4	49.5	1.7	0.7	20.1
Market St&Stockton St	2.2	0.5	11.9	2.0	1.7	12.1	3.8	3.7	16.9	4.2	10.0	24.3	5.7	18.0	36.5	5.7	19.8	39.0	8.2	17.1	44.7	5.5	16.4	38.6	1.9	3.9	18.1
Market St&5th St North	2.1	1.8	12.2	2.9	3.3	11.7	6.6	2.7	20.8	7.7	7.5	24.5	8.2	12.5	32.2	9.6	15.0	33.6	9.8	16.2	38.3	11.2	13.8	36.0	2.0	6.5	13.6
Market St&Taylor St	2.3	0.8	13.7	1.4	1.2	11.9	1.8	1.7	20.9	2.5	2.3	24.7	2.3	2.4	32.1	2.2	2.0	33.8	2.4	2.5	38.2	1.9	1.9	36.0	0.4	1.3	12.7
Market St&7th St North	1.5	3.8	11.4	1.2	3.2	9.9	2.1	3.1	19.9	3.4	4.2	23.9	1.8	4.6	29.3	1.8	5.1	30.5	2.6	3.5	37.3	2.3	6.0	32.3	1.3	2.6	11.4
Market St&Hyde St	1.1	1.9	10.6	2.8	2.1	10.6	1.9	4.0	17.8	3.4	4.5	22.8	3.1	6.4	26.0	2.3	5.0	27.8	1.4	6.2	32.5	1.1	9.7	23.7	0.8	2.8	9.4
Market St&Larkin St	0.3	1.5	9.4	1.0	1.6	10.0	1.2	1.9	17.1	1.9	2.8	21.9	1.8	3.2	24.6	1.7	3.8	25.7	1.1	1.9	31.7	1.4	2.9	22.2	0.3	0.7	9.0
Market St&Van Ness Ave	1.2	4.1	6.5	1.6	3.3	8.3	1.6	4.0	14.7	2.7	5.3	19.3	2.8	4.8	22.6	3.5	5.2	24.0	2.7	4.0	30.4	1.8	2.7	21.3	1.9	1.5	9.4
Market St&Gough St	0.2	1.1	5.6	0.3	1.4	7.2	0.6	1.8	13.5	1.6	2.5	18.4	1.2	3.7	20.1	2.0	5.1	20.9	0.7	4.3	26.8	0.9	3.7	18.5	0.5	1.3	8.6
Market St&Laguna St	0.1	0.8	4.9	0.4	1.1	6.5	0.7	1.6	12.6	0.7	2.6	16.5	0.8	4.1	16.8	0.9	4.9	16.9	1.2	4.8	23.2	0.6	2.3	16.8	0.2	0.8	8.0
Market St&Buchanan St	0.3	1.7	3.5	0.3	1.0	5.8	0.1	2.0	10.7	0.2	2.9	13.8	0.9	3.2	14.5	0.4	2.5	14.8	0.1	2.8	20.5	0.1	1.4	15.5	0.1	0.7	7.4
Market St&Church St	0.2	0.7	3.0	0.3	1.7	4.4	0.3	3.5	7.5	0.8	5.8	8.8	1.1	7.0	8.6	1.0	7.1	8.7	0.7	8.5	12.7	0.3	5.1	10.7	0.1	2.7	4.8
Market St&Sanchez St	0.0	0.9	2.1	0.1	0.7	3.8	0.0	0.3	7.2	0.2	1.7	7.3	0.1	2.2	6.5	0.3	2.6	6.4	0.2	1.2	11.7	0.2	2.4	8.5	0.1	1.0	3.9
Market St&Noe St	0.0	0.4	1.7	0.0	0.8	3.0	0.0	1.5	5.7	0.1	2.1	5.3	0.2	3.2	3.5	0.2	3.6	3.0	0.1	3.6	8.2	0.0	2.6	5.9	0.0	0.8	3.1
17th St&Castro St	0.0	1.7	0.0	0.0	3.0	0.0	0.0	5.7	0.0	0.0	5.3	0.0	0.0	3.5	0.0	0.0	3.0	0.0	0.0	8.2	0.0	0.0	5.9	0.0	0.0	3.1	0.0
Average Passengers per Trip	28.1			42.3			54.0			90.0			128.3			138.7			136.3			125.8			43.3		
Maximum Passenger Load	13.7			15.7			20.9			39.9			76.6			84.8			85.5			84.0			27.4		
Maximum Load Point (Leaving)	Market&Taylor			Embarc&Green			Market&Taylor			Embarc&Brdwy			Embarc&Green			Embar&Grnwich			Embarc&Green			Embar&Grnwich			Embarc&Green		

F-MARKET - SUMMER
WEEKDAY - INBOUND - JUN08 SIGNUP
DATA GATHERED JUL08-AUG08

TOTAL ON, OFF, PASSENGER LOAD

LOCATION	EARLY AM PEAK 4:00AM-6:59AM			AM PEAK 7:00AM-08:59AM			LATE AM PEAK 9:00AM-9:59AM			MIDDAY 10:00AM-1:59PM			EARLY PM PEAK 2:00PM-3:59PM			PM PEAK 4:00PM-5:59PM			LATE PM PEAK 6:00PM-6:59PM			EARLY EVENING 7:00PM-9:59PM			LATE EVENING 10:00PM-1:59AM			TOTAL DAY 4:00AM-1:59AM		
	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD
17th St&Castro St	18	0	18	97	0	97	40	0	40	248	0	248	106	0	106	149	0	149	58	0	58	133	0	133	60	0	60	908	0	908
Market St&Noe St	2	0	19	33	0	131	11	1	51	47	0	294	23	1	128	36	2	183	27	1	84	38	0	171	17	0	77	233	4	1,137
Market St&Sanchez St	3	0	22	33	0	164	8	1	59	52	3	344	25	1	151	29	3	209	15	0	99	46	0	217	5	1	80	216	9	1,345
Market St&Church St	10	2	30	112	4	271	59	2	116	146	19	470	79	10	220	72	20	261	50	10	139	78	10	286	29	4	106	634	81	1,898
Market St&Dolores St	6	0	36	39	1	309	11	1	127	85	6	550	49	4	265	60	5	317	13	2	150	48	3	330	14	2	118	326	24	2,201
Market St&Guerrero St	8	0	44	61	4	365	10	4	133	83	17	616	34	10	289	36	11	342	13	10	153	15	6	340	11	4	125	270	64	2,407
Market St&Gough St	16	0	60	55	13	407	20	4	149	105	28	693	53	18	324	54	20	377	34	11	175	43	15	368	16	6	134	395	114	2,688
Market St&South Van Ness Av	14	5	69	61	64	405	31	29	151	198	58	833	80	26	378	81	30	428	55	26	204	46	25	389	20	14	140	586	277	2,997
Market St&9th St	7	3	73	32	30	406	12	11	152	116	52	896	59	25	411	44	30	441	16	9	211	21	28	382	5	6	139	311	195	3,112
Market St&8th St	10	2	80	51	30	426	41	22	171	151	72	976	69	26	453	78	39	480	35	16	230	32	34	381	10	12	137	477	254	3,333
Market St&7th St	27	8	99	110	28	509	58	13	216	193	85	1,083	81	33	503	71	32	519	28	15	244	36	32	385	16	18	134	620	263	3,692
Market St&6th St	7	6	101	39	23	525	20	15	221	94	69	1,109	43	38	508	38	38	519	11	29	226	20	41	364	6	17	124	276	274	3,696
Market St&5th St	25	10	116	104	49	580	64	37	248	349	190	1,269	136	91	553	128	135	512	41	82	186	67	122	309	13	42	95	928	758	3,866
Market St&4th St	12	9	119	83	42	621	84	26	305	451	176	1,543	151	64	640	194	74	632	67	34	218	174	55	428	22	26	90	1,236	506	4,596
Market St&3rd St	21	23	117	61	97	584	23	41	288	190	198	1,536	74	64	650	83	51	663	36	29	224	69	60	437	12	19	83	567	583	4,582
Market St&New Montgomery St	12	10	119	65	77	573	22	14	296	113	80	1,571	38	34	654	39	38	665	17	12	229	18	13	442	7	5	85	330	281	4,633
Market St&1st St	10	10	118	45	83	535	14	18	292	116	74	1,612	44	29	669	41	27	678	25	13	241	22	27	438	7	13	79	323	293	4,662
Market St&Main St	64	14	168	219	55	699	68	16	345	261	66	1,807	94	25	738	75	30	723	41	8	274	48	32	454	11	8	82	880	254	5,288
Ferry Plaza	11	7	172	41	28	712	15	17	343	55	116	1,747	18	31	723	24	39	708	9	17	266	15	36	433	6	1	86	194	292	5,189
The Embarcadero&Ferry Term	44	2	214	171	12	871	100	13	430	402	107	2,043	214	40	898	242	35	915	48	7	307	129	22	539	25	2	109	1,374	239	6,326
The Embarcadero&Washington St	4	1	218	9	4	876	3	2	431	55	19	2,079	34	5	928	42	9	948	13	0	321	21	3	557	4	1	112	184	44	6,468
The Embarcadero&Broadway	2	2	217	4	17	863	5	4	433	55	17	2,117	23	6	943	18	14	953	4	5	320	14	6	566	0	1	110	125	71	6,520
The Embarcadero&Green St	1	9	209	4	39	828	4	7	429	11	28	2,101	6	4	946	8	9	951	1	2	319	7	8	564	1	2	109	42	108	6,456
The Embarcadero&Greenwich St	2	13	198	0	55	773	3	14	418	17	50	2,067	9	16	939	11	21	941	11	7	323	3	14	553	0	4	106	54	194	6,316
The Embarcadero & Sansome St	2	15	184	6	87	692	4	29	393	19	77	2,008	8	21	924	5	38	908	6	4	324	4	18	539	1	2	104	54	292	6,076
The Embarcadero&Bay St	0	18	166	4	142	554	1	68	326	52	330	1,730	38	75	886	56	95	869	15	18	321	15	27	528	0	6	98	180	778	5,478
The Embarcadero&Stockton St	0	48	118	3	251	306	6	199	133	55	1,045	740	63	491	459	77	483	462	48	160	209	55	279	304	0	24	74	305	2,979	2,805
Jefferson St&Powell St	0	30	89	3	88	220	2	33	103	33	201	572	26	123	361	23	114	371	6	48	166	41	83	262	0	22	53	133	741	2,196
Jefferson St&Taylor St	1	21	69	3	74	149	1	28	76	14	135	450	14	68	308	17	108	279	9	59	116	13	57	217	0	17	36	71	566	1,699
Jones St&Beach St	0	69	0	0	149	0	0	76	0	0	448	0	0	308	0	0	279	0	0	116	0	0	217	0	0	36	0	0	1,698	0
Total Boardings by Time Period	336			1,549			743			3,762			1,685			1,823			749			1,271			317			12,235		
Maximum Load Point (Leaving)	Embarc&Wshngtn			Embarc&Wshngtn			Embarc&Brdwy			Embarc&Brdwy			Embarc&Green			Embarc&Brdwy			Embarc&Sansome			Embarc&Brdwy			Market&SVNess			Embarc&Brdwy		

F-MARKET - SUMMER
WEEKDAY - OUTBOUND - JUN08 SIGNUP
DATA GATHERED JUL08-AUG08

TOTAL ON, OFF, PASSENGER LOAD

	EARLY AM PEAK 4:00AM-6:59AM			AM PEAK 7:00AM-08:59AM			LATE AM PEAK 9:00AM-9:59AM			MIDDAY 10:00AM-1:59PM			EARLY PM PEAK 2:00PM-3:59PM			PM PEAK 4:00PM-5:59PM			LATE PM PEAK 6:00PM-6:59PM			EARLY EVENING 7:00PM-9:59PM			LATE EVENING 10:00PM-1:59AM			TOTAL DAY 4:00AM-1:59AM		
LOCATION	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD	TOTL ON	TOTL OFF	TOTL LOAD
Jones St&Beach St	10	0	10	78	0	78	70	0	70	408	0	408	599	0	599	767	0	767	265	0	265	710	0	710	183	0	183	3,088	0	3,088
Beach St&Mason St	7	1	16	35	0	113	35	1	104	189	3	594	165	0	764	303	9	1,061	104	1	368	182	6	885	73	3	253	1,091	23	4,157
Beach St&Stockton St	9	0	25	61	3	172	35	0	140	351	15	930	386	12	1,139	281	10	1,331	141	1	508	290	9	1,166	136	2	388	1,690	51	5,796
The Embarcadero&Bay St	10	0	34	20	12	179	14	7	147	201	27	1,104	89	10	1,218	87	7	1,411	70	8	570	65	3	1,227	23	3	408	578	76	6,297
The Embarcadero&Sansome St	8	0	42	18	3	195	11	3	155	69	12	1,161	30	3	1,244	20	10	1,421	20	0	589	26	3	1,250	5	0	412	206	34	6,469
The Embarcadero&Greenwich St	1	1	42	4	0	199	6	3	158	33	3	1,191	25	10	1,259	27	7	1,442	6	0	595	14	3	1,260	11	0	423	126	26	6,569
The Embarcadero&Green St	0	0	42	5	0	204	5	2	162	9	9	1,191	8	3	1,264	3	5	1,440	5	1	599	2	6	1,256	2	0	425	39	27	6,582
The Embarcadero&Broadway	2	0	44	4	4	204	1	2	161	15	9	1,197	10	28	1,246	5	15	1,430	2	12	589	11	24	1,242	2	2	425	50	96	6,537
The Embarcadero&Washington St	1	3	41	1	18	187	3	4	160	12	105	1,104	17	114	1,148	5	111	1,324	0	36	553	5	53	1,194	2	6	420	44	449	6,132
The Embarcadero&Ferry Building	4	4	41	51	40	198	14	42	132	87	225	966	50	215	983	51	219	1,156	18	82	489	17	167	1,044	2	28	394	292	1,022	5,403
Ferry Plaza	3	3	41	8	25	181	14	11	135	57	51	972	21	23	982	27	36	1,148	7	20	475	6	17	1,034	3	9	388	146	194	5,354
Market St&Drumm St	2	13	30	16	35	161	26	29	132	111	192	891	79	206	855	80	301	927	25	117	383	45	273	806	26	129	285	409	1,294	4,469
Market St&Battery St	11	3	38	25	20	166	19	6	145	108	66	933	53	38	870	49	43	933	23	18	388	33	39	800	14	12	287	334	244	4,559
Market St&2nd St	3	4	37	12	31	147	16	22	140	66	66	933	33	66	837	44	54	923	23	15	396	29	68	761	16	6	296	241	331	4,469
Market St&Kearny St	17	3	51	27	21	153	30	18	151	102	132	903	58	89	805	71	92	903	29	50	375	48	66	743	26	11	312	408	481	4,396
Market St&Stockton St	11	3	60	26	22	157	34	33	152	126	300	729	94	297	602	97	337	663	57	120	313	83	246	579	29	60	281	558	1,418	3,536
Market St&5th St North	11	9	61	38	43	152	59	24	187	231	225	735	135	206	531	163	255	571	69	113	268	168	207	540	31	101	211	905	1,184	3,257
Market St&Taylor St	12	4	69	18	16	155	16	15	188	75	69	741	38	40	530	37	34	575	17	18	267	29	29	540	6	20	197	248	244	3,261
Market St&7th St North	8	19	57	16	42	129	19	28	179	102	126	717	30	76	483	31	87	519	18	25	261	35	90	485	20	40	177	277	532	3,006
Market St&Hyde St	6	10	53	36	27	138	17	36	160	102	135	684	51	106	429	39	85	473	10	43	228	17	146	356	12	43	146	290	631	2,665
Market St&Larkin St	2	8	47	13	21	130	11	17	154	57	84	657	30	53	406	29	65	437	8	13	222	21	44	333	5	11	140	174	314	2,525
Market St&Van Ness Ave	6	21	33	21	43	108	14	36	132	81	159	579	46	79	373	60	88	408	19	28	213	27	41	320	29	23	146	303	518	2,311
Market St&Gough St	1	6	28	4	18	94	5	16	122	48	75	552	20	61	332	34	87	355	5	30	188	14	56	278	8	20	133	138	368	2,080
Market St&Laguna St	1	4	25	5	14	85	6	14	113	21	78	495	13	68	277	15	83	287	8	34	162	9	35	252	3	12	124	82	342	1,820
Market St&Buchanan St	2	9	18	4	13	75	1	18	96	6	87	414	15	53	239	7	43	252	1	20	144	2	21	233	2	11	115	38	273	1,585
Market St&Church St	1	4	15	4	22	57	3	32	68	24	174	264	18	116	142	17	121	148	5	60	89	5	77	161	2	42	74	78	645	1,017
Market St&Sanchez St	0	5	11	1	9	49	0	3	65	6	51	219	2	36	107	5	44	109	1	8	82	3	36	128	2	16	60	20	208	830
Market St&Noe St	0	2	9	0	10	39	0	14	51	3	63	159	3	53	58	3	61	51	1	25	57	0	39	89	0	12	48	10	280	561
17th St&Castro St	0	9	0	0	39	0	0	51	0	0	159	0	0	58	0	0	51	0	0	57	0	0	89	0	0	48	0	0	561	0
Total Boardings by Time Period	141			550			486			2,700			2,117			2,358			954			1,887			671			11,864		
Maximum Load Point (Leaving)	Market&Taylor			Embarc&Green			Market&Taylor			Embarc&Brdway			Embarc&Green			Embarc&Grnwich			Embarc&Green			Embarc&Grnwich			Embarc&Green			Embarc&Green		

F-MARKET
WEEKDAY - INBOUND - JUN08 SIGNUP
DATA GATHERED JUL08-AUG08
AVERAGE LOAD AT MLP

LOCATION	5A-7	7A-9	9A-1	10A-	2P-4	4P-6	6P-7	7P-1	10P-1A
17th&Castro	2.2	6.7	6.7	9.0	8.5	9.9	8.3	9.5	5.0
Market&Noe	2.4	9.0	8.5	10.7	10.2	12.2	12.0	12.2	6.4
Mkt&Sanchez	2.8	11.3	9.8	12.5	12.1	13.9	14.1	15.5	6.7
Mkt&Church	3.7	18.7	19.4	17.1	17.6	17.4	19.8	20.4	8.8
Mkt&Dolores	4.5	21.3	21.1	20.0	21.2	21.1	21.4	23.6	9.8
Mkt&Guerrero	5.5	25.2	22.2	22.4	23.1	22.8	21.8	24.3	10.4
Mkt&Gough	7.5	28.1	24.9	25.2	25.9	25.1	25.0	26.3	11.2
Mkt&SVNess	8.6	27.9	25.2	30.3	30.2	28.5	29.2	27.8	11.7
Market&9th St	9.1	28.0	25.3	32.6	32.9	29.4	30.2	27.3	11.6
Market&8th St	10.0	29.4	28.5	35.5	36.2	32.0	32.9	27.2	11.4
Market&7th St	12.4	35.1	36.0	39.4	40.2	34.6	34.8	27.5	11.2
Market&6th St	12.6	36.2	36.8	40.3	40.6	34.6	32.3	26.0	10.3
Market&5th St	14.5	40.0	41.3	46.1	44.2	34.1	26.5	22.1	7.9
Market&4th St	14.9	42.8	50.9	56.1	51.2	42.1	31.1	30.6	7.5
Market&3rd St	14.6	40.3	48.0	55.8	52.0	44.2	32.0	31.2	6.9
Mrkt&N.Mntgmry	14.9	39.5	49.3	57.0	52.3	44.3	32.7	31.6	7.1
Market&1st St	14.8	36.9	48.7	58.5	53.5	45.2	34.4	31.3	6.6
Market&Main	21.0	48.2	57.5	65.6	59.0	48.2	39.1	32.4	6.8
Ferry Plaza	21.5	49.1	57.1	63.4	57.8	47.2	38.0	30.9	7.2
Embar&Ferry	26.8	60.1	71.6	74.1	71.8	61.0	43.9	38.5	9.1
Embar&Wshgtn	27.2	60.4	71.8	75.4	74.2	63.2	45.8	39.8	9.3
Embar&Brdwy	27.1	59.5	72.1	76.8	75.4	63.5	45.7	40.4	9.2
Embar&Green	26.1	57.1	71.5	76.2	75.7	63.4	45.5	40.3	9.1
Embar&Grnwch	24.7	53.3	69.6	75.0	75.1	62.7	46.1	39.5	8.8
Embar&Snsme	23.0	47.7	65.5	72.9	73.9	60.5	46.3	38.5	8.7
Embar&Bay	20.8	38.2	54.3	62.8	70.9	57.9	45.8	37.7	8.2
Embar&Stcktn	14.8	21.1	22.2	26.8	36.7	30.8	29.8	21.7	6.2
Jefferson&Pwll	11.1	15.2	17.1	20.7	28.9	24.7	23.7	18.7	4.4
Jefferson&Tylr	8.6	10.3	12.6	16.3	24.6	18.6	16.6	15.5	3.0
Jones&Beach	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

F-MARKET
WEEKDAY - INBOUND - JU
DATA GATHERED JUL08-A
TOTAL BOARDINGS & ALIG

LOCATION	Boading	Alighting
17th&Castro	908.3	0.0
Market&Noe	232.8	4.1
Mkt&Sanchez	216.4	8.8
Mkt&Church	634.1	80.5
Mkt&Dolores	326.3	23.7
Mkt&Guerrero	270.2	64.0
Mkt&Gough	395.1	114.4
Mkt&SVNess	586.0	276.9
Market&9th St	310.8	195.4
Market&8th St	476.6	253.5
Market&7th St	619.9	262.9
Market&6th St	276.5	273.7
Market&5th St	928.1	757.8
Market&4th St	1236.1	505.8
Market&3rd St	567.4	582.7
Mrkt&N.Mntgmry	330.3	280.6
Market&1st St	322.8	293.5
Market&Main	880.4	254.4
Ferry Plaza	193.8	292.3
Embar&Ferry	1373.8	239.4
Embar&Wshgtn	184.4	44.2
Embar&Brdwy	125.1	71.4
Embar&Green	42.4	108.3
Embar&Grnwch	54.4	193.7
Embar&Snsme	53.9	291.6
Embar&Bay	180.3	777.8
Embar&Stcktn	305.1	2978.9
Jefferson&Pwll	133.3	740.8
Jefferson&Tylr	70.6	566.2
Jones&Beach	0.0	1697.7

F-MARKET
WEEKDAY - OUTBOUND - JUN08 SIGNUP
DATA GATHERED JUL08-AUG08
AVERAGE LOAD AT MLP

LOCATION	5A-7	7A-9	9A-1	10A-	2P-4	4P-6	6P-7	7P-1	10P-1A
Jones&Beach	1.9	6.0	7.8	13.6	36.3	45.1	37.8	47.3	11.8
Beach&Mason	3.1	8.7	11.6	19.8	46.3	62.4	52.5	59.0	16.3
Beach&Stcktn	4.9	13.2	15.5	31.0	69.0	78.3	72.5	77.7	25.0

F-MARKET
WEEKDAY - OUTBOUND - J
DATA GATHERED JUL08-A
TOTAL BOARDINGS & ALIG

LOCATION	Boading	Alighting
Jones&Beach	3088.4	0.0
Beach&Mason	1091.3	22.7
Beach&Stcktn	1690.1	51.3
Embar&Bay	578.0	76.4

Embar&Bay	6.8	13.8	16.3	36.8	73.8	83.0	81.4	81.8	26.3
Embar&Snsme	8.4	15.0	17.2	38.7	75.4	83.6	84.2	83.3	26.6
Embar&Grnwch	8.4	15.3	17.6	39.7	76.3	84.8	85.0	84.0	27.3
Embar&Green	8.4	15.7	18.0	39.7	76.6	84.7	85.5	83.7	27.4
Embar&Brdwy	8.7	15.7	17.9	39.9	75.5	84.1	84.1	82.8	27.4
Embar&Wshngtn	8.2	14.4	17.8	36.8	69.6	77.9	79.0	79.6	27.1
Embar&Ferry	8.2	15.2	14.7	32.2	59.6	68.0	69.8	69.6	25.4
Ferry Plaza	8.2	13.9	15.0	32.4	59.5	67.5	67.9	68.9	25.0
Market&Drumm	6.0	12.4	14.7	29.7	51.8	54.5	54.7	53.7	18.4
Market&Battery	7.6	12.8	16.1	31.1	52.7	54.9	55.4	53.3	18.5
Market&2nd St	7.4	11.3	15.5	31.1	50.7	54.3	56.6	50.7	19.1
Market&Kearny	10.2	11.8	16.8	30.1	48.8	53.1	53.6	49.5	20.1
Market&Stcktn	11.9	12.1	16.9	24.3	36.5	39.0	44.7	38.6	18.1
Market5thStN	12.2	11.7	20.8	24.5	32.2	33.6	38.3	36.0	13.6
Market&Taylor	13.7	11.9	20.9	24.7	32.1	33.8	38.2	36.0	12.7
Market&7thStN	11.4	9.9	19.9	23.9	29.3	30.5	37.3	32.3	11.4
Market&Hyde	10.6	10.6	17.8	22.8	26.0	27.8	32.5	23.7	9.4
Market&Larkin	9.4	10.0	17.1	21.9	24.6	25.7	31.7	22.2	9.0
Mkt&VanNess	6.5	8.3	14.7	19.3	22.6	24.0	30.4	21.3	9.4
Mkt&Gough	5.6	7.2	13.5	18.4	20.1	20.9	26.8	18.5	8.6
Mkt&Laguna	4.9	6.5	12.6	16.5	16.8	16.9	23.2	16.8	8.0
Mkt&Buchanan	3.5	5.8	10.7	13.8	14.5	14.8	20.5	15.5	7.4
Mkt&Church	3.0	4.4	7.5	8.8	8.6	8.7	12.7	10.7	4.8
Mkt&Sanchez	2.1	3.8	7.2	7.3	6.5	6.4	11.7	8.5	3.9
Market&Noe	1.7	3.0	5.7	5.3	3.5	3.0	8.2	5.9	3.1
17th&Castro	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Embar&Snsme	205.9	33.8
Embar&Grnwch	125.6	25.9
Embar&Green	39.2	26.6
Embar&Brdwy	50.5	95.5
Embar&Wshngtn	44.2	448.6
Embar&Ferry	292.2	1021.7
Ferry Plaza	146.1	194.4
Market&Drumm	409.2	1294.1
Market&Battery	334.3	244.4
Market&2nd St	240.7	331.1
Market&Kearny	407.7	480.8
Market&Stcktn	557.5	1417.7
Market5thStN	904.7	1183.6
Market&Taylor	247.8	243.7
Market&7thStN	277.2	531.9
Market&Hyde	290.0	630.7
Market&Larkin	174.3	314.5
Mkt&VanNess	303.3	517.8
Mkt&Gough	138.3	368.4
Mkt&Laguna	82.0	342.2
Mkt&Buchanan	37.7	273.3
Mkt&Church	77.7	645.2
Mkt&Sanchez	20.0	207.7
Market&Noe	10.4	279.5
17th&Castro	0.0	560.5

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

CURTIS L. FOSSUM, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
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Contact FAX: **(916) 574-1885**

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May 13, 2011

File Ref: SCH # 2011032066

Mike Gougherty
San Francisco Bay Area Water Emergency Transit Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

Subject: Notice of Preparation (NOP) for a Joint Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS) for Downtown San Francisco Ferry Terminal Expansion Project, San Francisco County

Dear Mr. Gougherty:

The California State Lands Commission (CSLC) staff has reviewed the subject NOP for a DEIR/DEIS for the Downtown San Francisco Ferry Terminal Expansion Project (Project), which is being prepared by the San Francisco Bay Area Water Emergency Transit Authority (WETA). WETA, as the agency with authority over ferry operations and related facilities in San Francisco, is the lead agency under the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] § 21000 et seq.), and the Federal Transit Authority (FTA) is the lead agency under the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.). CSLC staff has prepared these comments as a trustee agency because of its trust responsibility for projects that could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters. Additionally, if the Project involves dredging on granted sovereign lands, the CSLC will act as a responsible agency.

CSLC Jurisdiction and Public Trust Lands

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable rivers, sloughs, lakes, etc. The CSLC has certain residual and review authority for tide and submerged lands legislatively granted in trust to local jurisdictions (PRC § 6301, § 6306). All tide and submerged lands, granted or ungranted, as well as navigable rivers, sloughs, etc., are impressed with the Common Law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include waterborne commerce,

navigation, fisheries, water-related recreation, habitat preservation and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for fill or artificial accretion. On navigable non-tidal waterways, the State holds fee ownership of the bed landward to the ordinary low water mark and a Public Trust easement landward to the ordinary high water mark. Such boundaries may not be readily apparent from present day site inspections.

The proposed Project is located on sovereign tide and submerged lands that have been transferred, in trust, to the San Francisco Port District (District), pursuant to Chapter 1333, Statutes of 1968 and as amended, with minerals reserved to the State. The NOP notes that one of the primary areas of investigation for the DEIR/DEIS will be dredging and bay fill requirements. If dredging is proposed as an element of this Project, the District must submit an application to the CSLC. Applications may be found on the CSLC website at http://www.slc.ca.gov. To streamline reviews by the multiple agencies with approval authority over dredging in the San Francisco Bay Area, WETA should also consult with the Dredged Material Management Office (DMMO) early in the process. Information on the DMMO may be found at http://www.spn.usace.army.mil/conops/dmmo.htm.

Project Description

As described in the NOP, WETA proposes to improve and expand gates and boarding areas and enhance emergency response capabilities at the Downtown San Francisco Ferry Terminal to meet the agency's objectives and needs as follows:

- Accommodate WETA's projected increase in ferry ridership and related ferry arrivals and departures from the Downtown San Francisco Ferry Terminal;
- Provide a viable alternative mode of transportation that accommodates projected increases in transbay trips, and helps alleviate congestion over the Bay Bridge and through the Bay Area Rapid Transit (BART) Transbay Tube;
- Address WETA's and the Port of San Francisco's (Port's) emergency response needs;
- Establish a circulation plan and improved signage that provides clear pedestrian routes for ferry to bus and ferry to rail transfers, as well as safe routes for bikes, emergency vehicles, and delivery trucks to enter, park and exit the area;
- Provide necessary landside improvements, such as designated weather-protected areas for waiting and queuing, ticket machines and fare collection equipment, improved lighting, and improved boarding and arrival/departure information to serve ferry patrons and to enhance the Ferry Building as the central point of embarkation for ferries on San Francisco Bay; and
- Enhance the area's public access and open space with design features that create attractive, safe daytime and nighttime public spaces for both ferry patrons and other users of the Ferry Building area.

CSLC staff understands that the Project would include the following components:

- Demolition and removal of Pier ½ and Pier 2;
- Construction of Gate A in the north basin, and Gates F and G in the south basin;
- Installation of boarding area amenities such as weather-protected areas for queuing, ticket machines and fare collection equipment, improved lighting, and ferry boarding and arrival/departure information signs;
- Widening of ferry access pathways along existing pedestrian promenades, and separation of ferry patron queuing from other pedestrian and vehicular movements where possible;
- Improved wayfinding signage in the vicinity of the Ferry Building, which will indicate ferry boarding areas and transit connections; and
- Filling in the lagoon between the Ferry and Agriculture Buildings to prepare for and accommodate staging and circulation of evacuees following a catastrophic event.

The project is located at the San Francisco Ferry Building, on Port property between Pier 1 on the north and Pier 14 on the south, and includes the Ferry Building, ferry gate, and the Ferry Plaza.

Environmental Review

CSLC staff requests that the following potential impacts be analyzed in the DEIR/DEIS.

Biological Resources

1. Sensitive Species: WETA should conduct queries of the California Department of Fish and Game's (DFG) California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service's (USFWS) Special Status Species Database to identify any special-status plant or wildlife species that may occur in the Project area. Additionally, WETA should consult early in the process with appropriate staff at DFG and the San Francisco Bay Conservation and Development Commission (BCDC) to identify species of concern. Turbidity, siltation, entrainment, burial and other physical effects of dredging, in particular, may impact protected or economically important fish such as salmonids, longfin smelt, Sacramento splittail, and Pacific herring. The DEIR/DEIS should analyze the potential for such species to occur in the Project area and, if impacts to special-status species are found to be significant, identify feasible mitigation measures.

2. Invasive Species: One of the major ecological stressors in the San Francisco Bay is introduced species. Therefore, when considering the Project's biological impacts, the DEIR/DEIS should analyze the Project's potential to introduce or spread Invasive species, such as the Quagga mussel, into high-traffic and sensitive areas; if any impact is determined significant, mitigation measures could include quarantine of equipment and methods of early detection and early response.

3. Construction Noise: The DEIR/DEIS should also evaluate noise and vibration impacts on fish and birds from construction activities in the water and for land-side supporting structures. Mitigation measures, if found necessary, could include species-specific work windows as defined by DFG, USFWS, and the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries). Staff recommends early consultation with these agencies in order to minimize the impacts of the Project on sensitive species.

Climate Change

4. Greenhouse Gases: A greenhouse gas (GHG) emissions analysis consistent with the California Global Warming Solutions Act (AB 32) and required by section 15064.4 of the CEQA Guidelines[1] should be included in the DEIR/DEIS. This analysis should identify a threshold for significance for GHG emissions, calculate the level of GHGs that will be emitted as a result of construction and ultimate build-out of the Project, determine the significance of the impacts of those emissions, and, if impacts are significant, identify mitigation measures that would reduce them to less than significant. The analysis in the DEIR/DEIS should pay particular attention to the possibility of cumulative impacts of GHG emissions.

5. Sea Level Rise: The DEIR/DEIS should also consider the effects of sea level rise on all resource categories potentially affected by the proposed Project. At its meeting on December 17, 2009, the CSLC approved the recommendations made in a previously requested staff report, "A Report on Sea Level Rise Preparedness" (Report), which assessed the degree to which the CSLC's grantees and lessees have considered the eventual effects of sea level rise on facilities located within the CSLC's jurisdiction. (The Report can be found on the CSLC's website, http://www.slc.ca.gov.) The Report directs CSLC staff to consider the effects of sea level rise on hydrology, soils, geology, transportation, recreation, and other resource categories in all environmental determinations associated with CSLC leases. This consideration is consistent with the CEQA Guidelines, which direct agencies to identify and, if significant, mitigate the environmental effects of proposed projects; "effects" refers not only to direct, immediate impacts, but also to "indirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable" (CEQA Guidelines § 15358(a)(2)). Because it is reasonably foreseeable that long-term coastal facilities will eventually have to operate under higher sea level conditions, the eventual effects of the facilities' operations under those conditions are also reasonably foreseeable and must be considered in the Project's CEQA analysis.

   Please note that, when considering lease applications, CSLC staff is directed to (1) request information from applicants concerning the potential effects of sea

[1] The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

level rise on their proposed projects, (2) if applicable, require applicants to indicate how they plan to address sea level rise and what adaptation strategies are planned during the projected life of their projects, and (3) where appropriate, recommend project modifications that would eliminate or reduce potentially adverse impacts from sea level rise, including adverse impacts on public access.

Cultural Resources

6. Submerged Resources: The DEIR/DEIS should evaluate the possibility that submerged cultural resources are located in the Project area. A check of the CSLC Shipwrecks Database resulted in three vessels in or near the Project area:

   - *Alice Garrett*, sank March 4, 1888. According to one account, the vessel broke free from her moorings, drifted to Stewart (Steuart?) Wharf and capsized (Don B. Marshall, California Shipwrecks, Footsteps in the Sea, Superior Publishing Co., Seattle, 1978, p. 75). Another account states that the *Alice Garrett* was a hulk at the time, serving as a quarantine ship for passengers from the *City of Peking* when the vessel was swamped in high waves after breaking free from its moorings (Chambliss, William H. (1895): "Chambliss' Diary; Or, Society As It Really Is", from *"California as I Saw It:" First-Person Narratives of California's Early Years, 1849–1900*, New York, Library of Congress, as recorded at the San Francisco Genealogy website, as published in Wikipedia at http://en.wikipedia.org/wiki/SS_City_of_Peking#cite_note-17). Both accounts indicate that no lives were lost. CSLC files contain no additional information on this vessel.

   - *Helen Hensley*, steamship, boiler explosion January 19, 1854, at the Jackson Street Wharf, killing two persons (Marshall, p. 77). Marshall indicates that this vessel was refloated or salvaged. Numerous references to the vessel after this date appear to confirm the vessel returned to active service.

     Information on the 1858 trip:
     http://www.yosemite.ca.us/library/ralston-fry_wedding/
     Helen Hensley photograph:
     http://content.cdlib.org/ark:/13030/kt467nc334/?layout=metadata&brand=calisphere
     Report of overhaul in 1864:
     http://cdnc.ucr.edu/cdnc/cgi-bin/cdnc?a=d&d=SDU18640830.2.9.3&cl=CL2.1864.08&srpos=0&dliv=none&st=1&e=-------en-logical-20--1-----all---

   - *West Wind*, schooner, sank January 5, 1876, in a collision with the *New World* at San Francisco Wharf; vessel and cargo of cement were reported a total loss (Marshall, p. 80). CSLC files contain no additional information on this vessel.

7. Please note that, although the CSLC database reflects a search of many published records, in most cases it does not represent actual fieldwork, and locations based on historic accounts may be inaccurate. The location of many shipwrecks remains unknown. Additionally, some listed vessels were re-floated or salvaged. Therefore, WETA should not rely on information from the CSLC Shipwrecks Database to determine the presence or absence of cultural resources.

   The CSLC staff recommends WETA consult historians, maritime archaeologists, and others with special knowledge of the Project area. A valuable resource on buried ships and historic wharves in San Francisco is the map and information at http://www.sfgenealogy.com/sf/history/hgshp1.htm.

8. Please be aware that any submerged archaeological site or submerged historic resources that has remained in state waters for more than 50 years is presumed to be significant (PRC § 6313(c)).

9. The DEIR/DEIS should also mention that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. Mitigation measures should be developed to address any submerged cultural resources that may be affected by the proposed Project and any unanticipated discoveries during the Project's construction. CSLC staff would like to review the proposed mitigation measures and requests that WETA consult with CSLC staff, should any cultural resources be discovered during construction of the proposed Project.

Hydrology and Water Quality

10. Dredging and Construction Disturbance: WETA should disclose and analyze the Project's potential to adversely affect water quality. Such impacts are likely to include increased turbidity and sedimentation from dredging, fill, and other in-water construction work, and potential pollution from worksite spills or mobilization of pollutants from the dredged soils. For any effects found to be potentially significant, the DEIR/DEIS should identify feasible mitigation measures that would avoid or lessen such effects.

Recreation

11. Bay Recreation: Both locals and visitors from elsewhere in the state utilize the San Francisco Bay for a variety of recreational activities such as fishing and, notably, boating. As public access to and recreation on State lands are key concerns of the Public Trust Doctrine, CSLC staff requests that the DEIR/DEIS analyze the Project's short-term and long-term impacts on recreation resources, both from construction and from permanent increased ferry service and

operations. For any significant effects, the DEIR/DEIS should identify feasible mitigation measures to avoid, lessen or compensate for impacts.

Additional Review

12. Adequate Mitigation: To avoid the improper deferral of mitigation, mitigation measures should either be presented as specific, feasible, enforceable obligations, or should be presented as formulas containing "performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way" (CEQA Guidelines § 15126.4(b)).

13. Cumulative Effects: The DEIR/DEIS should identify and include a discussion of potential cumulative impacts created by other present and proposed projects, such as the America's Cup races planned for 2012 and 2013, in the San Francisco Bay. If the contribution of the Project's impacts proves "cumulatively considerable" "when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (CEQA Guidelines § 15065(a)(3)), the DEIR/DEIS's analysis should include all the elements described in section 15130(b) of the CEQA Guidelines.

Thank you for the opportunity to comment on the NOP for the Project. As a trustee and potentially responsible agency, the CSLC will need to rely on the Final EIR/EIS for the issuance of any new lease as specified above and, therefore, we request that you consider our comments prior to adoption of the EIR/EIS. Please send additional information on the Project to the CSLC staff identified below as plans become finalized.

Please contact Michelle Andersen, Public Land Management Specialist, at (916) 574-0200 or by email at michelle.andersen@slc.ca.gov for information concerning our leasing requirements. For questions concerning the environmental review, please contact Sarah Sugar, Environmental Scientist, at (916) 574-2274 or by e-mail at sarah.sugar@slc.ca.gov.

Sincerely,

Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
Michelle Andersen, CSLC
Sarah Sugar, CSLC

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

May 16, 2011

Debra Jones
Federal Transit Administration
201 Mission Street, Suite 1650
San Francisco, California 94105

Subject: Scoping Comments for Proposed Downtown San Francisco Ferry Terminal Expansion Project, San Francisco, California

Dear Ms. Jones:

The U.S. Environmental Protection Agency (EPA) has reviewed the Notice of Intent (NOI) published in the Federal Register on April 7, 2011 by the Federal Transit Administration (FTA) to prepare a Draft Environmental Impact Statement (DEIS) for the Proposed Downtown San Francisco Ferry Terminal Expansion Project in the City and County of San Francisco, California. FTA and the San Francisco Bay Area Water Emergency Transportation Authority (WETA) are proposing expansion and improvements to the Downtown San Francisco Ferry Terminal at the Port of San Francisco Ferry Building. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's (CEQ) regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

EPA will also coordinate in this project as a "Participating Agency" as defined in Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). We look forward to working with FTA to ensure that the SAFETEA-LU implementation procedures assist both our agencies in meeting our statutory missions.

EPA appreciates the opportunity to provide comments for preparation of the DEIS for this project. We support the project goals of improved transit service and enhanced emergency response capabilities. Improvements in transit service have the potential to increase transit mode share and reduce air quality impacts from automobile emissions, as well as provide improved service for existing transit riders. Our comments, as described below, focus on the identification of the purpose and need and alternatives for the project, and how the DEIS will address: (1) impacts on water resources, (2) impacts to air quality, (3) green design and operations, (4) environmental justice, and (5) climate change adaptation.

Purpose and Need and Range of Alternatives

The NOI includes the statement, "Recognize the Port's land use planning and development proposals in and around the Ferry Building so as not to preclude, conflict with, or inhibit proposed development plans in the project vicinity" as part of the stated purpose and need. While we encourage FTA and WETA to consider Port plans during planning for the proposed project, we also note the importance of considering impacts to resources in selection of alternatives. FTA and WETA should consider alternatives that may conflict with development plans if those alternatives would avoid or minimize impacts to resources. This is of particular importance where alternatives may impact water resources that may fall under Clean Water Act jurisdiction, which would require avoidance, minimization, and mitigation of impacts to waters.

Water Resources

The project site is located on the shore of San Francisco Bay, and therefore construction, demolition, and fill activities have the potential to impact Bay water quality and shoreline resources. Given the existing water quality impairment of the Bay and these potential impacts, efforts should be made to avoid and minimize impacts to water resources.

The Clean Water Act (CWA) Section 404(b)(1) Guidelines (Guidelines) at 40 CFR Part 230.10(a) state that ". . .no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." FTA will need to demonstrate in the DEIS that potential impacts to waters of the United States 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 DEIS should include an assessment of an appropriate scope and detail to identify sensitive areas or aquatic systems with functions highly susceptible to change. If it is determined that a CWA Section 404 individual permit may be required, we recommend that FTA and WETA coordinate the requirements of NEPA and CWA Section 404 to ensure that the thresholds of the CWA Section 404(b)(1) Guidelines are satisfied through the environmental review process. Please contact EPA if you have questions about NEPA/CWA Section 404 integration.

Recommendations:

- Estimate the acreage of waters of the United States within the project area using CWA jurisdictional determinations, which should be submitted to the Army Corps of Engineers for verification. Include the classification, functional condition, and the geographic extent of waters.

- Identify all protected resources with special designations and all special aquatic sites and waters within state, local, and federal protected lands. Additional steps should be taken to avoid and minimize impacts to these areas.

- Provide specific descriptions of proposed activities in CWA regulated waters including grading plans and cross sections.

- Discuss wildlife species that could reasonably be expected to use waters or associated habitat and sensitive plant taxa that are associated with waters or associated habitat.

- Analyze the potential flood flow alteration.

- Analyze the potential water quality impact and potential effects to designated uses.

- Identify specific techniques proposed for minimizing surface water contamination due to increased runoff from additional impervious surfaces.

- If the project will require dredging, identify the depth of dredging operations, and the nature and extent of dredging impacts, including impacts to water quality, bay bottom habitats (i.e., eel grass), and shoreline habitats, in the context of endangered species and essential fish habitat, along with appropriate mitigation. Discuss the proposed plan for disposing of dredged material, required sediment testing, and whether the project will require maintenance dredging.

Avoidance and Minimization Measures

To demonstrate compliance with CWA Guidelines, FTA and WETA should explore onsite alternatives to avoid or minimize impacts to waters.

Recommendations:

- Demonstrate that all potential impacts to waters of the United States have been avoided and minimized. If these resources cannot be avoided, the DEIS analyses should clearly demonstrate how cost, logistical, or technological constraints preclude avoidance and minimization of impacts.

- Temporary and permanent impacts to waters of the United States for each alternative studied should be quantified; for example, acres of waters impacted.

- Identify design measures and modifications to avoid and minimize impacts to water resources. Quantify the benefits achieved for each alternative studied, for example, acres of waters of the United States avoided.

- Include a compensation proposal for unavoidable impacts to CWA regulated waters that complies with new regulations for compensatory mitigation promulgated in April 2007 (40 CFR 230 Subpart J).

Air Quality

The proposed project is located in the San Francisco Bay Area, which is classified as nonattainment for ozone and fine particulate matter ($PM_{2.5}$), and should therefore be included in a conforming transportation plan and transportation improvement program. The DEIS should also include a discussion of potential localized air quality impacts from increased ferry service

and identify opportunities to reduce marine vessel emissions of diesel particulate matter (DPM), such as:

- Use of low and ultra-low sulfur diesel fuel by marine vessels;
- Subsidizing the retrofit of older marine vessels, or requiring vessels with newer, cleaner technology; and
- Providing infrastructure for alternative power options for ferries and other watercraft to reduce diesel emissions related to idling.

The DEIS should also address potential air quality impacts during the construction period. EPA recommends that the following mitigation measures be included in the DEIS to reduce construction emissions:

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:

- Reduce use, trips, and unnecessary idling from heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels 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 could be employed. See their website at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm.
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations.
- If practicable, lease new equipment meeting the most stringent of applicable federal[1] or state standards[2]. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible[3]. Lacking availability of non-road construction equipment that meets Tier 4 engine standards, commit to using the best available emissions control technologies on all equipment.

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[1] EPA's website for nonroad mobile sources is http://www.epa.gov/nonroad.

[2] For ARB emissions standards, see: http://www.arb.ca.gov/msprog/offroad/offroad.htm.

[3] Diesel engines < 25 hp rated power started phasing in Tier 4 Model Years in 2008. Larger Tier 4 diesel engines will be phased in depending on the rated power (e.g., 25 hp - <75 hp: 2013; 75 hp - < 175 hp: 2012-2013; 175 hp - < 750 hp: 2011 - 2013; and ≥ 750 hp 2011- 2015).

- Utilize EPA-registered particulate traps and other appropriate controls where suitable to reduce emissions of DPM and other pollutants at the construction site.

Administrative Controls:

- Coordinate with the Bay Area Air Quality Management District to identify a construction schedule to minimize cumulative impacts from multiple development and construction projects in the region, if feasible, to minimize cumulative impacts.
- 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.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.)
- Utilize cleanest available fuel engines in construction equipment and identify opportunities for electrification. Meet EPA diesel fuel requirements for off-road and on-highway, and, where appropriate, use alternative fuels such as natural gas and electric.
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Identify sensitive receptors in the project area, such as daycare centers, schools, nursing homes, hospitals, and other health-care facilities, and specify the means by which you will minimize impacts to these populations. For example, locate construction equipment and staging zones away from sensitive receptors and fresh air intakes to buildings and air conditioners.

Green Design and Operations

LEED Certification

EPA recommends that FTA and WETA commit to facilities that are certified as "green buildings" per the Leadership in Energy and Environmental Design (LEED) green building rating system, where feasible. LEED emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials selection, and indoor air quality. This specification will guide the building process and create a high-performance, sustainable facility. More information about the LEED green building rating system is available at http://www.usgbc.org/DisplayPage.aspx?CategoryID=19&.

Green Infrastructure

We also encourage implementation of "green infrastructure" in onsite stormwater management features, such as bioretention areas, vegetated swales, porous pavement, and filter strips. These features can serve as both stormwater treatment and visual enhancements. More detailed information on these forms of "green infrastructure" can be found at http://cfpub.epa.gov/npdes/home.cfm?program_id=298.

Industrial Materials Reuse and Recycling

For the construction of new infrastructure, EPA recommends industrial materials recycling, or the reusing or recycling of byproduct materials generated from industrial processes. Nonhazardous industrial materials, such as coal ash, foundry sand, construction and demolition materials, slags, and gypsum are valuable products of industrial processes. Industrial materials recycling preserves natural resources by decreasing the demand for virgin materials, conserves energy and reduces greenhouse gas emissions by decreasing the demand for products made from energy intensive manufacturing processes, and saves money by decreasing disposal costs for the generator and decreasing materials costs for end users. EPA recommends that for any new construction proposed the DEIS identify how industrial materials recycling can be incorporated into project design. More information can be found at: http://www.epa.gov/epawaste/conserve/rrr/imr/index.htm.

Environmental Justice

The DEIS should identify how the proposed alternatives may affect low-income or minority populations in the surrounding areas and provide appropriate mitigation measures for any anticipated adverse impacts. Executive Order 12898 addresses Environmental Justice in minority and low-income populations, and the Council on Environmental Quality has developed guidance concerning how to address Environmental Justice in the environmental review process (http://ceq.eh.doe.gov/nepa/regs/ej/justice.pdf). The environmental justice analyses for this project should include a description of the area of potential impact used for the analysis and provide the source of the demographic information. The DEIS should identify whether the proposed alternatives may disproportionately and adversely affect low-income or minority populations in the surrounding area and should provide appropriate mitigation measures for any adverse impacts. Community involvement activities for the project should include outreach to low-income or minority populations in the surrounding areas.

Climate Change

Research on global climate change indicates that many coastal areas may be impacted in the future by sea level rise. Storm surge levels are also expected to increase due to projected sea level rise. Combined with non-tropical storms, rising sea level extends the zone of impact from storm surge and waves farther inland, and will likely result in increasingly greater coastal erosion and damage.[4]

The DEIS should include a discussion of the potential impacts of climate change on the proposed project and identify adaptive management strategies to protect the project area from those impacts.

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[4] IPCC, 2007b: Summary for Policymakers. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Parry, M.L., O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

We appreciate the opportunity to provide comments on the preparation of the DEIS, and look forward to continued participation in this process as more information becomes available. When the DEIS is released for public review, please send one hard copy and one electronic copy to the address above (mail code CED-2). If you have any questions, please contact me at 415-947-3554 or mulvihill.carolyn@epa.gov.

Sincerely,

Carolyn Mulvihill

Carolyn Mulvihill
Environmental Review Office

cc: Mike Gougherty, WETA

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802- 4213

April 20, 2011

In response, refer to:
SWR/F/SWR3:GS

Leslie T. Rogers
Regional Administrator
Federal Transit Administration
Region IX
201 Mission Street, Suite 1650
San Francisco, California 94105-1839

Dear Mr. Rogers:

Thank you for your letter of April 7, 2011, regarding the Federal Transit Administration's preparation of an Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the proposed Downtown San Francisco Ferry Terminal Expansion Project. NOAA's National Marine Fisheries Service (NMFS), Southwest Region accepts your request to serve as a cooperating agency pursuant to the National Environmental Policy Act (NEPA) for the preparation of this project's EIS/EIR.

The Council on Environmental Quality's (CEQ) regulations implementing NEPA defines a cooperating agency as "any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment". NMFS' Protected Resources Division, Southwest Region qualifies for this designation under this definition as the project in question may affect NOAA trust resources.

NMFS has jurisdiction under the Endangered Species Act of 1973 (ESA) (16 U.S.C. 1531 *et seq.*), the Magnuson Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801-1882), and the Fish and Wildlife Coordination Act (16 U.S.C. 661). With this letter, we request participation in the development of the Downtown San Francisco Ferry Terminal Expansion Project's NEPA document as it relates to assessment of potential impacts and conservation measures for ESA-listed fish species under the jurisdiction of NMFS and essential fish habitat under the MSA. We wish to limit our attendance at meetings to only those where effects to essential fish habitat and listed fish will be discussed.

Please contact Gary Stern of my staff at (707) 575-6060 or Gary.Stern@noaa.gov regarding NMFS' participation as a cooperating agency.

Sincerely,

Chris E. Yates
Assistant Regional Administrator
Protected Resources Division

cc: Shelby Mendez, NMFS, Long Beach, CA

APPENDIX B

REVISED AIR QUALITY

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REVISED
APPENDIX B
AIR QUALITY AND GREENHOUSE GASES

This appendix describes the methodology and assumptions used to estimate emissions and health risks associated with the construction and operation of the No Action Alternative and the proposed project. Data sources are also provided. This technical appendix supports and supplements the analysis presented in the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Downtown San Francisco Ferry Terminal Expansion Project.

This analysis was first developed in 2012-2013 and published in the Draft EIS/EIR in May 2013. Based on comments received on the Draft EIS/EIR, portions of the health risk assessment were revised as described in detail in Appendix F, Response to Comments.

1.0 CONSTRUCTION EMISSIONS

The No Action Alternative does not include any construction activities. Thus, the construction equipment, activity assumptions, and emission discussions below are only related to the proposed project.

1.1 CONSTRUCTION EQUIPMENT

Details of the construction equipment associated with the North Basin and South Basin activities of the proposed project are provided in Tables AIR-1 and AIR-2. Construction phases for each basin and equipment types for each activity were based on the descriptions in Chapter 2.0 *Alternatives*. Equipment quantities for each phase were not detailed in Chapter 2.0 *Alternatives*. Thus, for the purposes of the air quality/greenhouse gas (GHG) analysis, equipment quantities were assigned as follows: two of a particular equipment type if Chapter 2.0 *Alternatives* used the plural form of that equipment type (e.g., cherry pickers), and one of an equipment type if the singular equipment name (e.g., cherry picker) was provided. Equipment horsepower and duty cycles were based on the Sacramento Metropolitan Air Quality Management District's Road Construction model's (Version 6.3.2, July 2009) default horsepower and duty-cycle values for various equipment types. Tables AIR-1 and AIR-2 include major equipment expected for each phase; in addition, a variety of tools such as table saws, welders, and drills would be used for most phases of construction.

The duration of each phase was generally based on the estimated construction schedule provided in Chapter 2.0 *Alternatives* (Figure 2-10). This analysis assumed that construction would begin in January 2014. However, if Chapter 2.0 *Alternatives* grouped a basin's construction activity descriptions (e.g., the South Basin's Embarcadero Plaza and East Bayside Promenade activities), then it was assumed that the construction period for these activities would extend from the beginning of the earliest activity to the end of the latest activity, with no additional time required for concurrent/overlapping activities shown on Figure 2-10. It was assumed that there would be approximately 30 construction workdays in each month, and that construction activities would occur for 8 hours each day.

Table AIR-1 Proposed Project's North Basin Major Construction Equipment List and Construction Activity Assumptions					
Activity	**Number of Pieces of Equipment**	**Engine Horsepower (HP)**	**Days (Assume 30 work-days/month)**	**Hours per Day**	**Duty Cycle**
Dredging (1 Month) (January 2014)					**2014**
Off-Road Equipment					
Dredging (1 month)					
Clamshell Dredge (assume crane)	1	399	30	8	43%
Boats (for dredging)					
Survey Boat (assume diesel-powered)	1	100	30	8	45%
On-Road Equipment					
Worker Vehicles	6	—	30	—	—
Gate A Pier (February–May 2014 for Structural Work); (June – November 2014 for Surface Improvements and Gate B Canopy)					**2014**
Off-Road Equipment					
Vibratory Hammer on a barge	1	75	300	8	62%
Concrete Pumpers	2	75	300	8	62%
Diesel Scissors Lifts	2	60	300	8	46%
Diesel Cherry Pickers	2	60	300	8	46%
Diesel Forklifts	2	145	300	8	30%
Diesel Generators	2	549	300	8	74%
Welders	2	45	300	8	45%
Boats					
Gasoline Utility Boats	2	100	300	8	45%
Diesel Tugboat	1	400	300	8	45%

Table AIR-1 Proposed Project's North Basin Major Construction Equipment List and Construction Activity Assumptions (Continued)					
Activity	**Number of Pieces of Equipment**	**Engine Horsepower (HP)**	**Days (Assume 30 work-days/month)**	**Hours per Day**	**Duty Cycle**
On-Road Equipment/Vehicles					
Worker Vehicles	25	—	300	—	—
Concrete Trucks (one-way truckloads; not trips)	62	—	14	—	—
Marginal Wharf Improvements (4 Months) (February –May 2014)					**2014**
Off-Road Equipment					
Concrete Pumpers	2	75	120	8	62%
Boats					
Diesel Tugboat	1	400	120	8	45%
On-Road Equipment/Vehicles					
Worker Vehicles	25	—	120	—	—
Concrete Trucks (one-way truckloads; not trips)	15	—	14	—	—
Gate A Berth (3 Months) (November 2014-January 2015)					**2014-2015**
Vibratory Hammer on a Barge	1	75	90	8	62%
Boats					
Diesel Tugboat	1	400	90	8	45%
Gasoline Utility Boats	2	100	90	8	45%
On-Road Equipment/Vehicles					
Worker Vehicles	25	—	90	—	—
Testing and Closeout (2 Months) (January–February 2015)					**2015**
On-Road Equipment/Vehicles					
Worker Vehicles	6	—	60	—	—

Table AIR-2 Proposed Project's South Basin Major Construction Equipment List and Construction Activity Assumptions					
Activity	**Number of Pieces of Equipment**	**Engine Horsepower (HP)**	**Days (Assume 30 work-days/month)**	**Hours per Day**	**Duty Cycle**
Demolition and Dredging (4 months) (January 2014–April 2014)					**2014**
Off-Road Equipment					
Demolition (2 months)					
Crane w/Clamshell Bucket	1	399	60	8	43%
Excavator with Jaws	1	168	60	8	57%
Dredging (2 months)					
Clamshell Dredge (assume crane)	1	399	60	8	43%
Boats (for dredging)					
Survey Boat (assume diesel powered; HP assumption from Tim Rimpo)	1	100	60	8	45%
On-Road Equipment					
Worker Vehicles	6	—	120	—	—
Embarcadero Plaza, East Bayside Promenade, South Apron (Total 18 months) (May 2014–October 2015)					**2014-2015**
Off-Road Equipment					
Vibratory Hammer On A Barge	1	75	540	8	62%
Concrete Pumpers	2	75	540	8	62%
Diesel Scissors Lifts	2	60	540	8	46%
Diesel Cherry Pickers	2	60	540	8	46%
Diesel Forklifts	2	145	540	8	30%
Diesel Generators	2	549	540	8	74%
Welders	2	45	540	8	45%
Boats					
Gasoline Utility Boats	2	100	540	8	45%
Diesel Tugboat	1	400	540	8	45%

Table AIR-2 Proposed Project's South Basin Major Construction Equipment List and Construction Activity Assumptions (Continued)					
Activity	**Number of Pieces of Equipment**	**Engine Horsepower (HP)**	**Days (Assume 30 work-days/month)**	**Hours per Day**	**Duty Cycle**
On-Road Equipment/Vehicles					
Worker Vehicles	25	—	540	—	—
Concrete Trucks (one-way truckloads; not trips)	200	—	14	—	—
Lowboy Truck for granite delivery (one-way truckload not truck trips)	1	—	1	—	—
Gate F Berth (2 Months) (May–June 2015)					**2015**
Vibratory Hammer on a Barge	1	75	60	8	62%
Boats					
Diesel Tugboat	1	400	60	8	45%
Gasoline Utility Boats	2	100	60	8	45%
On-Road Equipment/Vehicles					
Worker Vehicles	25	—	60	—	—
Gate G Berth (3 Months) (September– November 2015)					**2015**
Vibratory Hammer on a Barge	1	75	90	8	62%
Boats					
Diesel Tugboat	1	400	90	8	45%
Gasoline Utility Boats	2	100	90	8	45%
On-Road Equipment/Vehicles					
Worker Vehicles	25	—	90	—	—
Testing and Closeout (2 Months) (November–December 2015)					**2015**
On-Road Equipment/Vehicles					
Worker Vehicles	6	—	60	—	—

The number of construction workers for each construction activity was assumed to be the maximum quantity (25 workers) provided in Chapter 2.0 *Alternatives*, except for certain activities (e.g., demolition and dredging) that were specifically referenced as requiring less workers (up to 6). Concrete truckload quantities were taken from Chapter 2.0 *Alternatives*, and assumed to occur within a 14-day period.

The California Air Resources Board's (CARB) Commercial Harbor Craft Emissions Model – California Barge and Dredge Emissions Inventory Database model's data for harbor craft were used for the marine vessel horsepower assumptions (CARB, 2011).

1.2 CONSTRUCTION EMISSION SUMMARY

Construction emission sources were grouped into three categories: on-road vehicles, off-road equipment, and marine vessels. Tables AIR-3 and AIR-4 provide summaries of construction-related emissions in tons per year (tons/year) and pounds per day (lbs/day), and the corresponding Bay Area Air Quality Management District (BAAQMD) thresholds. Construction emissions of toxic air contaminants (TACs) and particulate matter 2.5 microns in diameter or less ($PM_{2.5}$) are described in Section 3.1.

1.2.1 On-Road Emissions

The on-road emissions included emissions from construction-worker vehicles, concrete trucks, and lowboy trucks (Tables AIR-5 through AIR-7). It was assumed that approximately half of the construction-worker vehicles were light-duty automobiles, and half were light-duty trucks. An average vehicle miles traveled of 10.8 miles was assumed based on URBEMIS' default values for San Francisco County (Jones & Stokes Associates, 2007). EMFAC 2007 v.3's emission factors (at an assumed speed of 25 miles per hour) were used to calculate the exhaust emissions of each criteria pollutant during each year of construction (CARB, 2006a). The number of construction truckloads for a particular phase was divided by the number of days that truck was used (e.g., 14 days for concrete trucks) as shown in Tables AIR-1 and AIR-2. The number of vehicles was multiplied by two to account for daily round-trips. The equations below were used to calculate the on-road construction worker and truck emissions.

> Construction Worker Vehicle Daily Emissions (lbs/day): # of construction workers * 2 trips/day * average vehicle miles traveled (10.8 miles) * [(Emission Factor for Light-Duty Automobiles (grams/mile) + Emission Factor for Light-Duty Trucks (grams/mile)/2]/conversion factor (454 grams/lbs)

> Concrete or Lowboy Trucks: # of construction truckloads for a particular phase/day * 2 trips/day * average vehicle miles traveled (10.8 miles) * (Emission Factor for Light-Duty Trucks (grams/mile)/conversion factor (454 grams/lbs)

1.2.2 Off-Road Emissions

The CARB's OFFROAD2007 emission factors (CARB, 2006b) were used to calculate the emissions generated from the project's construction equipment during each construction phase (Table AIR-8).[1]

[1] OFFROAD2007 was used because the newer OFFROAD2011 does not yet allow the user to estimate emissions for ROG or CO_2.

Table AIR-3 Annual Unmitigated Construction-Related Emissions for the Proposed Project					
	Emissions (tons/year)				
Emission Category	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
2014 Calculations					
On-Road Emissions	0.03	0.15	0.003	0.003	188
Off-Road Emissions	1.58	15.37	0.65	0.65	2,235
Marine Emissions	0.28	7.14	0.23	0.23	940
Total 2014:	**1.90**	**22.66**	**0.88**	**0.88**	**3,364**
2015 Calculations					
On-Road Emissions	0.021	0.069	0.001	0.001	143
Off-Road Emissions	0.78	7.51	0.31	0.31	1,203
Marine Emissions	0.20	5.00	0.17	0.17	649
Total 2015:	**1.00**	**12.58**	**0.48**	**0.48**	**1,996**

Notes:
CO_2e = carbon dioxide equivalent
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

Table AIR-4 Average Daily Construction-Related Emissions for the Proposed Project					
	Emissions (lbs/day)				
Mitigation Level	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Estimated Unmitigated Average Total Emissions	8.1	98	3.8	3.8	14,888
Estimated Emissions after implementation of Mitigation Measure AQ-1: Construction Phasing (mitigated)	5.1	62	2.4	2.4	9,403
Estimated emissions after implementation of Mitigation Measure AQ-1 and Mitigation Measure AQ-2: Best Management Practices (mitigated)	5.1	50	1.3	1.3	9,403
BAAQMD Threshold	**54**	**54**	**82**	**54**	**N/A**
Exceeds Threshold:	**N**	**N**	**N**	**N**	**N/A**

Notes:

BAAQMD = Bay Area Air Quality Management District
CO_2e = carbon dioxide equivalent
lbs/day
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

* Unmitigated average total construction-related emissions from the proposed project were calculated by dividing the total combined North Basin and South Basin 2014 and 2015 emissions (tons/year) by a 24-month, 30-day/month construction period and applying a conversion factor to obtain average daily emissions in lbs/day. These unmitigated total emissions were assumed to: 1) occur during an overlapping 24-month construction period; and 2) be emitted daily from 8 hours of active construction activities.

Mitigated emissions shown above indicate the emissions reduction from implementation of Mitigation Measure AQ-1, and an additional reduction from implementation of Mitigation Measure AQ-2. Mitigation measures are detailed below.

The BAAQMD thresholds are from the BAAQMD's CEQA Air Quality Guidelines (BAAQMD, 2011).

Table AIR-5 North Basin Daily Unmitigated On-Road Vehicle Exhaust Emissions					
	Emissions (lbs/day)				
North Basin	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
2014 Calculations					
Dredging					
Passenger Vehicles	0.020	0.060	0.001	0.001	114
Gate A Pier and Gate B Canopy					
Passenger Vehicles	0.082	0.252	0.004	0.004	477
Concrete Trucks	0.058	1.686	0.032	0.032	252
Total for Gate A	**0.140**	**1.938**	**0.037**	**0.037**	**729**
Marginal Wharf Improvements					
Passenger Vehicles	0.082	0.252	0.004	0.004	477
Concrete Trucks	0.014	0.408	0.008	0.008	61
Total for Wharf	**0.096**	**0.660**	**0.012**	**0.012**	**538**
2015 Calculations					
Gate A Berth					
Passenger Vehicles	0.070	0.229	0.004	0.004	477
Testing and Closeout					
Passenger Vehicles	0.070	0.229	0.004	0.004	477

Notes:

CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

Table AIR-6 South Basin Daily Unmitigated On-Road Vehicle Exhaust Emissions					
	Emissions (lbs/day)				
South Basin	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
2014 Calculations					
Demolition and Dredging					
Passenger Vehicles	0.020	0.060	0.001	0.001	114
Embarcadero Plaza, East Bayside Promenade, South Apron					
Passenger Vehicles	0.082	0.25	0.0042	0.0042	477
Concrete Trucks	0.2	5.4	0.10	0.10	814
Lowboy Truck	0.013	0.38	0.0073	0.0073	57
Total for EP, EBP, SA	**0.28**	**6.1**	**0.12**	**0.12**	**1,348**
2015 Calculations					
Embarcadero Plaza, East Bayside Promenade, South Apron					
Passenger Vehicles	0.070	0.23	0.004	0.004	477
No Concrete Trucks in 2015					
No Lowboys in 2015					
Total for EP, EBP, SA	**0.070**	**0.23**	**0.004**	**0.004**	**477**
Gate F Berth					
Passenger Vehicles	0.07	0.23	0.004	0.004	477
Gate G Berth					
Passenger Vehicles	0.07	0.23	0.004	0.004	477
Testing and Closeout					
Passenger Vehicles	0.07	0.23	0.004	0.004	477

Notes:

CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas
EB = Embarcadero Plaza
EBP = East Bayside Promenade
SA = South Apron

Table AIR-7 Proposed Project's Annual Unmitigated On-Road Vehicle Exhaust Emissions					
Combined Years and Basin Tasks	**Emissions (tons/year)**				
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
2014 Calculations					
NB Dredging	0.00030	0.00091	0.000015	0.000015	1.7
SB Demo and Dredging	0.0012	0.0036	0.000061	0.000061	6.9
NB Gate A Pier and B Canopy	0.013	0.050	0.00086	0.00086	73
NB Marginal Wharf	0.0050	0.018	0.00031	0.00031	29
NB Gate A Berth	0.0021	0.007	0.00012	0.00012	14
SB Circulation Improvements	0.011	0.069	0.0012	0.0012	63
Total 2014:	**0.032**	**0.15**	**0.0026**	**0.0026**	**188**
2015 Calculations					
NB Gate A Berth	0.0011	0.0034	0.000059	0.000059	7.2
NB Testing and Closeout	0.0021	0.0069	0.00012	0.00012	14.3
SB Circulation Improvements	0.011	0.034	0.00059	0.00059	71.6
SB Gate F Berth	0.0021	0.0069	0.00012	0.00012	14.3
SB Gate G Berth	0.0032	0.010	0.00018	0.00018	21.5
SB Testing and Closeout	0.0021	0.0069	0.00012	0.00012	14.3
Total 2015:	**0.021**	**0.069**	**0.0012**	**0.0012**	**143**

Notes:

CO_2e = carbon dioxide equivalent
NB = northbound
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas
SB = southbound

Table AIR-8 Annual Unmitigated Emissions from Off-Road Construction Equipment for the Proposed Project					
Combined Years and Basin Tasks	**Emissions (tons/year)**				
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
2014 Calculations					
NB Dredging	0.010	0.084	0.003	0.003	12
SB Demo and Dredging	0.053	0.442	0.018	0.018	61
NB Gate A Berth	0.010	0.070	0.005	0.005	9
NB Gate A Pier and B Canopy	0.817	8.029	0.333	0.333	1,178
NB Marginal Wharf	0.035	0.257	0.019	0.019	35
SB Circulation Improvements	0.659	6.486	0.269	0.269	942
Total 2014:	**1.58**	**15.37**	**0.65**	**0.65**	**2,235**
2015 Calculations					
NB Gate A Berth	0.004	0.032	0.002	0.002	4
SB Circulation Improvements	0.75	7.32	0.30	0.30	1,178
SB Gate F Berth	0.009	0.064	0.005	0.005	9
SB Gate G Berth	0.012	0.088	0.006	0.006	13
Total 2015:	**0.78**	**7.51**	**0.31**	**0.31**	**1,203**

Notes:

CO_2e = carbon dioxide equivalent
NB = northbound
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas
SB = southbound

Fugitive-dust–related particulate matter emissions were assumed to be negligible because the proposed project's construction area overlies water. The model's default horsepower and load factors for each equipment type were used, and it was assumed that active construction would occur for 8 hours each day. Based on the construction equipment detail tables (Tables AIR-1 and AIR-2), equipment types and quantities were input into the model for each construction phase for each year of construction. If a particular type of construction equipment was not included in the model's list of equipment types, a similar equipment type was selected, or the "other construction equipment" category was used.

The model provided daily pollutant emissions (lbs/day) for each construction phase. As shown in the equation below, these daily emissions were multiplied by the number of construction days for a particular phase, and divided by a conversion factor (2,000 lbs/ton) to calculate annual emissions for each construction phase (tons/year).

> Annual Emissions by Construction Phase = Daily Emissions from Off-Road Model Results (lbs/day) * # of construction days for that phase in a given year/conversion factor (2,000 lbs/ton)

1.2.3 Marine Emissions

Daily emission rates (in lbs/day) were calculated for construction-related marine vessels using the formula below (Table AIR-9). It was assumed that the project's marine vessels would be 2008 models. The CARB's Commercial Harbor Craft Emissions Model – California Barge and Dredge Emissions Inventory Database 2011 model was used to determine appropriate marine vessel emission factors (Table AIR-10). The appropriate emission factor for each vessel was selected from the corresponding horsepower range for model year 2008. The deterioration rates used in the equations below were selected based on each vessel's horsepower range, and were adjusted to consider the age of the vessel at the time of use/total lifespan of the vessel (vessel lifespan assumed to equal 20 years). Fuel correction factors were 0.948 and 0.8 (unit less) for oxides of nitrogen (NO_X) and particulate matter (PM), respectively, and were taken from CARB's Appendix B of the Commercial Harbor Craft Emissions Model, *Emissions Estimation Methodology for Commercial Harbor Craft Operating in California* (CARB, 2012).

> Daily emission rate (lbs/day) = emission factor (grams/horsepower-hour) * marine vessel's horsepower * vessel load factor × conversion factor (1 lb/453.6 grams) * vessel operation period (hours/day) * fuel correction factor (for NO_X and PM only) * (1 + (deterioration rate * adjustment of deterioration rate for consideration of age of vessel))

Annual emissions (tons/year) associated with each construction phase were determined by multiplying the daily emission rate (lbs/day) for the applicable marine vessel(s) by the number of work days for that construction phase in a given year by the number of vessels of that type, and dividing by a conversion factor of 2,000 lbs/ton (Table AIR-11).

1.2.4 Mitigated Emissions Calculations

As shown in Table AIR-4, the proposed project's construction-related unmitigated emissions would exceed the applicable BAAQMD average daily emission threshold for NO_X. Therefore, the proposed project would include the mitigation measures identified below, and would result in the construction-

Table AIR-9 Daily Emission Summary for Marine Vessels (Model Year 2008) Used for Construction of the Proposed Project							
Equipment Type by Construction Year	**Horsepower (HP)**	**Emissions (lbs/day)**					
		ROG	**CO**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
2014							
Survey Boat	100	0.198	2.57	3.93	0.17	0.17	451.03
Diesel Tugboat	400	0.435	3.14	12.80	0.34	0.34	1804.13
Gasoline Utility Boat	100	0.198	2.57	3.93	0.17	0.17	451.03
2015							
Survey Boat	100	0.200	2.59	3.95	0.18	0.18	451.03
Diesel Tugboat	400	0.443	3.18	12.92	0.34	0.34	1804.13
Gasoline Utility Boat	100	0.200	2.59	3.95	0.18	0.18	451.03

Notes:

CO = carbon dioxide
CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

Table AIR-10
Emission Factors and Deterioration Rates Used in Proposed Project's Construction-Related Marine Vessel Emissions

Equipment Horsepower Range	Max Horsepower	Vessel Model Year	Emission Factors (grams/horsepower-hour)			
			ROG	CO	NO_X	PM
50 to <=120	120	2008	0.23	3.09	5.01	0.24
250 to <=500	500	2008	0.12	0.92	4.0	0.11
Deterioration Rates (percent/100)						
Equipment Horsepower Range	**ROG**	**CO**	**NO_X**	**PM**	N/A	
51 to 120	0.28	0.16	0.14	0.44		
251-500	0.44	0.25	0.21	0.67		

Notes:

CO = carbon dioxide
CO_2e = carbon dioxide equivalent
N/A = not applicable
NO_X = nitrogen oxide
PM= particulate matter
ROG = reactive organic gas

Emission factors are from the California Air Resources Board's Barge and Dredge Emissions 2011 model and are based on main engine emission rates.
Deterioration rates are also based on California Air Resources Board's Appendix B Emissions Estimation Methodology for Commercial Harbor Craft Operating in California. These rates are the assumed deterioration rates for engines at the end of their useful life. For example, the ROG emissions from a 100-horsepower engine are assumed to be 28 percent higher after 20 years (the engine's useful life), as compared to the engine's new emission rate.

Table AIR-11 Annual Unmitigated Marine Vessel Emissions for the Proposed Project's Construction Phases					
Combined Years and Basin Tasks	**Emissions (tons/year)**				
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
2014 Calculations					
NB Dredging	0.00	0.06	0.003	0.003	6.77
NB Gate A Berth	0.02	0.62	0.02	0.02	81.19
SB Demo and Dredging	0.01	0.12	0.01	0.01	13.53
NB Gate A Pier and B Canopy	0.12	3.10	0.10	0.10	405.93
NB Marginal Wharf	0.03	0.77	0.02	0.02	108.25
SB Circulation Improvements	0.10	2.48	0.08	0.08	324.74
Total 2014:	**0.28**	**7.14**	**0.23**	**0.23**	**940.40**
2015 Calculations					
NB Gate A Berth	0.01	0.31	0.01	0.01	40.59
SB Circulation Improvements	0.13	3.12	0.10	0.10	405.93
SB Gate F Berth	0.03	0.62	0.02	0.02	81.19
SB Gate G Berth	0.04	0.94	0.03	0.03	121.78
Total 2015:	**0.20**	**5.00**	**0.17**	**0.17**	**649.49**

Notes:

CO_2e = carbon dioxide equivalent
NB = northbound
NO_X = nitrogen oxide
PM= particulate matter
ROG = reactive organic gas
SB = southbound

related emissions following mitigation shown in Table AIR-4. Mitigation measures for the proposed project's construction activities include:

- **Mitigation Measure AQ-1: Construction Phasing**. The Water Emergency Transportation Authority will phase construction activities in such a way that onsite emission-generating construction activities for the North Basin and South Basin improvements do not overlap.

- **Mitigation Measure AQ-2: Implement BAAQMD-Recommended Best Management Practices**. The following BAAQMD-recommended best management practices will be implemented to reduce exhaust emissions:

- Minimize the idling time of diesel-powered construction equipment to 2 minutes.

- The contractor will demonstrate at various phases of construction (e.g., 25 percent, 50 percent, and completion) that the off-road equipment (more than 50 horsepower) and marine vessels to be used during construction (i.e., owned, leased, and subcontractor vehicles) would achieve a project-wide fleet-average 20 percent NO_X reduction, and a 45 percent PM reduction, compared to the most recent CARB fleet average to the extent feasible. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options that may become available. The contractor will document efforts taken to achieve the specified goals, explain why meeting the goals was not feasible (if applicable), and indicate what emissions reduction and equipment use goals were achieved.

- Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NO_X and PM.

- Require all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.

Table AIR-4 shows mitigated emissions associated with Mitigation Measures AQ-1 and AQ-2. Whereas unmitigated emissions assume that the North Basin and South Basin construction activities would overlap, Mitigation Measure AQ-1 assumes no overlap of emission-generating activities. Without any overlap of emission-generating construction activities, the total construction period would increase from 24 to 38 months. With implementation of Mitigation Measure AQ-1, average daily NO_X emissions would be reduced from 99.8 to 63.0 pounds per day, which still exceeds the BAAQMD's 54-pounds-per-day significance threshold.

Mitigation Measure AQ-2 would further reduce emissions from 63.0 pounds of NO_X per day to 50.7 pounds per day (see Table AIR-4). With implementation of Mitigation Measures AQ-1 and AQ-2, the project's emissions would be less than BAAQMD's 54-pounds-per-day threshold.

2.0 OPERATION EMISSIONS

The No Action Alternative and the proposed project would result in direct and indirect operational-related emissions. For the No Action Alternative, vessel idling would generate exhaust emissions. The proposed

project would generate exhaust emissions from several sources, including idling vessels, operation and periodic testing of an emergency generator, and a survey boat used for maintenance dredging. Maintenance dredging and the operation of an emergency generator would occur infrequently, but were included in the emission calculations to determine the most conservative (i.e., highest emissions) scenario. For both the No Action Alternative and the proposed project, vessels were assumed to be evenly composed of large (7,657 horsepower) and small (2,198 horsepower) vessels. Vessel types assumed in this analysis were based on vessel information provided in the Program EIR's Technical Appendix AIR-C Emissions for Alternatives 1 through 4's *Summary of Marine Emissions for the No Project and "Reduced" Alternative 2 Project Scenarios Assuming EPA Tier 2 Emissions Standards for Diesel Engines* table (WETA, 2003).

2.1 NO ACTION OPERATION EMISSIONS

Similar to the construction-related marine vessel calculations, maximum daily emission rates (lbs/day) were calculated for the No Action Alternative's large and small vessels (Table AIR-12). The vessels were assumed to be 2010 models, with the horsepower described above. The marine vessels for the No Action and proposed project's services would use U.S. Environmental Protection Agency (U.S. EPA) and CARB Tier 2–compliant clean diesel engines, which emit approximately 25 to 30 percent less reactive organic gas (ROG), NO_X, and particulate matter 10 microns in diameter or less (PM_{10}) than current diesel engines. In addition, add-on control devices such as selective catalytic reduction and particulate traps would further reduce NO_X and PM_{10} emissions to 10 percent and 5 percent, respectively, of U.S. EPA Tier 2 levels. For ROG, NO_X, PM_{10}, and $PM_{2.5}$, the U.S. EPA's Marine Compression-Ignition Engines Exhaust Emission Standards for Tier 2 commercial (C1) engines were used (Table AIR-13). As described above, additional emission reductions from the add-on control devices were applied for NO_X and PM_{10} (Table AIR-13).

The CARB's Commercial Harbor Craft Emissions Model – California Barge and Dredge Emissions Inventory Database 2011 model was used to determine appropriate marine vessel emission factors for carbon dioxide equivalent (CO_2e) emissions for both alternatives. The appropriate emission factor for each vessel was selected from the corresponding horsepower range for the corresponding model year. The vessels were assumed to be 2010 models, with the horsepower described above. Based on Chapter 2.0 *Alternatives*, under the No Action Alternative, vessel arrivals could increase to a total of 65 vessels/day.

The equation used to estimate vessel idling emissions is as follows:

> **Daily emission rate (lbs/day) for idling small or large vessels** = emission factor (grams/horsepower-hour) * marine vessel's horsepower * vessel load factor (of 0.01) * conversion factor (1 lb/453.6 grams) * number of total vessels/day * 1/2 the vessels (one-half of total vessels are small vessels and one-half are large) * 20 idling minutes/vessel * 1 hour/60 min

Annual vessel idling exhaust emissions (tons/year) were calculated as shown in Table AIR-14. To calculate vessel idling emissions, daily emission rates for each vessel type was multiplied by 365 days/year and multiplied by a conversion factor (1 ton/2,000 lbs). Average daily emissions for the No Action Alternative (Table AIR-15) were calculated by dividing the total annual emissions (tons/year) for each pollutant by 365 days/year and multiplying by a conversion factor (1 ton/2,000 lbs).

Table AIR-12 Operation Emissions for the No Action Alternative – Maximum Daily Emission Rates							
Equipment Type	**Equipment Horsepower**	**Emissions (lbs/day)**					
		ROG	**CO**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Large Vessel	7,657	4.9	6.8	0.5	0.014	0.014	1,039
Small Vessel	2,198	1.4	2.0	0.1	0.004	0.004	298

Notes:

Maximum Daily Emission Rates are the emissions that would be generated during an assumed 24 hours of operation.

CO = carbon dioxide
CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

Table AIR-13 Marine Vessel Emission Rates for the No Action and Proposed Project's Operation Phases			
Criteria Pollutants	**Tier 2 Emission Rate (grams/kw-hr)**	**Reduction by Add-on Control Devices (percent)**	**Adjusted Emission Rate (grams/kw-hr)**
PM_{10} and $PM_{2.5}$	0.2	95	0.01
CO	5	0	5
ROG	3.6	0	3.6
NO_X	3.6	90	0.36

Notes:

Tier 2 emission rates for ROG and NO_X are a combined 7.2 grams/kw-hr. These rates were split evenly between ROG and NO_X for the purposes of these calculations. Because the Tier 2 standards do not include an emission rate for CO_2, CO_2 emission rates were estimated using California Air Resources Board rates.

Source: U.S. EPA 2012a

CO = carbon monoxide
CO_2 = carbon dioxide
grams/kw-hr. = grams per kilowatt-hour
NO_X = nitrogen oxide
PM = particulate matter
ROG = reactive organic gas

Table AIR-14 Annual Operation-Related Emissions for the No Action Alternative					
	Emissions (tons/year)				
Operation Activity	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e[1]**
Large Vessel Idling	0.90	0.09	0.0025	0.0025	190
Small Vessel Idling	0.26	0.03	0.0007	0.0007	54
Total:	**1.15**	**0.12**	**0.0032**	**0.0032**	**244**
BAAQMD Annual Emission Thresholds	10	10	15	10	1,212.54

Notes:

Net difference values may slightly vary due to rounding.

[1] BAAQMD's maximum annual emissions threshold for CO_2e can also be expressed as 1,100 metric tons per year (2,204.62 pounds per metric ton).

BAAQMD = Bay Area Air Quality Management District
CO_2e = carbon dioxide equivalent
N/A = not applicable
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

Table AIR-15 Average Daily Operation-Related Emissions for the No Action Alternative					
	Emissions (lbs/day)				
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Total	6.32	0.63	0.018	0.018	1,338
BAAQMD Threshold	54	54	82	54	N/A
Exceeds Threshold	No	No	No	No	N/A

Notes:

Emissions are averaged from the total annual emissions (tons/year) for this alternative.

BAAQMD = Bay Area Air Quality Management District
CO_2e = carbon dioxide equivalent
N/A = not applicable
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

2.2 PROPOSED PROJECT OPERATION EMISSIONS

Similar to the construction-related marine vessel calculations and the No Action Alternative's operation emission calculations, maximum daily emission rates (lbs/day) were calculated for the proposed project's maintenance dredging activities (survey boat), and large and small vessels (Table AIR-16). Based on Chapter 2.0 *Alternatives*, the proposed project would support and increase in vessel arrivals to a total of 181 vessels arrivals/day. CARB's Commercial Harbor Craft Emissions Model – California Barge and Dredge Emissions Inventory Database 2011 model was used to determine appropriate marine vessel emission factors for CO_2e. For ROG, NO_X, PM_{10}, and $PM_{2.5}$, the U.S. EPA's Marine Compression-Ignition Engines Exhaust Emission Standards for Tier 2 commercial (C1) engines were used (Table AIR-13).

Table AIR-16
Operation Emissions for the Proposed Project – Maximum Daily Emission Rates

Equipment Type	Equipment Horsepower	Emissions (lbs/day)					
		ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2e
Survey Boat (Maintenance Dredging)	100	0.2	2.6	4.0	0.2	0.2	451
Emergency Generator	549	4.0	16.9	47.2	1.4	1.3	9,043
Large Vessel	7,657	13.7	19.0	1.4	0.04	0.04	2,894
Small Vessel	2,198	3.9	5.5	0.4	0.01	0.01	831

Notes:
Maximum Daily Emission Rates are the emissions that would be generated during an assumed 24 hours of operation.
CO = carbon dioxide
CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

The deterioration rates used in the equation below were selected based on each vessel's horsepower and were adjusted for the age of the vessel at the time of use/total lifespan of the vessel (assumed 20 years). It was assumed the first year that maintenance dredging occurring under the proposed project would be 3 years after completion of project construction (assumed to be year 2018), and that the survey boat would be 10 years old out of its 20-year lifespan (a deterioration rate adjustment of 10/20).

Daily emission rate (lbs/day) for survey boat = emission factor (grams/horsepower-hour) * marine vessel's horsepower * vessel load factor * conversion factor (1 lb/453.6 grams) * vessel operation period (hours/day) * fuel correction factor (for NO_X and PM only) * (1 + (deterioration rate × adjustment of deterioration rate for consideration of age of boat))

Daily emission rate (lbs/day) for idling small or large vessels = emission factor (grams/horsepower-hour) * marine vessel's horsepower * vessel load factor (of 0.01) * conversion factor (1 lb/453.6 grams) * number of total vessels/day * 1/2 the vessels * 20 idling minutes/vessel * 1 hour/60 min

Annual emissions (tons/year) from each activity were calculated as shown in Table AIR-17. To calculate the vessel idling emissions, the daily emission rates for each vessel type were multiplied by 365 days/year, and multiplied by a conversion factor (1 ton/2,000 lbs).

Table AIR-17
Annual Operation-Related Emissions for the Proposed Project

Combined Operational Activities	Emissions (tons/year)				
	ROG	NO_X	PM_{10}	$PM_{2.5}$	CO_2e
Operational Emissions Calculations					
Large Vessel Idling	2.5	0.25	0.007	0.007	528
Small Vessel Idling	0.72	0.072	0.0020	0.0020	152
Emergency Generator	0.01	0.12	0.003	0.003	23
Maintenance Dredging	0.0010	0.020	0.0009	0.0009	2
Total:	**3.22**	**0.46**	**0.01**	**0.01**	**705**

Notes:
CO_2e = carbon dioxide equivalent
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

Maintenance dredging emissions were assumed to occur over a 10-day period; thus, the equation used to calculate maintenance dredging emissions was daily emission rate for the survey boat * 10 days/year * a conversion factor (1 ton/2,000 lbs). Average daily emissions for the proposed project (Table AIR-18) were calculated by dividing the total annual emissions (tons/year) for each pollutant by 365 days/year, and multiplying by a conversion factor (1 ton/2,000 lbs).

Table AIR-18
Average Daily Operation-Related Emissions for the Proposed Project

	Emissions (lbs/day)				
	ROG	NO_X	PM_{10}	$PM_{2.5}$	CO_2e
Total Average Emissions	17.7	2.5	0.073	0.071	3,865
BAAQMD Threshold	54	54	82	54	N/A

Notes:
BAAQMD = Bay Area Air Quality Management District
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
lbs/day = pounds per day
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

Daily emissions from the operation and periodic testing of an emergency generator under the proposed project were calculated using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 6.3.2. In the model, it was assumed that one 549-horsepower

generator (default generator size and load factor used) would operate 24 hours per day. As shown in the following equation, annual emissions (Table AIR-17) were calculated by using these maximum daily emission rates (Table AIR-16), and assuming that the generator would be operated up to a maximum of 124 hours annually (2 hours/month for periodic testing, and up to 100 hours of use):

Annual emissions (tons/year) from the emergency generator = daily emission rates (lbs/day) × 1 day/24 hours × 124 hours/year × conversion factor (1 ton/2,000 lbs)

2.3 NET OPERATION EMISSIONS

As shown in Tables AIR-19 and AIR–20, net proposed project emissions were calculated by determining the total increase in the proposed project's emissions, compared to the No Action Alternative's emissions. For operational emissions, there are four emission categories for the proposed project: large-vessel idling, small-vessel idling, emergency generator, and maintenance dredging. However, for the No Action Alternative, there are only two emission categories: large-vessel idling and small-vessel idling. Consequently, the net emission increases for the emergency generator and maintenance dredging shown in Table AIR-19 are identical to the proposed project emissions for these categories shown in Table AIR-17. The net emission increases for the large- and small-vessel idling categories shown in Table AIR-19 are the net change in emissions from these categories shown for the proposed project in Table AIR-17, minus the emissions shown for the No Action Alternative shown in Table AIR-14.

Table AIR-19
Net Increase in Annual Operational Emissions from the Proposed Project as Compared to the No-Action Alternative

Combined Operational Activities	Emissions (tons/year)				
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e[1]**
Operational Emissions Calculations					
Large-Vessel Idling	1.60	0.16	0.004	0.004	338
Small-Vessel Idling	0.46	0.05	0.001	0.001	97
Emergency Generator	0.01	0.12	0.003	0.003	23
Maintenance Dredging	0.001	0.02	0.0009	0.0009	2
Total:	**2.07**	**0.34**	**0.010**	**0.010**	**461**
BAAQMD Maximum Annual Emissions Threshold (tons/year)	10	10	15	10	1,212.54

Notes:
[1] BAAQMD's maximum annual emissions threshold for CO_2e can also be expressed as 1,100 metric tons per year (2,204.62 pounds per metric ton).
BAAQMD = Bay Area Air Quality Management District
CO_2e = carbon dioxide equivalent
lbs/day = pounds per day
N/A = Not available
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

Table AIR-20 Net Increase in Daily Operational Emissions of the Proposed Project as Compared to the No Action Alternative					
Alternative	**Emissions (lbs/day)**				
	ROG	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
No Action	6.32	0.63	0.018	0.018	1,338
Proposed Project	17.7	2.5	0.073	0.071	3,865
Net Increase (Proposed Project minus No Action)	**11.3**	**1.87**	**0.055**	**0.053**	**2,527**
BAAQMD Daily Emission Thresholds *	54	54	82	54	N/A

Notes:
Emissions are averaged from the total emissions (tons/1 year of operation [365 days]) for each alternative.
Net difference values may vary slightly due to rounding.
* The BAAQMD thresholds are from the BAAQMD's CEQA Air Quality Guidelines (2011).
BAAQMD = Bay Area Air Quality Management District
CEQA = California Environmental Quality Act
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
lbs/day = pounds per day
NO_X = nitrogen oxide
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$= particulate matter 2.5 microns in diameter or less
ROG = reactive organic gas

3.0 TOXIC AIR CONTAMINANTS AND HEALTH RISK ANALYSIS

3.1 TOXIC AIR CONTAMINANTS

In addition to the criteria air pollutants listed above, TACs or hazardous air pollutants are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. There are hundreds of different types of TACs with varying degrees of toxicity. Many TACs are confirmed or suspected carcinogens, or are known or suspected to cause birth defects or neurological damage. Secondly, many TACs can be toxic at very low concentrations. For some chemicals, such as carcinogens, there are no thresholds below which exposure can be considered risk-free.

Industrial facilities and mobile sources are significant sources of TACs. Automobile exhaust also contains TACs such as benzene and 1,3-butadiene. Most recently, diesel particulate matter (DPM) was identified as a TAC by CARB. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. BAAQMD research indicates that mobile-source emissions of DPM, benzene, and 1,3-butadiene represent a substantial portion of the ambient background risk from TACs in the San Francisco Bay Area Air Basin. For the proposed project, the TACs of concern are DPM and $PM_{2.5}$, which would be emitted by heavy construction equipment and by marine vessels during project operation.

3.2 HEALTH RISK ANALYSIS

The proposed project's construction and operational activities could affect local air quality. The primary sources of health risks from construction equipment are DPM, which is produced by diesel engine exhaust;

and $PM_{2.5}$. As shown in Tables AIR-17 and AIR-19, emissions of PM_{10} and $PM_{2.5}$ in equipment exhaust would not exceed the significance criteria for regional emissions of criteria pollutants. However, localized $PM_{2.5}$ and DPM emissions could expose sensitive receptors to substantial concentrations, resulting in health risks. These pollutants were evaluated to identify potential cancer risk and chronic noncancer hazards.

The construction and operational health risk analysis evaluated the potential risk to existing sensitive receptors in the vicinity of the proposed project areas. Risk characterization and model results are discussed in this section.

The thresholds for individual project risks and hazards are:

- An excess lifetime cancer risk level of more than 10 in one million;
- A noncancer (chronic) risk greater than 1.0; and
- An incremental increase in the annual average $PM_{2.5}$ concentration greater than 0.3 microgram per cubic meter ($\mu g/m^3$).

A health risk assessment, consistent with the BAAQMD's "Recommended Methods for Screening and Modeling Local Risks and Hazards," was performed for the proposed project. First, consistent with the BAAQMD's Tier 1 modeling recommendation, a conservative screening-level risk assessment was conducted, using the U.S. EPA's SCREEN3 model, to evaluate the potential risk to existing sensitive receptors in the vicinity of the proposed project's construction and operation areas. For all risks that were below thresholds using the screening modeling approach, no further analysis was performed. If the screening assessment indicated that risks for a sensitive receptor could exceed a threshold, a more detailed analysis was performed consistent with BAAQMD's Tier 2 and 3 modeling recommendations. In this case, the risks for that receptor were modeled using, U.S. EPA's AERMOD, which incorporates more site-specific detail than the screening level method, such as hourly wind data, locations of emissions sources, locations of receptors, terrain data, and nearby building dimensions.

3.2.1 Sensitive Receptors

To assess the health risks on sensitive receptors from the project's construction and operation, residential, school (including day cares), medical, and commercial sensitive receptors were identified. The distance between the nearest residential-zoned property and the project area is approximately 300 feet. The nearest existing residence is approximately 700 feet (213.4 meters) from the project area, the nearest school is approximately 293 feet (89.3 meters) from the project area, and a medical facility is approximately 4,168 feet (1,270 meters) from the project area. A commercial property is within the project area.

It was conservatively assumed that the closest residential receptor was 300 feet to northwest (91.4 meters); this is the boundary of the nearest residentially zoned property, which currently does not contain residential structures. The closest current residential structure is 700 feet (213.4 meters) to the northwest of the project area. However, a new residential development, 8 Washington, is proposed on the portion of this property where there are currently tennis courts (i.e., 300 feet from the proposed project). The 8 Washington Final EIR indicates that air filtration systems will be incorporated into the design, so that at least 80 percent of fine particulates would be removed from the air in the habitable areas (City and

County of San Francisco, 2012).[2] Because the risks calculated in the sections below are driven by DPM, the filtration is reasonably assumed to decrease calculated risk by 80 percent. This was incorporated into the analysis for the receptors at the 8 Washington site, but not at other residential locations where it is unknown if there is filtration.

To assess the health risks on sensitive receptors from the project's construction and operation, the nearest residential, school (including day cares), medical, and commercial sensitive receptors were identified. The distance between the nearest residential-zoned property and the project area is approximately 300 feet (91.4 meters). The nearest school is approximately 293 feet (89.3 meters) from the project area. A medical facility is located approximately 4,168 feet (1,270 meters) from the project area. A commercial property is within the project area and was considered to be 0 feet from the project area.

3.2.2 Screening-Level Health Risk Assessment

3.2.2.1 SCREEN3 Model and Model Inputs

The U.S. EPA's SCREEN3 model was used to perform a screening-level analysis of the potential health risks of the proposed project. The SCREEN3 model is a "single source Gaussian plume model which provides maximum ground-level concentrations for point, area, flare, and volume sources" (U.S. EPA, 2012b). The model was used to identify a maximum ground-level concentration near the project area, and the concentrations at the nearest four sensitive receptor types described above. As detailed below, these concentrations were then converted into chronic and carcinogenic risks for the screening health risk analysis.

Inputs required for the model include source type, receptor, and source heights; project area dimensions; emission rates (in grams/second*square meters); and distances to the nearest sensitive receptors. For this analysis, the following model inputs were used:

- Source type = Area source;
- Receptor and source heights = 1.8 meters;
- Project area dimensions = 1,543 feet by 829 feet (or approximately 470 meters by 253 meters), or a total project area of 1,279,147 square feet; and
- Project's emission rates (discussed further below).

Total PM_{10} emission rates for each of the project's construction years (Table AIR-3) and the project's operational PM_{10} emissions (Tables AIR-17 and AIR-19) were converted from tons/year to grams/(second*square meters). The converted project emission rates are provided in Table AIR-21. PM_{10} emissions were used as a surrogate for DPM emissions.

[2] "Mitigation M-AQ-7: Building Design and Ventilation Requirements. The project sponsor shall submit a ventilation plan for the proposed buildings. The ventilation plan shall show that the building ventilation systems remove at least 80 percent of the $PM_{2.5}$ pollutants from habitable areas. The ventilation system shall be designed by an engineer certified by ASHRAE, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor-to-indoor transmission of air pollution. In addition to installation of an air filtration system, the project sponsor shall present a plan that ensures ongoing maintenance for the ventilation and filtration systems. The project sponsor shall also ensure the disclosure to buyers and renters regarding the findings of the analysis and inform occupant's proper use of any installed air filtration system."

Table AIR-21 Summary of Proposed Project PM_{10} Emission Rates and Rate Conversions for the SCREEN3 Modeling		
	Total Emissions (Tons/Year)	**Total Emissions (grams/[second*square meters])**
Construction		
2014	0.88	2.14E-07
2015	0.48	1.17E-07
Proposed Project Operation (2018)	0.01	3.2E-09
Net Project Operation (2018)	0.01	2.43E-09

Notes:

1 ton = 907,184.74 grams
1 year = 31,536,000 seconds
Project area = approximately 118,836.65 square meters

PM_{10} = particulate matter 10 microns in diameter or less

Net Project Operation is the increase in emissions for the proposed project as compared to the No Action Alternative

3.2.2.2 SCREEN3 Model Results

Table AIR-22 provides the conservative SCREEN3-modeled ground-level DPM concentrations (in $\mu g/m^3$) at the nearest sensitive receptors to the project's construction and operational activities. Per BAAQMD recommendations, worst-hour SCREEN3 results were multiplied by a factor of 0.1 to determine annual concentrations. The 2014 and 2015 annualized construction emissions were averaged for use in the chronic and carcinogenic risk calculations.

Table AIR-22 SCREEN3 Results – Unmitigated Ground-Level Concentrations of DPM at Nearest Sensitive Receptors to Project Area					
Sensitive Receptor Type	**Construction Concentrations ($\mu g/m^3$)**			**Operational Concentrations (2018) ($\mu g/m^3$)**	**Net Operational Concentrations (2018) ($\mu g/m^3$)**
	2014	**2015**	**Average**		
Residence	0.65	0.356	0.503	9.76E-03	7.39E-03
School	0.563	0.308	0.435	8.44E-03	6.40E-03
Commercial Building	0.710	0.389	0.550	1.07E-02	8.08E-03
Medical	0.097	0.053	0.075	1.46E-03	1.11E-03

Notes:

Distances to nearest sensitive receptors are provided previously in text above.

Net Operational Concentrations are the increase in emissions for the proposed project as compared to the No Action Alternative

3.2.2.3 Screening-Level Ambient $PM_{2.5}$ Concentrations

The $PM_{2.5}$ ground-level concentrations were modeled in SCREEN3 using the $PM_{2.5}$ emissions from the project's construction and operation activities. Results of the analysis indicate that unmitigated $PM_{2.5}$ construction-related concentrations at three of the nearest sensitive receptors would be greater than the BAAQMD significance threshold of 0.3 $\mu g/m^3$ (see Table AIR-23). However, implementation of Mitigation Measures AQ-1 and AQ-2 would reduce the $PM_{2.5}$ concentrations to levels less than the BAAQMD's significance health risk threshold.

Table AIR-23
Summary of the Project's $PM_{2.5}$ Concentrations at the Nearest Sensitive Receptors

Sensitive Receptor Type[1]	Construction Concentrations		Operational Concentrations	Net Operational Concentrations
	$PM_{2.5}$ (unmitigated)	$PM_{2.5}$ (mitigated)[2]	$PM_{2.5}$ (unmitigated)	$PM_{2.5}$ (unmitigated)
Residence	0.50	0.17	0.010	0.007
School	0.44	0.15	0.008	0.006
Commercial Building	0.55	0.19	0.011	0.008
Medical	0.08	0.03	0.001	0.001
BAAQMD Significance Level	**0.3**	**0.3**	**0.3**	**0.3**

Notes:

Net Operational Concentrations are the increase in emissions for the proposed project as compared to the No Action Alternative

[1] Distances to nearest sensitive receptors are provided previously in text above.

[2] Mitigated emissions assume the implementation of Mitigation Measures AQ-1: Construction Phasing, and AQ-2: Implement BAAQMD-Recommended Best Management Practices, described in more detail in Section 1.2.4.

3.2.2.4 Exposure Assumptions

The exposure assessment estimates human exposure to substances that can increase cancer risk or cause chronic noncancer health risks. The primary exposure pathway for DPM is through inhalation.

Dose-response assessment is the process of characterizing the relationship between exposure to an agent and incidence of an adverse health effect in exposed populations. In quantitative carcinogenic risk assessments, the dose-response relationship is expressed in terms of a potency slope that is used to calculate the probability or risk of cancer associated with an estimated exposure. Cancer potency factor is expressed as the 95th percent upper confidence limit of the slope of the dose response curve, and assumes continuous lifetime exposure to a substance at a dose of 1 milligram per kilogram of body weight-day, commonly expressed in units of inverse dose, i.e., (milligrams per kilogram per day [mg/kg-day])-1. It is assumed in cancer risk assessments that risk is directly proportional to dose and that there is no threshold for carcinogenesis. The California Office of Environmental Health Hazard Assessment (OEHHA) has compiled cancer potency factors, which are used in risk assessments (OEHHA, 2011). The

methodologies for calculating cancer risks from the BAAQMD's "Recommended Methods for Screening and Modeling Local Risks and Hazards" were used for calculating risk (BAAQMD 2012a). The BAAQMD methodologies incorporate values and methodologies from OEHHA.

For noncarcinogenic effects, dose-response data developed from animal or human studies are used to develop chronic noncancer reference exposure levels (RELs). The chronic RELs are defined as the concentration at which no adverse noncancer health effects are anticipated. The most sensitive health effect is chosen to determine the REL if the chemical affects multiple organ systems. Unlike cancer health effects, noncancer chronic health effects are generally assumed to have thresholds for adverse effects. In other words, chronic injury from a pollutant will not occur until exposure to that pollutant has reached or exceeded a certain concentration (i.e., threshold). The chronic RELs are intended to be below the threshold for health effects for the general population.

3.2.2.5 Screening-Level Chronic Noncancer Hazard Index

The potential for exposure to result in chronic noncancer effects is evaluated by comparing the estimated annual average air concentration (which is equivalent to the average daily air concentration) to the chemical-specific noncancer chronic RELs. The chronic REL is the inhalation exposure concentration at which no adverse chronic health effects would be anticipated following exposure. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient.

The chronic risk level is calculated as follows:

Inhalation chronic risk = Cair/cREL, where:

Cair = annual concentration ($\mu g/m^3$)

cREL = Chronic noncancer REL ($\mu g/m^3$)

For this analysis, the SCREEN3 model results were converted using an adjustment factor of 0.1 from 1-hour concentrations ($\mu g/m^3$) to annual concentrations ($\mu g/m^3$). A REL of 5 was used for mercury, as recommended by OEHHA (2011).

3.2.2.6 Assessment of Cancer Risk

The maximum incremental cancer risk from exposure to DPM was calculated by estimating exposure to carcinogenic chemicals, and multiplying the dose times the cancer potency factor and an age sensitivity factor (ASF). Because the ASF changes with the age of the exposed individual, incremental cancer risks were calculated for each phase of construction or operation as appropriate, and then summed. The following equation was used to determine cancer risk for each time period assessed:

Cancer Risk = (Dose * CRAF * cancer potency factor), where:

Cancer Risk = risk (potential chances per million)

Dose = dose through inhalation (mg/kg-day)

CRAF = Cancer risk adjustment factor (exposure period for project activity [time period of assessment])/total exposure period (70 years) * ASF

Dose is estimated using the following equation:

Dose = (Cair * DBR * EF * ED * CF)/AT, where:

Dose = dose through inhalation (mg/kg-day)

Cair = annual air concentration ($\mu g/m^3$) from the model at each sensitive receptor location; this value changes over time and is paired with the ASF discussed below

DBR = daily breathing rate (581 liters per kilogram [L/kg] body weight-day for a child during construction; 302 for a 70-year exposure duration)

EF = exposure frequency (350 days/year, recommended default value for residents; 180 days/year for school children; conservatively used 350 days/year for both commercial and medical)

ED = exposure duration (70 years, recommended default value for operation; adjusted as appropriate for construction exposure)

CF = conversion factor (10-6 ([mg/µg] * [m^3/L])

Slope Factor or Cancer Potency Factor = the OEHHA-established cancer potency slope factor of 1.1 (mg/kg-day)-1 for DPM.

ASF = Age Sensitivity Factor (accounts for the increased susceptibility of infants and children to carcinogens, in comparison to adults—used 10 for first trimester until the age of two; 3 for children over the age of two; 1 for ages over 16; and 1.7 for a lifetime exposure)

AT = averaging time (25,550 days or 70 years)

For the cancer risk analysis, the dose was calculated using the values provided above and the concentrations at each sensitive receptor location from the air dispersion model. Default values were based on the guidance provided by BAAQMD (2012a), as well as OEHHA (2003). In addition, the methodology used here uses the recommended hourly-to-annual conversion factor, child daily breathing rate, and infant ASF recommended by the BAAQMD comment letter (BAAQMD, 2013). To determine incremental cancer risk, the estimated dose through inhalation was multiplied by the OEHHA-established cancer potency slope factor of 1.1 (mg/kg-day)-1 for DPM.

3.2.2.7 Screening-Level Health Risk Assessment Results

For construction impacts on residential receptors, a conservative ASF of 10 was used. For construction impacts on school receptors, a conservative ASF of 3 was used. For construction impacts on commercial and medical land uses, an ASF of 1 was applied. For all operational impacts on residential and school

receptors, a weighted ASF of 1.7 was used, as recommended by BAAQMD (2012).[3] For operational impacts on commercial and medical receptors, an ASF of 1 was applied to assess risks.

Results for cancer risk and chronic noncancer hazard impacts are provided in Table AIR-24 for each of the nearest sensitive receptor types. The conservative screening-level assessment indicates that risks for nearby commercial uses and the nearest medical facility would be less than significant. However, the screening-level assessment results for residences and schools indicate that more detailed assessment is required for these receptors, to determine risks. Refer to Section 3.2.3 for the detailed health risk assessment for these receptors.

Table AIR-24
Summary of the Project's Screening-Level Carcinogenic and Chronic Health Risks at Nearest Sensitive Receptors to Project Area

Sensitive Receptor Type	Construction Risks		Operational Risks		Net Operational Risks	
	Chronic Risk (unitless)	Carcinogenic Risk (per million)	Chronic Risk (unitless)	Carcinogenic Risk (per million)	Chronic Risk (unitless)	Carcinogenic Risk (per million)
Residence	0.10	88	0.0020	5.3	0.0015	4.0
School	0.09	23	0.0017	4.6	0.0013	3.5
Commercial Building	0.11	6.5	0.0021	5.8	0.0016	4.4
Medical	0.02	0.9	0.0003	0.8	0.0002	0.6
BAAQMD Significance Level	**1**	**10**	**1**	**10**	**1**	**10**

Notes:

Distances to nearest sensitive receptors are provided previously in text above.

The risks presented here are unmitigated; i.e., the screening-level health risk assessment did not assume implementation of Mitigation Measures AQ-1 and AQ-2.

Net Operational Risks are the risks for the proposed project as compared to the No Action Alternative

3.2.3 Detailed Health Risk Assessment

The screening assessment indicated that a more detailed analysis should be conducted for the sensitive receptors (residences and schools) that were not below the thresholds shown in Table AIR-24. Therefore, a more detailed assessment of carcinogenic risks was conducted for these sensitive receptors for construction and operation. The refined assessment accounted for (1) actual wind direction, which is primarily away from the receptors; (2) ASFs over longer averaging times, because project construction was assumed to be 38 months in duration; (3) implementation of proposed project mitigation (i.e., Mitigation Measures AQ-1 and AQ-2); and (4) air filtration controls for the new residential development approximately 300 feet from the project area.

[3] Page 66 of the guidance states "For estimating cancer risk where the emissions do not vary by year, concentrations can simply be multiplied by a cumulative ASF of 1.7 that incorporates the overall variations in ASFs."

The U.S. EPA's AERMOD model was used to perform the detailed analysis of certain potential health risks of the proposed project. The AERMOD model is a "A steady-state plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain" (U.S. EPA, 2012b). The model was used to identify refined maximum concentrations at certain sensitive receptors. As detailed in Section 3.2.3.1, these concentrations were then converted into carcinogenic risks for the health risk analysis.

Refer to Figure 3.6-1 of the EIS/EIR for the location of the nearest sensitive receptors, Figure 2-9 of the EIS/EIR for the location of the construction zone (where construction emissions would be generated), and Figure 2-1 of the EIS/EIR for the location of the new water transit gates (where the operational emissions would be generated).

3.2.3.1 AERMOD Input and Assumptions

Inputs required for the model include source information,[4] receptor locations, meteorological data, terrain data, and nearby building dimensions. AERMOD-ready meteorological data from Mission Bay (2007 and 2008) were provided by the BAAQMD. The 2008 meteorological data were used because they gave more conservative results.

For the residential receptors, because an ASF of 10 is applied to the third trimester until 2 years of age, the first 27 months of construction was assessed with an ASF of 10. After 27 months, an ASF of 3 was used. Because Mitigation Measure AQ-1 requires that construction be phased so that emission-generating construction activities in the North Basin and South Basin do not overlap, it was assumed that the total duration of construction would be 38 months. Figure 2-10 was used to determine which phases occur before and after the 27th month of construction, assuming the North Basin construction would occur first. Therefore, all North Basin construction activities (Table AIR-1), as well as the demolition and dredging in the South Basin, were assumed to occur before 27 months; and therefore, an ASF of 10 was applied for these construction phases. For the construction of the circulation improvements in the South Basin (i.e., Embarcadero Plaza, East Bayside Promenade, South Apron of the Agriculture Building Improvements), it was assumed that half of the construction would occur in the first 27 months of construction, and half of the construction would occur after the 27th month of construction. Therefore, half of these emissions were assessed with an ASF of 10, and half were assessed with an ASF of 3. The construction of Gate F and Gate G would occur after the 27th month, and were therefore assessed with an ASF of 3.

For construction impacts on school receptors, an ASF of 3 was used for all phases. School children were assumed to be at the school 180 days of the year, 8 hours per day.

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[4] Source parameters are as follows: The North and South Basin construction area was modeled as a series of volume sources, with a release height of 5 meters, a length of 10 meters, and an initial vertical dimension of 1.4 meters. North and South Basin construction was modeled as occurring from 6 a.m. through 7 p.m. The generator was modeled as a point source with a release height of 2.92 meters, an exit temperature of 756.18 Kelvin, an exit velocity of 62.93 meters per second, and an inner diameter of 0.09 meter. Dredging was modeled with all of the same parameters as the North and South basins, but occurring 24 hours per day. The ferries were modeled as several point sources with a release height of 10 meters, an exit temperature of 550 Kelvin, an exit velocity of 23 meters per second, and an inner diameter of 0.07 meter. The ferries were modeled as having emissions from 6 a.m. through 9 p.m.

For all operational impacts, a weighted ASF of 1.7 was used, as recommended by BAAQMD (2012).[5] A daily breathing rate of 581 L/kg per day was used for construction impacts, and a daily breathing rate of 302 L/kg per day for operational impacts.

The detailed health risk assessment also assumed that Mitigation Measure AQ-2 would be implemented, thereby reducing construction emissions, as described in Section 1.2.4.

In addition, as described in Section 3.2.1, there are two types of residences near the project area. The existing residences are approximately 700 feet to the northwest, and a proposed new residential development—8 Washington—would be approximately 300 feet from the project area to the northwest. The 8 Washington Final EIR includes a mitigation measure that requires the removal of 80 percent of particulate matter from habitable areas through an air filtration system. Therefore, the detailed health risk assessment assumed that the residents at this future development would be exposed to a concentration 80 percent less than the DPM concentration calculated by the AERMOD model. It was assumed that the existing residences 700 feet from the project area do not have an air filtration system.

The proposed project emissions for construction from Section 1.2 were used, and Mitigation Measure AQ-2 was subsequently applied. The proposed project emissions from Table AIR-20 were used for operational emissions.

3.2.3.2 Detailed Health Risk Analysis Results

The health risks were calculated using the assumptions and methods described in Section 3.2.2.6 and Section 3.2.3.1. The results of the detailed health risk assessment are shown in Table AIR-25.

Table AIR-25
Summary of the Project's Carcinogenic Risks from the Detailed Health Risk Assessment (per million)

	Carcinogenic Risks from Construction (per million)	**Carcinogenic Risks from Operation (per million)**
Existing Residences (700 feet from project area)	9.26	0.6
School	4.9	2.4
BAAQMD Significance Level	**10**	**10**

Notes:
The results presented here are from a more detailed analysis that was conducted to assess risks for these sensitive receptors. The detailed assessment considered hourly wind data, locations of emissions sources, locations of receptors, terrain data, and nearby building dimensions, implementation of Mitigation Measures AQ-1 and AQ-2, and more detailed information on the residential receptors.
The estimated risks for the existing residential area were higher than the risks for the proposed residential area, and are therefore the results presented here.

The operation risks shown are for the proposed project (not the net increase in risk as compared to the No Action Alternative).

[5] Page 66 of the guidance states "For estimating cancer risk where the emissions do not vary by year, concentrations can simply be multiplied by a cumulative age sensitivity factor of 1.7 that incorporates the overall variations in age sensitivity factors."

3.2.4 Cumulative Health Risk

The cumulative health risk analysis is conducted for the project, and results are compared to the BAAQMD's thresholds for cumulative effects:

- An excess lifetime cancer risk level of more than 100 in one million;
- A chronic noncancer HI greater than 10; and
- An incremental increase in the annual average $PM_{2.5}$ of greater than 0.8 μg/m^3.

The incremental increase in $PM_{2.5}$ concentrations, incremental cancer risk, and chronic HI from all past, present, and foreseeable future sources (including stationary sources) within a 1,000-foot radius from the project area, plus the contribution from the project, are analyzed for the cumulative health risk assessment. Sources within 1,000 feet of the project area are presented in Table AIR-26.

Table AIR-26
Summary of the Project's Cumulative Health Risks for Maximally Impacted Receptor (Residential)

Emission Sources	Carcinogenic Risk (per million)	Chronic Hazard Index (unitless)	$PM_{2.5}$ Concentration (μg/m^3)
Proposed Project Construction	9.3	0.1	0.17
Proposed Project Operation	0.6	0.0015	0.007
AMB Property	9.29	0.00328	0.00214
Paramount One	0.09	0.001	0.176
Hotel Vitale	2.79	0.01067	0.00289
Davis Cleaners	7.49	0	0
Equity Office/Ferry Building[1]	34.5	0.012	0.061
The Embarcadero[2,3]	6.59	< 0.02	0.276
Market Street[2,4]	0.51	< 0.02	0.016
Mission Street [2,4]	0.51	< 0.02	0.016
Total	71.7	0.19	0.73
BAAQMD Significance Level	**100 per million**	**10**	**0.8 μg/m^3**
Exceed Significance?	No	No	No

Source: BAAQMD 2012b.

[1] Ferry Building risk is scaled using BAAQMD "Diesel Internal Combustion (IC) Engine Distance Multiplier Tool," and assuming the residences are more than 164 feet from the Ferry Building.

[2] Roadway volumes are estimated as recommended by BAAQMD from: http://www.ehib.org/traffic_tool.jsp.

[3] It is assumed that The Embarcadero is a north-south roadway, and more than 10 feet from the residences northwest of the project area.

[4] It is assumed that Market Street and Mission Street are north-south roadways, and more than 700 feet from the residences northwest of the project area.

μg/m$_3$ = micrograms per cubic meter

$PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter

The screening $PM_{2.5}$ concentration, cancer risks, and chronic hazards values for permitted stationary sources were obtained from the BAAQMD county-specific kml files for Google EarthTM (BAAQMD, 2012b); values for roadway sources were obtained from the BAAQMD-recommended roadway volumes tool and risk tables. These data included $PM_{2.5}$ concentrations, cancer risks, and hazards values. Table AIR-26 shows these cumulative values from all sources within a 1,000-foot buffer zone of the project area. The cumulative values include the maximum project $PM_{2.5}$, chronic, and carcinogenic risk operational values.

As shown in the table, the maximum project cumulative operational values would result in a $PM_{2.5}$ concentration of 0.72 $\mu g/m^3$, a cancer risk of 72 in one million, and a chronic hazard index of 0.13.

4.0 REFERENCES

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APPENDIX C

SPECIAL-STATUS SPECIES LIST

Appendix C
Federal and State Special-Status Species Potentially Occurring Within the Downtown San Francisco Ferry Terminal Expansion Study Area

Common Name	Scientific Name	Status			Supporting Habitat/Flowering Period	Likelihood of Occurrence in the Study Area
		Federal	State	CNPS		
Mammals						
Pallid bat	*Antrozous pallidus*		SC	NA	Rocky outcrop regions with scattered desert scrub, ranges up into the forested oak and pine regions. Roosts in rock crevices and buildings, less frequently in mines, caves, and hollow trees.	**None:** No suitable habitat present.
Guadalupe fur seal	*Arctocephalus townsendi*	T/MMPA	T	NA	Rocky coasts and associated caves. Ranges from Point Reyes National Seashore, CA to Puerto Guerrero, near the Mexico/Guatemala border. Commonly found from the Channel Islands, CA to Cedros Island, Baja California, Mexico.	**None:** No suitable habitat present.
Sei whale	*Balaenoptera borealis*	E/MMPA	None	NA	Pacific Ocean marine waters; historically in San Francisco Bay.	**None:** No suitable habitat present.
Blue whale	*Balaenoptera musculus*	E/MMPA	None	NA	Pacific Ocean marine waters; historically in San Francisco Bay.	**None:** No suitable habitat present.
Finback (=fin) whale	*Balaenoptera physalus*	E/MMPA	None	NA	Pacific Ocean marine waters; historically in San Francisco Bay.	**None:** No suitable habitat present.
Townsend's big-eared bat	*Corynorhinus townsendii*		SC	NA	Roosts in open hangings from walls and ceilings.	**Low to Moderate:** May roost in adjacent buildings.
Southern sea otter	*Enhydra lutris nereis*	T/MMPA	None	NA	Pacific Ocean nearshore marine waters; historically in San Francisco Bay.	**Low:** May occur as incidental and transitory; supporting marine and kelp forest habitat absent.

Appendix C
Federal and State Special-Status Species Potentially Occurring Within the Downtown San Francisco Ferry Terminal Expansion Study Area (Continued)

Common Name	Scientific Name	Status			Supporting Habitat/Flowering Period	Likelihood of Occurrence in the Study Area
		Federal	State	CNPS		
Gray whale	*Eschrichtius robustus*	MMPA	None	NA	Pacific Ocean marine waters; occasionally in San Francisco Bay.	**Low:** May occur as incidental and transitory in central San Francisco Bay. Unlikely to enter the ferry terminal basins.
Right whale	*Eubalaena (=Balaena) glacialis*	E/MMPA	FP	NA	Near shore in shallow waters, large bays.	**None:** No suitable habitat present.
Steller (=northern) sea- lion	*Eumetopias jubatus*	T/MMPA	None	NA	Isolated shoreline and rocky islands from San Mateo County north.	**None:** No suitable habitat present.
Critical habitat, Steller (=northern) sea-lion (X)		CH		NA	Includes Southeast Farallon Island and Año Nuevo Island, and oceanic waters within 3,000 feet.	**None:** Project area is outside of this designated critical habitat.
Silver-haired bat	*Lasionycteris noctivagans*	None	SC	NA	Coniferous or mixed coniferous and deciduous forest, especially in areas of Old Growth.	**None:** No suitable habitat present.
Big free-tailed bat	*Nyctinomops macrotis*	None	SC	NA	Rocky areas of desert scrub or coniferous forests. Roosts by day in crevices on cliff faces.	**None:** No suitable habitat present.
Harbor seal	*Phoca vitulina*	MMPA	None	NA	Shallow water; in and near mouths of rivers; sand bars.	**Low:** May occur as incidental and transitory.
Sperm whale	*Physeter catodon (=macrocephalus)*	E/MMPA	None	NA	Pacific Ocean nearshore marine waters; historically in San Francisco Bay.	**None:** No suitable habitat present.
Salt Marsh Harvest Mouse	*Reithrodontomys raviventris*	E/MMPA	E/FP	NA	Coastal salt marsh, dense stands of pickleweed.	**None:** No suitable habitat present.
California Sea Lion	*Zalophus californicus californianus*	MMPA	None	NA	Shallow water; on offshore rocks, sand bars, bays.	**Low:** May occur as incidental and transitory.

Appendix C
Federal and State Special-Status Species Potentially Occurring Within the Downtown San Francisco Ferry Terminal Expansion Study Area (Continued)

Common Name	Scientific Name	Status			Supporting Habitat/Flowering Period	Likelihood of Occurrence in the Study Area
		Federal	State	CNPS		
Birds						
Western Snowy Plover	*Charadrius alexandrinus nivosus*	T	None	NA	Sandy coastal beaches, salt pans, coastal dredges spoils sites, dry salt ponds, salt pond levees.	**None:** No suitable habitat present.
Short-tailed albatross	*Diomedea albatrus*	T	None	NA	Breeds on remote island with little to no low vegetation. Forages within the nutrient-rich upwelling areas.	**None:** No suitable habitat present.
American peregrine falcon	*Falco peregrinus anatum*	D	FP	NA	Cliff ledges, particularly near shores and marshes.	**None:** No suitable habitat present.
Osprey	*Pandion haliaetus*	None	SC	NA	Along rivers, lakes, and coasts, nests in trees near or over water.	**None:** No suitable habitat present.
Brown pelican	*Pelecanus occidentalis*	D	D	NA	Nests on coastal islands, lacking ground predators; roosts on piers, buoys, and other structures.	**Low to Moderate:** Foraging habitat present, but no nesting habitat.
Double-crested cormorant (rookery)	*Phalacrocorax auritus*	None	SC	NA	Coastal cliffs, offshore islands, and inland along lake margins; nests on ground or in tall trees.	**Low to Moderate:** Foraging habitat present, but no nesting habitat.
California clapper rail	*Rallus longirostris obsoletus*	E	E, FP	NA	Salt marshes dominated by pickleweed and cord grass.	**None:** No suitable habitat present.
California least tern	*Sterna antillarum (=sterna, = albifrons) browni*	E	E, FP	NA	Flat, open areas along the coast near inshore estuaries, river mouths, or shallows, sandy ground with little or no vegetation, bays, freshwater ponds, channels, lakes.	**None:** No suitable habitat present.

Appendix C
Federal and State Special-Status Species Potentially Occurring Within the Downtown San Francisco Ferry Terminal Expansion Study Area (Continued)

Common Name	Scientific Name	Status			Supporting Habitat/Flowering Period	Likelihood of Occurrence in the Study Area
		Federal	State	CNPS		
Fish						
North American Green sturgeon, Southern DPS	*Acipenser medirostris*	T	SC	NA	Rivers and estuaries.	**Low to Moderate:** May migrate and/or forage in study area.
Green sturgeon, Southern DPS designated critical habitat		CH			Entire San Francisco Bay below MHHW.	**High:** Present within the project area.
Tidewater goby	*Eucyclogobius newberryi*	E	SC	NA	Upper end of lagoons in salinities less than 10 parts per thousand.	**None:** No suitable habitat present.
Delta smelt	*Hypomesus transpacificus*	T	T	NA	Sacramento-San Joaquin Delta, Suisun Bay, San Pablo Bay, river channels and sloughs.	**None:** No suitable habitat present.
Coho salmon, Central California Coast ESU	*Oncorhynchus kisutch*	E	E	NA	Between Punta Gordo and San Lorenzo River.	**Low:** May migrate and/or forage in study area.
Coho salmon, Central California Coast ESU designated critical habitat		CH		NA	Designated coastal drainages between Punta Gordo and San Lorenzo River.	**None:** Project area is outside of this designated critical habitat.
Steelhead, Central California Coast DPS	*Oncorhynchus mykiss*	T	None	NA	Delta, Suisun Bay and associated marshes, San Francisco Bay west to the Golden Gate bridge is designated as suitable habitat.	**Low to Moderate:** May migrate and/or forage in study area.
Steelhead, Central California Coast DPS designated critical habitat		CH		NA	South San Francisco Bay and associated marshes, slow moving sections of rivers, dead end sloughs; San Francisco Bay west to the Golden Gate Bridge designated as critical habitat.	**High:** Present within the project area.
Steelhead, Central Valley DPS	*Oncorhynchus mykiss*	T		NA		**Low to Moderate:** May migrate and/or forage in study area.

Appendix C
Federal and State Special-Status Species Potentially Occurring Within the Downtown San Francisco Ferry Terminal Expansion Study Area (Continued)

Common Name	Scientific Name	Status			Supporting Habitat/Flowering Period	Likelihood of Occurrence in the Study Area
		Federal	State	CNPS		
Steelhead, Central Valley DPS designated critical habitat		CH		NA	Central Valley rivers and their tributaries, west to the Pacific ocean, inclusive.	**None:** Project area is outside of this designated critical habitat.
Chinook salmon, Central Valley spring-run ESU	*Oncorhynchus tshawytscha*	T (PE)	T	NA	Central Valley rivers and their tributaries, west to the Pacific Ocean.	**Low to Moderate:** May migrate and/or forage in study area.
Chinook salmon, Sacramento River winter-run ESU	*Oncorhynchus tshawytscha*	E	E	NA	Sacramento River from Keswick Dam (near Redding) south to Chipps Island, then west through Carquinez Strait, San Pablo Bay, and San Francisco Bay.	**Low to Moderate:** May migrate and/or forage in study area.
Chinook salmon, Sacramento River winter-run ESU designated critical habitat		CH		NA	Sacramento River from Keswick Dam (near Redding) south to Chipps Island, then west through Carquinez Straight, San Pablo Bay and San Francisco Bay; Pacific Ocean.	**High:** Present within the project area.
Central Valley fall/late-fall Chinook salmon	*Oncorhynchus tshawytscha*	SC	SC	NA	Central Valley rivers and their tributaries, west to the Pacific Ocean.	**Low to Moderate:** May migrate and/or forage in study area.
Sacramento splittail	*Pogonichthys macrolepidotus*	D	SC	NA	Fresh water from lower Sacramento and San Joaquin rivers down to Montezuma Slough (may extend to the mouth of Napa River at San Pablo Bay).	**None:** No suitable habitat present.
Longfin smelt		C	T	NA	San Francisco Estuary, including the Delta, Suisan Marsh, and San Francisco Bay to the Golden Gate.	**Low to Moderate:** May migrate and/or forage in study area.

Appendix C
Federal and State Special-Status Species Potentially Occurring Within the Downtown San Francisco Ferry Terminal Expansion Study Area (Continued)

Common Name	Scientific Name	Status			Supporting Habitat/Flowering Period	Likelihood of Occurrence in the Study Area
		Federal	State	CNPS		
Invertebrates						
Black abalone	*Haliotis cracherodii*	E	None	NA	Rocky, low intertidal zone up to 6 meters deep.	**None:** No suitable habitat present.
White abalone	*Haliotis sorenseni*	E	None	NA	Open low- or high-relief rock or bolder areas interspersed with sand channels. Most abundant 80 to 100 feet deep.	**None:** No suitable habitat present.
Mission blue butterfly	*Icaricia icarioides missionensis*	E	None	NA	Coastal grasslands and shrub areas where their host plant *Lupinus sp*. occurs.	**None:** No suitable habitat present.
Callippe silverspot butterfly	*Speyeria callippe callippe*	E	None	NA	Grassy hillsides, chaparral, and oak woodland with native forbs; host plant a native violet (*Viola pedunculata*).	**None:** No suitable habitat present.
Reptiles and Amphibians						
California red-legged frog	*Rana aurora draytonii*	E	SC	NA	Lowlands and foothills with deep water remaining for at least 11 weeks; water source is usually associated with abundant emergent and/or shoreline vegetation.	**None:** No suitable habitat present.
Plants						
Presidio (=Raven's) Manzanita	*Arctostaphylos hookeri* ssp. *ravenii*	E	None	1B.1	Open scrub and serpentine areas.	**None:** No suitable habitat present.
Tiburon paintbrush	*Castilleja affinis* ssp. *neglecta*	E	T	1B.2	Serpentine soils; April through June.	**None:** No suitable habitat present.
Presidio clarkia	*Clarkia franciscana*	E	E	1B.1	Coastal shrub, valley, and foothill grasslands.	**None:** No suitable habitat present.

Appendix C
Federal and State Special-Status Species Potentially Occurring Within the Downtown San Francisco Ferry Terminal Expansion Study Area (Continued)

Common Name	Scientific Name	Status			Supporting Habitat/Flowering Period	Likelihood of Occurrence in the Study Area
		Federal	State	CNPS		
Marin dwarf flax	*Hesperolinon congestum*	T	T	1B.1	Chaparral, grassland; serpentinite; April through July.	**None:** No suitable habitat present.
San Francisco lessingia	*Lessingia germanorum*	E	E	1B.1	Coastal sand dunes and sandy soils with moderately open scrub or herbaceous vegetation.	**None:** No suitable habitat present.
Showy Indian clover	*Trifolium amoenum*	E	None	1B.1	Wet swales, grasslands, and grassy hillsides; occasionally found on serpentine soils; April through June.	**None:** No suitable habitat present.

Notes:
Federal Status Codes:
E= Endangered. Species in danger of extinction throughout all or a significant portion of its range.
T = Threatened. Species likely to become endangered within the foreseeable future.
D= Delisted
SC = Species of Concern
MMPA= Marine Mammal Protection Act

California Status Codes:
E= Endangered. Species whose continued existence in California is in jeopardy
T = Threatened. Species likely to become endangered within the foreseeable future.
SC = Species of Special Concern
R = Rare. Plant species, although not presently threatened with extinction, that may become endangered in the foreseeable future.

California Native Plant Society Status Codes:
1A = Plants presumed extinct in California
1B = Plants that are rare, threatened or endangered in California and elsewhere.
2 = Plants that are rare, threatened or endangered in California, but more common elsewhere.
3 = Plants about which more information is needed.
4 = Plants of limited distribution.

CNPS = California Native Plant Society
DPS = distinct population segment
ESU = evolutionarily significant unit
MHHW = mean higher high water
NA = not applicable

APPENDIX D

REVISED AGENCY COORDINATION AND CONSULTATION

NEPA COORDINATION

WETA Downtown San Francisco Ferry Terminal Expansion Project
Agency Coordination Meeting #1
Meeting Summary

Location: URS offices, San Francisco
Date: December 8, 2011
Time: 10:00 -11:00 am

Attendees:

Mike Gougherty	WETA
John Sindzinski	WETA
Debra Jones	FTA
Mark D'Avignon	Corps
Holly Costa*	Corps
Mandy Morrison	NOAA-NMFS
Susan Sturges	USEPA Region 9
James Hurley	Port of San Francisco
Bob Batha	BCDC
Ming Yeung	BCDC
Bernadette Lambert	BART
Michelle Anderson*	State Lands Commission
J.G. DeCarol Davis*	USCG
Bettina Diaz*	USCG Facilities Inspector Sector 7
Ian Austin	URS
Mark Weisman	URS
Julie Bixby*	URS
Alana Callagy	URS
Kelly Bayer	URS

*attended via telephone

Purpose:

- Provide agencies with an opportunity for meaningful participation in the environmental review process (per Section 6002 of SAFETEA-LU);
- Comment on the Draft Coordination Plan; and
- Discuss the purpose and need and project alternatives.

Introductions:

Following introduction of the attendees, FTA (Debra Jones) provided an overview of the purposes for the meeting, as listed above. It was emphasized that agency participation during each phase of the process will aid in developing a better EIS/EIR and will lessen the burden on agencies in reviewing the Draft EIS/EIR by allowing them to review and comment on preliminary draft versions of the purpose and need, alternatives, and methodology for analysis.

Draft Coordination Plan:
The agencies were previously provided with a Draft Coordination Plan for review and comment. The plan outlines agencies' roles, the coordination process, and schedule of key coordination activities.

FTA and WETA are the lead agencies under NEPA and CEQA, respectively. Federal agencies with special expertise will serve as cooperating agencies and will support scoping and public involvement activities and will provide technical assistance, as necessary, in addition to reviewing and commenting on preliminary draft documents; NMFS has agreed to serve as a cooperating agency. Participating agencies, those other agencies with an interest in the project, will aid in identifying potential issues of concern relevant to the environmental review process and project implementation in addition to reviewing and commenting on preliminary draft documents. The participating agencies for this project include: National Oceanographic and Atmospheric Administration – National Marine Fisheries Service; U.S. Army Corps of Engineers; U.S. Coast Guard, San Francisco Sector; U.S. Environmental Protection Agency; U.S. Fish and Wildlife Service; San Francisco Bay Conservation and Development Commission; Port of San Francisco; Bay Area Air Quality Management District; California State Lands Commission; and BART.

It was noted that scoping meetings were held in April 2011. This meeting serves as the first of two additional proposed coordination meetings. Agencies will have access to project documents and updates via the project website, http://www.watertransit.org/CurrentProjects/DTFX.aspx. A schedule of milestones for completing the EIS/EIR and decision documents was reviewed.

USEPA (Susan Sturges) noted Table 1 of the Coordination Plan should also reflect the USEPA's jurisdiction and interest also includes air quality (i.e., transportation conformity).

Purpose and Need:
The purpose and need for the project was summarized as follows:

- WETA needs additional berthing facilities in San Francisco to accommodate its planned route expansion;
- The proposed improvements are needed to allow WETA to effectively provide evacuation and disaster recovery services in accordance with its emergency response mandate; and
- To relieve pedestrian congestion around the terminal and provide better circulation.

Corps (Mark D'Avignon) recommended addressing the Section 404(b)(1) analysis in the EIS/EIR, and that the purpose and need should consider the USACE's approval requirements.

Range of Alternatives:
An overview of the Proposed Action and No Action Alternative were provided.

The Proposed Action represents Phase 2 of the planned improvements at the Downtown San Francisco Ferry Terminal. Phase 1, which was planned and implemented by the Port of San Francisco, occurred from 2001 to 2003 and involved construction of Gates B and E. Phase 2, this project, would add three additional gates and is proposed to be completed from 2014 to 2017.

Construction of Phase 2 would occur in two phases, with the north basin improvements being constructed first. The phasing is due to funding availability and limited staging area space at the terminal. Dredging work windows have been considered in the project schedule, and it was noted that relatively little dredging is proposed.

WETA is presently deciding whether Phase 3 will also be included in the project description for this EIS/EIR. Phase 3 would involve provision of bow-loading facilities to accommodate increased ridership from Treasure Island that is projected to occur between 2020 and 2030, and the construction of Phase 3 would not occur until that time.

NMFS (Mandy Morrison) noted that the Proposed Action as described involves the removal of Pier ½; however, removal of Pier ½ is being considered as mitigation for the America's Cup project. WETA has had preliminary discussions with the America's Cup project proponent regarding this matter and no decisions have been made yet. However, if the Pier is removed as a part of the America's Cup project, it would be removed from this project. It was also noted that Pier 2 is also being considered for removal as mitigation for the America's Cup project.

The Proposed Action was developed in consideration of the alternatives evaluated in Phase 1. The draft alternatives chapter details several alternatives that were previously considered. Based on previous planning efforts the Draft EIS/EIR for this project will analyze the No Action Alternative (No Project Alternative) and the Action Alternative as described today.

It was noted that the environmental analysis for the individual expanded routes is being addressed in separate NEPA/CEQA documents. WETA completed an Implementation and Operation Plan (IOP) and a Program-level EIR for the IOP in 2003, which addressed its route expansion program. As individual routes are proposed, separate NEPA/CEQA documents are being prepared for the route. This project would provide facilities for the new routes in San Francisco but it is assumed that the route expansion would take place even if the facility improvements were not implemented (described in the No Action Alternative). It was suggested that the cumulative impacts analysis for the San Francisco Ferry Terminal Expansion Project consider the impacts of the arrival of the additional service lines at the San Francisco terminal.

Permitting:
Attending agency representatives provided the following input on permitting requirements:

- Corps (Mark D'Avignon) noted that the proposed dredging activity may be able to be covered under the Port's maintenance dredging permit. The current permit expires in 2013 and it may be possible to cover the dredging for the Downtown Ferry Terminal Expansion Project in the renewal. It was also noted that the area proposed for dredging for the project may overlap with the area proposed for dredging for the America's Cup. Rob Lawrence with the Corps should be contacted for additional information.
- Corps (Mark D'Avignon) stated that it may be possible to combine the Section 10 and Section 404 permitting processes for the project.
- The USCG typically requires an anchor waiver (which would apply to barges used for construction). All private aids to navigation will need to comply with navigation standards; this is handled by the District office. Additionally, due to the proximity to the bridge, the bridge office should be kept informed of the project.

- NMFS will be the lead consulting agency for the Section 7 consultation.
- Monica D'Angelis with NMFS in Long Beach should be contact regarding marine mammal harassment issues.

Next Steps

- Agencies to provide comments on Draft Coordination Plan, Purpose and Need, and Alternatives by January 6, 2012 (email is acceptable).
- EIS/EIR impact analysis methodology will be provided to agencies for review and comment.
- Next agency coordination meeting in Spring 2012, prior to publication of Draft EIS/EIR

WATER EMERGENCY TRANSPORTATION AUTHORITY

WETA

Public Notice

Consideration of a Combined Final Environmental Impact Statement and Record of Decision

Project: Downtown San Francisco Ferry Terminal Expansion Project (SCH #2011032066)

Lead Agencies: Federal Transit Administration (FTA) and San Francisco Bay Area Water Emergency Transportation Authority (WETA), under the National Environmental Policy Act of 1969 and the California Environmental Quality Act of 1970, respectively.

Description of Notice: In 2013, the FTA and WETA released for public review a Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) that addressed the environmental effects of the proposed Downtown San Francisco Ferry Terminal Expansion Project improvements (https://watertransit.org/CurrentProjects/DFTX/DFTX.aspx).

After consideration of the comments received on the Draft EIS/EIR, FTA intends to issue a single document that combines the Final EIS and Record of Decision document pursuant to Public Law 112-141, 126 Stat. 405, Section 1319(b), unless FTA determines that statutory criteria or practicability considerations preclude issuance of the combined document pursuant to Section 1319 of the Moving Ahead for Progress in the 21st Century Act (MAP-21). Responses to comments received on the Draft EIS/EIR will be included in the Final EIS.

Project Description: The proposed project, identified as the locally preferred alternative, includes improvements to the existing Ferry Terminal in downtown San Francisco to support existing and planned future water transit services operated by WETA, as well as WETA's emergency response operations. The proposed project improvements include construction of three new gates and overwater berthing facilities, in addition to supportive landside improvements, such as additional passenger waiting and queuing areas, and circulation improvements. The proposed construction would be completed by 2020.

Additional Information: For questions or additional information, contact Michael Gougherty, San Francisco Bay Area Water Emergency Transportation Authority, Pier 9, Suite 111, The Embarcadero San Francisco, CA 94111, gougherty@watertransit.org, (415) 291-3777.

SECTION 106 STATE HISTORIC PRESERVATION OFFICER CONSULTATION

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IX
Arizona, California,
Hawaii, Nevada, Guam
American Samoa,
Northern Mariana Islands

201 Mission Street
Suite 1650
San Francisco, CA 94105-1839
415-744-3133
415-744-2726 (fax)

JUN 04 2012

Mr. Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Office of Historic Preservation
California Department of Parks and Recreation
1416 9th Street, Room 1442-7
Sacramento, CA 95814

Re: Area of Potential Effect (APE)
Downtown San Francisco Ferry Terminal
Expansion Project – Area of Potential Effects

Dear Mr. Donaldson:

The Federal Transit Administration (FTA) in cooperation with the San Francisco Bay Area Water Emergency Transportation Authority (WETA) proposes an expansion and improvement of the Downtown San Francisco Ferry Terminal at the Ferry Building to accommodate phased construction of three new gates and overwater berthing facilities, in addition to supportive landside improvements, such as additional passenger waiting and queuing area and circulation improvements. The project, the Downtown San Francisco Ferry Terminal Expansion Project, in the City and County of San Francisco, will be a Federal undertaking if FTA provides financial assistance. The FTA, in accordance with revised implementing regulations of the National Historic Preservation Act (NHPA) found at 36 CFR 800.3(a), has determined that the proposed project is an undertaking. The FTA would like to initiate consultation with the California Office of Historic Preservation pursuant to § 800.3(c) (3), and request concurrence with FTA's delineation of the proposed Area of Potential Effects (APE) as defined in § 800.16(d).

The proposed construction is scheduled to commence in 2014 and be completed by 2020. The project is being implemented to support existing and planned future water transit services operated by WETA as well as WETA's emergency response operations. The Port of San Francisco is the landowner of the Ferry Building property and WETA is working with the Port to execute a lease and to develop a project design that minimizes potential impacts on historic resources.

Pursuant to the revised implementing regulations of the NHPA found at 36 CFR 800.4(a) (1), the FTA seeks your concurrence with its delineation of the respective APEs for both archaeological and historic architectural resources. Attached to this request are technical reports prepared by specialists in these resources from URS Corporation and JRP Historical Consulting. These reports describe the APEs and known resources present within the APEs for archaeological and historic architectural resources. Maps of both the archaeological and architectural APEs are included within these reports.

We look forward to receiving your response within 30 days of your receipt of this submittal. If you need any additional information, please do not hesitate to call Alex Smith, (alexander.smith@dot.gov), Community Planner, at (415) 744-2599. Thank you for your assistance in this undertaking.

Sincerely,

Leslie T. Rogers
Regional Administrator

Enclosures:

Archaeological Inventory Technical Report for the Downtown San Francisco Ferry Terminal Expansion Project

Historic Architectural Resources Inventory Technical Report for the Downtown San Francisco Ferry Terminal Expansion Project

Copy to (by email):

Amanda Blosser, OHP
Michael Gougherty, Water Emergency Transportation Authority
Mark Paez, Port of San Francisco

STATE OF CALIFORNIA – THE RESOURCES AGENCY

EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

September 13, 2012

Reply in Reference To: FTA120608A

Leslie T. Rogers
Regional Administrator
US Department of Transportation
Federal Transit Administration
201 Mission Street, Suite 1650
San Francisco, CA 94105

Re: San Francisco Water Emergency Transportation Authority proposed Downtown San Francisco Ferry Terminal Expansion

Dear Mr. Rogers:

Thank you for seeking my consultation regarding the above noted undertaking. Pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act (NHPA), the Federal Transit Administration (FTA) is seeking my comments on the delineation of the Area of Potential Effects (APE), pursuant to 36 CFR 800.4(a)(1).

The project consists of constructing three new gates, an access pier, removing Pier ½ and Pier 2, removing portions of existing deck and pile construction, and improving passenger boarding areas, amenities, and circulation. The improvements will involve rehabilitating the bulkhead wharf in the North Basin, extending the East Bayside Promenade, strengthening the South Apron of the Agriculture Building, creating an Embarcadero Plaza, and installing weather protection canopies in queuing areas.

The area of potential effects (APE) includes areas east of The Embarcadero, south of Pier 1, and north of Pier 14. The vertical APE will include dredging up to 14 feet below water level, and installation of piles up to 130 feet below water level.

Based on the information provided, pursuant to 36 CFR 800.4(a)(1), I concur that the Area of Potential Effects appears to be appropriately delineated

Thank you for seeking my comments and considering historic properties as part of your project planning. I look forward to continuing this consultation. If you have any questions or concerns, please contact Trevor Pratt of my staff at (916) 445-7017 or at email at tpratt@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IX
Arizona, California,
Hawaii, Nevada, Guam
American Samoa,
Northern Mariana Islands

201 Mission Street
Suite 1650
San Francisco, CA 94105-1839
415-744-3133
415-744-2726 (fax)

FEB 14 2013

Carol Roland-Nawi, Ph.D
State Historic Preservation Officer
Office of Historic Preservation
California Department of Parks and Recreation
1416 9th Street, Room 1442-7
Sacramento, CA 95814
Attention: Dr. Susan Stattton, Project Review Unit

Re: FTA120608A - Section 106 Consultation for the Downtown San Francisco Ferry Terminal Expansion Project, Finding of Effect

Dear Ms. Roland-Nawi:

The San Francisco Bay Area Water Emergency Transportation Authority (WETA), in cooperation with the Federal Transit Administration (FTA), proposes an expansion and improvement of the Downtown San Francisco Ferry Terminal at the Ferry Building to accommodate construction of three new gates and overwater berthing facilities, including supportive landside improvements, such as additional passenger waiting and queuing area and circulation improvements. The FTA has determined that the proposed project would result in "no effect" to archaeological resources and "no adverse effect" for historic architectural resources. Pursuant to 36 CFR 800.5(b), the FTA seeks your concurrence with the Finding of Effect for both archaeological and historic architectural resources.

The FTA initiated consultation with the California Office of Historic Preservation pursuant to 36 CFR 800.3(c)(3) for this project in June 2012, and requested concurrence with FTA's delineation of the proposed APE as defined in § 800.16(d). The State Historic Preservation Officer's (SHPO) concurrence letter was dated September 13, 2012. Since the SHPO's concurrence with the Archaeological APE, the horizontal extent of the Archaeological APE has been modified to reflect a reduction in the size of the project's construction zone. This reduction in the construction footprint resulted in a corresponding reduction in the total area of the horizontal extent of the Archaeological APE. The reduced Archaeological APE falls entirely within the limits of the previously delineated horizontal APE previously submitted to the SHPO. The Architectural APE and Focused Architectural APE have not changed since the SHPO's concurrence.

No archaeological resources were identified within the Archaeological APE defined for the project through the inventory efforts; therefore; no effect on archaeological resources is anticipated from the proposed undertaking.

Two historic districts encompass or overlap within the Architectural APE: the Port of San Francisco Embarcadero Historic District, and the Central Embarcadero Piers Historic District. In addition to

contributing to one or both of these districts, three properties within the Focused Architectural APE—the Ferry Building, Agricultural Building, and Pier 1—are listed individually in the National Register of Historic Places and California Register of Historical Resources (shown on Table 2 in the Historic Architectural Resources Technical Report) . While project features and construction have the potential to impact these historic properties, with incorporation of mitigation measures to avoid or minimize impacts, the character-defining features of the Ferry Building, Agricultural Building, and Pier 1 would not be compromised and the contributing elements to the historic districts would not be adversely affected. Adverse impacts on historic properties from replacement of fendering on Pier 1 would be avoided by conducting the replacement in accordance with Secretary of Interior Standards for Treatment of Historic Properties (36 CFR part 68). Subsequent review of plans for rehabilitation would be coordinated with the SHPO to ensure consistency with the Secretary's Standards to avoid adverse effects. Similarly, the Final Design of weather protection canopies would be developed in consultation with the Port of San Francisco Waterfront Design Advisory Committee and San Francisco Historic Preservation Commission, and consistent with Secretary of Interior Standards for Treatment of Historic Properties to ensure that indirect adverse visual impacts on historic properties are avoided. Vibration impacts on historic properties during construction would be minimized through construction equipment selection, vibration monitoring, and corrective measures.

WETA has worked closely with the Port of San Francisco throughout the development of the project. The Port of San Francisco has jurisdiction over the project area and WETA and the Port have coordinated on developing the project, the project design, community outreach efforts, as well as on the assessment and evaluation of the project's potential effects. Additionally, WETA and the Port have initiated a coordination process to inform the San Francisco Historic Preservation Commission about the project.

Pursuant to 36 CFR 800.5(b), the FTA seeks your concurrence with the finding of "no effect" to archaeological resources and "no adverse effect" for historic architectural resources. Attached are technical reports, prepared, supporting FTA's determination of effect. These reports describe the resources present in the APEs for archaeological and historic architectural resources and an assessment of effects associated with the project. The technical report for historic architectural resources also details the above-referenced mitigation measures that would be implemented to minimize or avoid adverse effects.

Please provide your response within 30 days of receipt of this request. If you have questions, please contact Alex Smith, (alexander.smith@dot.gov), FTA at (415) 744-2599 or Michael Gougherty, Project Manager, (gougherty@watertransit.org) WETA at (415) 364-3189.

Sincerely,

Leslie T. Rogers
Regional Administrator

Enclosures:

Archaeological Resources Technical Report for the Downtown San Francisco Ferry Terminal Expansion Project

Historic Architectural Resources Technical Report for the Downtown San Francisco Ferry Terminal Expansion Project

Copy:

Michael Gougherty, Water Emergency Transportation Authority
Mark Paez, Port of San Francisco

STATE OF CALIFORNIA – THE RESOURCES AGENCY
Governor

EDMUND G. BROWN, JR.,

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

April 15, 2013

Reply in Reference To: FTA120608A

Leslie T. Rogers
Regional Administrator
US Department of Transportation
Federal Transit Administration
201 Mission Street, Suite 1650
San Francisco, CA 94105

Re: Finding of Effect, San Francisco Water Emergency Transportation Authority (WETA) proposed Downtown San Francisco Ferry Terminal Expansion

Dear Mr. Rogers:

Thank you for continuing consultation regarding the above noted undertaking. Pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act (NHPA), the Federal Transit Administration (FTA) is seeking my concurrence on a finding of no effect to archaeological resources and no adverse effect to architectural resources for the above-referenced project.

The project consists of constructing three new gates, an access pier, removing Pier ½ and Pier 2, removing portions of existing deck and pile construction, and improving passenger boarding areas, amenities, and circulation. The improvements will involve rehabilitating the bulkhead wharf in the North Basin, extending the East Bayside Promenade, strengthening the South Apron of the Agriculture Building, creating an Embarcadero Plaza, and installing weather protection canopies in queuing areas.

Since the original consultation on the Area of Potential Effect (APE, letter dated September 13, 2012) FTA has refined the horizontal extent of the Archaeological APE to reflect a reduction in the size of the project's construction zone, and the reduced APE falls within the limits of the previously delineated APE reviewed by my office. The architectural APE has not changed. I do not object to this modification.

FTA did not identify any archaeological resources within the APE. Contributing resources to the Port of San Francisco Embarcadero Historic District and the Central Embarcadero Piers Historic District are present within the APE, and three buildings have been previously determined to be individually eligible for the National Register of Historic Places (NRHP). While the project could potentially impact these structures, the proposed new weather protection canopies and any replacement fendering necessary will be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Vibration impacts will be monitored and construction equipment will be selected to minimize vibration, and a plan for inadvertent damage will be implemented.

FTA has determined that the proposed project will have no effect on archaeological resources and no adverse effect on architectural resources. As a determination of effect is made for an undertaking as a whole, a finding of no adverse effect is appropriate for this project. Should you disagree with this determination please contact my staff, identified below.

Thank you for seeking my comments and considering historic properties as part of your project planning. I look forward to continuing this consultation. If you have any questions or concerns, please contact Trevor Pratt of my staff at (916) 445-7017 / trevor.pratt@parks.ca.gov or Kathleen Forrest at (916) 445-7022 / kathleen.forrest@parks.ca.gov.

Sincerely,

Susan K Stratton for

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

NATIONAL MARINE FISHERIES SERVICE CONSULTATION

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION IX
Arizona, California,
Hawaii, Nevada, Guam
American Samoa,
Northern Mariana Islands

201 Mission Street
Suite 1650
San Francisco, CA 94105-1839
415-744-3133
415-744-2726 (fax)

Rodney McInnis
Regional Administrator
National Marine Fisheries Service
c/o Santa Rosa Area Office
777 Sonoma Avenue, Room 325
Santa Rosa, CA 95404

APR 29 2013

RE: Request for Concurrence under Section 7 of the Endangered Species Act and the Magnuson-Stevens Fishery Conservation and Management Act, Downtown San Francisco Ferry Terminal Expansion Project, San Francisco County, California

Dear Mr. McInnis:

The Federal Transit Administration (FTA), in coordination with the project sponsor, the San Francisco Bay Area Water Emergency Transportation Authority (WETA), is requesting formal consultation with the National Marine Fisheries Service (NMFS) under Section 7 of the Endangered Species Act (ESA) and the Magnuson-Stevens Fishery Conservation and Management Act, for the Downtown San Francisco Ferry Terminal Expansion Project ("the project"). We are also requesting concurrence with our effects determinations for steelhead, salmon and green sturgeon and their associated critical habitat and essential fish habitat, which are shown in the table on the following page. FTA is the lead federal agency for compliance with the National Environmental Protection Act (NEPA).

The project includes expansion and improvement of the Downtown San Francisco Ferry Terminal at the Ferry Building, including construction of three new gates, overwater berthing facilities, and supportive landside improvements, such as additional passenger waiting and queuing area and circulation improvements. WETA, in coordination with the FTA, has prepared a Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the project. As a cooperating agency pursuant to NEPA for this project, NMFS has been provided with information at various stages of project development and reviewed the Second Administrative Draft EIS/EIR; Ms. Amanda Morrison has been the primary point of contact for NMFS for the NEPA process.

The project includes demolition, removal, repair, and replacement of existing facilities, as well as construction of new facilities. The project includes the following elements:

- Removal of portions of existing deck and pile construction and fendering (portions would remain as open water, and other portions would be replaced);
- Construction of one new gate and access pier (Gate A) in the North Basin and two new gates (Gates F and G) in the South Basin; and
- Improved passenger boarding areas, amenities, and circulation, including rebuilding a portion of the marginal wharf in the North Basin, extending the East Bayside Promenade along Gates E, F, and G; strengthening the South Apron of the Agriculture Building; creating the Embarcadero Plaza; and installing weather protection canopies.

Summary of Effects for Federally Listed Species and Habitat			
Species	**Permanent Impacts**	**Death or Injury**	**Effects Determination**
Steelhead	No	Potential injury or mortality from noise – not likely	Project may affect, but is not likely to adversely affect.
Steelhead, critical habitat	No	N/A	Project may affect, but is not likely to adversely modify.
Steelhead, EFH	No	N/A	Project may adversely affect.
Sacramento winter-run Chinook Salmon	No	Potential injury or mortality from noise – not likely	Project may affect, but is not likely to adversely affect.
Sacramento winter-run Chinook Salmon, critical habitat	No	N/A	Project may affect, but is not likely to adversely modify.
Sacramento winter-run Chinook Salmon, EFH	No	N/A	Project may adversely affect.
Central Valley spring-run Chinook Salmon	No	Potential injury or mortality from noise – not likely	Project may affect, but is not likely to adversely affect.
Central Valley spring-run Chinook Salmon, EFH	No	N/A	Project may adversely affect.
Green sturgeon, Southern DPS	No	Potential injury or mortality from noise – not likely	Project is likely to adversely affect.
Green sturgeon, Southern DPS, critical habitat	No	N/A	Project may affect, but is not likely to adversely modify.
Green sturgeon, Southern DPS, EFH	No	N/A	Project may adversely affect.
Notes: DPS = Distinct Population Segment N/A = Not applicable			

As part of initiating formal consultation with NMFS for this project, we have prepared a biological assessment (BA), which is enclosed with this letter. The enclosed BA analyzes potential impacts of the project on:

- Steelhead (*Oncorhynchus mykiss*), hereafter referred to as steelhead, consisting of the following Distinct Population Segments (DPSs):
  - Central California Coast (CCC) (federally listed as threatened).
  - Central Valley (CV) (federally listed as threatened).
- Chinook salmon (*O. tshawytscha*), consisting of the following Evolutionarily Significant Units:
  - Sacramento River winter-run (federally listed as endangered).
  - CV spring-run (federally listed as threatened).
- Green sturgeon (*Acipenser medirostris*) Southern DPS, federally listed as threatened.

The BA concludes that the project may result in adverse, temporary effects to the evaluated species during construction. The BA further concludes that the project may affect critical habitat and essential fish habitat (EFH). The BA includes avoidance and minimization measures to reduce the potential adverse effects of the project on protected species. Our effects determination is presented in Section 8.2 of the BA, and this effects determination is summarized in the table on the preceding page.

As the lead federal agency under NEPA, FTA requests NMFS concurrence with the effects determination presented in the table above and in Section 8.2 of the BA, pursuant to Section 7 of the ESA and Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act. We will continue to remain aware of any change in status of these species and will be prepared to reevaluate potential project impacts if necessary. If you have any questions, please contact Alex Smith, (alexander.smith@dot.gov), FTA at (415) 744-2599 or Michael Gougherty, Project Manager, (gougherty@watertransit.org) WETA at (415) 364-3189.

Sincerely,

Leslie T. Rogers
Regional Administrator

Enclosure: *Downtown San Francisco Ferry Terminal Expansion Project Biological Assessment*

Copy: Michael Gougherty, WETA

Biological Assessment

Downtown San Francisco Ferry Terminal Expansion Project

Prepared for

Federal Transit Administration

San Francisco Bay Area Water Emergency Transportation Authority

Prepared by

URS Corporation
Post Montgomery Center
One Montgomery Street, Suite 900
San Francisco, CA 94104

April 2013

SUMMARY OF FINDINGS, CONCLUSIONS, AND DETERMINATIONS

This document presents the Federal Transit Administration's (FTA) and San Francisco Bay Area Water Emergency Transportation Authority's (WETA) Biological Assessment (BA) for the Downtown San Francisco Ferry Terminal Expansion Project (project). This BA presents technical information about the potential effects of the project for formal consultation with the National Marine Fisheries Service under Section 7 of the Endangered Species Act (ESA), and for Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act. The project would include improvements and expansion to the Downtown San Francisco Ferry Terminal to support existing and future planned water transit services operated by WETA, as well as WETA's emergency operations. The action area, as defined in 50 Code of Federal Regulations Section 402.02, includes all areas to be directly or indirectly affected by the federal action, as well as interrelated and interdependent actions. The action area for this project is described in Section 2.4.

A background review was conducted in the action area to determine the potential for occurrence of ESA-listed species. The action area provides potential habitat for three federally threatened or endangered species:

- Steelhead (*Oncorhynchus mykiss*), hereafter referred to as steelhead, consisting of the following Distinct Population Segments (DPSs):
  - Central California Coast (CCC) (federally listed as threatened).
  - Central Valley (CV) (federally listed as threatened).

- Chinook salmon (*O. tshawytscha*), consisting of the following Evolutionarily Significant Units:
  - Sacramento River winter-run (federally listed as endangered).
  - CV spring-run (federally listed as threatened).

- Green sturgeon (*Acipenser medirostris*) Southern DPS, federally listed as threatened.

Pile-driving activities have the potential to directly kill, injure, or disturb individuals of these species. In addition, construction-related turbidity has the potential to affect these species, indirectly causing potential gill lacerations to fish species and altering the food-prey relationship due to a decrease in visibility and feeding ability. Degraded water quality and construction noise may affect these species, and depending on the time of year, the project may affect migration patterns for steelhead, Sacramento River winter-run Chinook salmon and CV spring-run Chinook salmon. In addition, critical habitat designated for CCC steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon falls within the action area.

The action area also contains EFH as designated under the Pacific groundfish, coastal pelagic, and Pacific salmon fisheries management plans. The proposed avoidance and minimization measures to protect these natural resources include:

- Applying standard best management practices and other waste management practices to protect water quality;

- Using soft starts during impact pile driving to give fish an opportunity to move out of the area; and

- When feasible, using a vibratory hammer instead of an impact hammer to drive piles, so that noise impacts to listed species and EFH in the action area may be reduced.

Avoidance and minimization measures are discussed more comprehensively in Sections 2.6 through 2.8.

After a literature review, and consideration of the proposed construction activities and the planned avoidance and minimization activities, FTA has determined and WETA supports the determination that:

- If pile-driving and dredging activities occur during the proposed work window between June 1 and November 30, the project ***may affect, but is not likely to adversely affect*** steelhead, Sacramento River winter-run Chinook salmon, and CV spring-run Chinook salmon.

- If pile-driving and dredging activities occur outside of the proposed work window (i.e., between December 1 and May 31), the project is ***likely to adversely affect*** steelhead, Sacramento River winter-run Chinook salmon, and CV spring-run Chinook salmon.

- Pile-driving and dredging activities for the project, regardless of timing, are ***likely to adversely affect*** green sturgeon.

With regard to designated critical habitat in the action area, FTA has determined and WETA supports the determination that:

- The project does not appreciably diminish the value of designated critical habitat for CCC and CV steelhead. Therefore, the project ***may affect, but is not likely to adversely modify***, the capability of designated critical habitat for CCC and CV steelhead to support the survival and recovery of this species.

- The project does not appreciably diminish the value of designated critical habitat for Sacramento River winter-run Chinook salmon. Therefore, the project ***may affect, but is not likely to adversely modify***, the capability of designated critical habitat for Sacramento River winter-run Chinook salmon to support the survival and recovery of the species.

- The project does not appreciably diminish the value of designated critical habitat for green sturgeon. Therefore, the project ***may affect, but is not likely to adversely modify***, the capability of designated critical habitat for green sturgeon to support the survival and recovery of the species.

With regard to EFH in the action area, FTA has determined and WETA supports the determination that:

- Although only in the short term and only during construction activities, the project ***may adversely affect*** EFH in the action area through the noise-related impacts and localized increases in turbidity caused by dredging. Expansion of the ferry pier would create underwater structures, permanently altering a very small portion of EFH in the action area that would impact pelagic and invertebrate species from shading.

- EFH may be disturbed due to pile-driving and dredging activities, which ***may adversely affect*** EFH for Pacific salmon species.

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APPENDICES

Appendix A U.S. Fish and Wildlife Service Species List and Letter
Appendix B CNDDB RareFind 3 Occurrence Record

ACRONYMS AND ABBREVIATIONS

BA	Biological Assessment
BCDC	Bay Conservation and Development Commission
Caltrans	California Department of Transportation
CCC	California Coastal Conservancy
CCC	Central California Coast
CCSF	City and County of San Francisco
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CV	Central Valley
dB	decibel(s)
DDT	dichlorodiphenyl trichloroethane
DMMO	Dredge Materials Management Office
DO	dissolved oxygen
DPS	Distinct Population Segment
EBRPD	East Bay Regional Parks District
EFH	Essential Fish Habitat
ERDC	Engineer Research and Development Center
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
°F	Fahrenheit
FHWG	Fisheries Hydroacoustic Working Group
FMP	fisheries management plan
FTA	Federal Transit Administration
GGAS	Golden Gate Audubon Society
HAPC	Habitat Area of Particular Concern
IOP	Implementation and Operations Plan
LTMS	Long-Term Management Strategy
µPa	microPascal
mg/L	milligrams per liter
MHHW	mean higher high water
MLLW	mean lower low water
m/s	meters per second
MSA	Magnuson-Stevens Fisheries Conservation and Management Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service (also known as National Oceanic and Atmospheric Administration Fisheries)
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCEs	primary constituent elements
Port	Port of San Francisco
ppt	parts per thousand
RWQCB	Regional Water Quality Control Board
SAP	Special Area Plan
SEL	sound exposure level
SFEI	San Francisco Estuary Institute
SFEP	San Francisco Estuary Project

SPCC	Spill Prevention Control and Countermeasure
TRAC	Washington State Transportation Center
URS	URS Corporation
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service
WETA	San Francisco Bay Area Water Emergency Transportation Authority
WRCC	Western Regional Climate Center

1.0 INTRODUCTION

1.1 PURPOSE OF THE BIOLOGICAL ASSESSMENT

This document presents the Federal Transit Administration (FTA) and San Francisco Bay Area Water Emergency Transportation Authority (WETA) Biological Assessment (BA) for formal consultation with the National Marine Fisheries Service (NMFS) under Section 7 of the Endangered Species Act (ESA), and for Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), for the Downtown San Francisco Ferry Terminal Expansion Project (project).

This BA presents technical information about the project and assesses potential effects to threatened, endangered, or proposed threatened or endangered species and their habitats in accordance with legal requirements found in Section 7(a)(2) of the federal ESA (16 U.S. Code 1536[c]). This document also assesses the potential for the project to affect EFH, as required by Section 305(b) of the MSA (Public Law 104-297). The MSA requires all federal agencies to consult with the Secretary of Commerce on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect EFH of federally managed commercial fish species. Guidelines from the MSA direct the NMFS to use a coordinated process to evaluate projects that may affect EFH under Section 305(b) of the MSA, with required Section 7 consultation process under the federal ESA.

1.2 ORGANIZATION OF THE BIOLOGICAL ASSESSMENT

This report is organized as follows:

- **Section 1** includes the introduction and provides background information about federally listed species and critical habitat, consultation to date, and limitations that may influence results;
- **Section 2** describes the project, including history and timing of the project, and describes the action area, as well as avoidance and minimization measures;
- **Section 3** discusses the affected environment, including baseline environmental and biological conditions;
- **Section 4** discusses study methods and descriptions of federally listed species with the potential to occupy the action area;
- **Section 5** describes critical habitat in the action area;
- **Section 6** describes the EFH that occurs in the action area;
- **Section 7** provides an analysis of proposed actions, describes modifications to the project to mitigate effects, and estimates the pile-driving impacts associated with the project; and
- **Section 8** evaluates the potential effects (direct, indirect, and cumulative) on the listed species, critical habitat, and EFH; presents measures to avoid and minimize potential adverse effects on these species; and provides final determinations.

Appendices to this report provide supporting information and details, including a species list from the U.S. Fish and Wildlife Service (USFWS) (Appendix A) and a table of federally listed and proposed species considered (Appendix B).

1.3 THREATENED AND ENDANGERED SPECIES

Preparation of this BA included review of a variety of sources to identify threatened and endangered species, designated critical habitat, and EFH that may be present in the vicinity of the project. Table 1 presents a complete list of species from a database search. Based on habitat requirements, the following threatened or endangered species were determined to have potential to occur in the action area: Central California Coast (CCC) and Central Valley (CV) steelhead (*Oncorhynchus mykiss*), Sacramento winter-run and CV spring-run Chinook salmon (*O. tshawytscha*), and green sturgeon (*Acipenser medirostris*). More detailed methods of analyses of these species that have a potential to occur in the action area are presented in Section 4.

Steller sea lion (*Eumetopias jubatus*) has been known to haul-out at Pier 39, approximately 1.5 miles from the action area. NMFS conducts annual surveys of pinnipeds along the California coastline using aerial photography. Small numbers of Steller sea lions have been observed at the Pier 39 haul-out. The nearest rookery regularly used for this species is at the Southeast Farallon Island, approximately 50 miles to the west in the Pacific Ocean (NOAA, 2007a). Although Steller sea lions may enter the mouth of San Francisco Bay to haul-out at Pier 39, it is unlikely that they would enter the Bay any further. Therefore, it is unlikely to occur in the action area.

1.4 CRITICAL HABITAT

To determine the presence of designated critical habitat for threatened and endangered species in the action area, a similar review as that described in Section 1.3 was conducted.

Based on this review, the action area falls within the following designated critical habitat areas:

- Designated Critical Habitat for CCC and CV steelhead;
- Designated Critical Habitat for the Sacramento River winter-run Chinook salmon Evolutionarily Significant Unit (ESU); and
- Designated Critical Habitat for green sturgeon.

1.5 AGENCY COORDINATION

WETA and URS staff presented the project to NMFS during a meeting on May 4, 2011. WETA and URS staff also discussed the project and its potential impacts at a meeting with NMFS biologists Gary Stern and Daniel Logan on April 3, 2012.

As a cooperating agency pursuant to the National Environmental Policy Act (NEPA) for this project, NMFS has been provided with information at various stages of project development. Ms. Amanda Morrison has been the primary point of contact for NMFS for the NEPA process. Ms. Morrison attended a project agency coordination meeting on December 8, 2011. This meeting was held to provide agencies with an opportunity for meaningful participation in the environmental review process; to comment on the Draft Coordination Plan; and to discuss the purpose and need and project alternatives. In January 2012, NMFS was given the opportunity to provide comments on the methodology for the EIS/EIR impact analysis. Most recently, NMFS provided review comments on the Second Administrative Draft EIS/EIR which WETA and URS responded to on March 13, 2013.

Table 1
Determination of Federally Listed Species with Potential to Occur in the Vicinity of the Action Area

Scientific Name	Common Name	Status[1]	Preferred Habitat[2]	Likelihood of Occurring in the Action Area
Plants				
Arctostaphylos hookeri ssp. *ravenii*	Presidio manzanita	FE	Serpentinite outcrops in chaparral, coastal prairie, and coastal scrub. Blooming period February through March. Elevation range 45 to 215 meters.	No potential to occur. Action area does not contain suitable habitat.
Arctostaphylos pallida	pallid manzanita	FT	Siliceous shale, sandy or gravelly soils in broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub. Blooming period December through March. Elevation range 185 to 465 meters.	No potential to occur. Action area does not contain suitable habitat.
Arenaria paludicola	marsh sandwort	FE	Sandy openings in freshwater brackish marshes and swamps. Blooms May through August. Elevation range 3 to 170 meters.	No potential to occur. Action area does not contain suitable habitat.
Calochortus tiburonensis	Tiburon mariposa lily	FT	Serpentinite soils in valley and foothill grassland. Blooming period March through June. Elevation range 50 to 150 meters.	No potential to occur. Action area does not contain suitable habitat.
Castilleja affinis ssp. *neglecta*	Tiburon paintbrush	FE	Serpentinite soils in valley and foothill grassland. Blooming period April through June. Elevation range 60 to 400 meters.	No potential to occur. Action area does not contain suitable habitat.
Chorizanthe robusta var. *robusta*	robust spineflower	FE	Sandy or gravelly soils in maritime chaparral, cismontane woodland openings, coastal dunes, and coastal scrub. Bloom period April through September. Elevation range 3 to 300 meters.	No potential to occur. Action area does not contain suitable habitat.
Clarkia franciscana	Presidio clarkia	FE	Coastal scrub and serpentinite soils in valley and foothill grassland. Blooming period May through July. Elevation range 25 to 335 meters.	No potential to occur. Action area does not contain suitable habitat.
Hesperolinon congestum	Marin western flax	FT	Serpentinite soils in chaparral and valley and foothill grassland. Blooming period April through July. Elevation range 5 to 370 meters.	No potential to occur. Action area does not contain suitable habitat.
Holocarpha macradenia	Santa Cruz tarplant	FT	Clay or sandy soils in coastal prairie, coastal scrub, and valley and foothill grassland. Blooming period June through October. Elevation range 10 to 220 meters.	No potential to occur. Action area does not contain suitable habitat.
Layia carnosa	beach layia	FE	Sandy soils in coastal dunes and scrub. Blooming period March through July. Elevation range 0 to 60 meters.	No potential to occur. Action area does not contain suitable habitat.

Table 1
Determination of Federally Listed Species with Potential to Occur in the Vicinity of the Action Area (Continued)

Scientific Name	Common Name	Status[1]	Preferred Habitat[2]	Likelihood of Occurring in the Action Area
Lessingia germanorum	San Francisco lessingia	FE	Remnant dunes in coastal scrub. Blooming period June through November. Elevation range 25 to 110 meters.	No potential to occur. Action area does not contain suitable habitat.
Pentachaeta bellidiflora	white-rayed pentachaeta	FE	Cismontane woodland and serpentine soils in valley and foothill grassland. Blooming period March through May. Elevation range 35 to 620 meters.	No potential to occur. Action area does not contain suitable habitat.
Streptanthus glandulosus ssp. *niger*	Tiburon jewel-flower	FE	Serpentinite soils in valley and foothill grassland. Blooming period May through June. Elevation range 30 to 150 meters.	No potential to occur. Action area does not contain suitable habitat.
Suaeda californica	California seablite	FE	Coastal salt marshes and swamps. Blooming period July through October. Elevation range 0 to 15 meters.	No potential to occur. Action area does not contain suitable habitat.
Trifolium amoenum	showy Indian clover	FE	Coastal bluff scrub, valley and foothill grasslands with serpentine soils. Blooming period April through June. Elevation range 5 to 415 meters.	No potential to occur. Action area does not contain suitable habitat.
Invertebrates				
Callophrys mossii bayensis	San Bruno elfin butterfly	FE	Rocky outcrops in coastal scrub on San Francisco peninsula. Requires host plant *Sedum spathulifolium* (stonecrop).	No potential to occur. Action area does not contain suitable coastal marine habitat or host plant.
Euphydryas editha bayensis	bay checkerspot butterfly	FT, CH	Serpentine outcrops in Santa Clara and San Mateo counties. Requires host plant *Plantago erecta* (dwarf plantain), may also depend *Castilleja densiflora* (purple owl's clover) and *C. exserta* (exserted paintbrush).	No potential to occur. Action area does not contain suitable coastal marine habitat or host plant.
Haliotes cracherodii	black abalone	FE	Rocky surfaces in intertidal and subtidal areas with moderate to high surf.	No potential to occur. Action area does not contain suitable coastal marine habitat.
Haliotes sorenseni	white abalone	FE	Rock or boulder habitat with interspersed sand channels. Most abundant in depths of 25 to 30 meters.	No potential to occur. Action area does not contain suitable coastal marine habitat.
Icaricia icarioides missionensis	mission blue butterfly	FE	Coastal scrub. Associated with perennial lupine host plants (*Lupinus albifrons, L. variicolor*, and *L. formosus*.	No potential to occur. Action area does not contain suitable habitat.
Speyeria callippe callippe	Callippe silverspot butterfly	FE	Grasslands surrounding San Francisco Bay. Associated with host plant *Viola pedunculata*.	No potential to occur. Action area does not contain suitable habitat.

Table 1
Determination of Federally Listed Species with Potential to Occur in the Vicinity of the Action Area (Continued)

Scientific Name	Common Name	Status[1]	Preferred Habitat[2]	Likelihood of Occurring in the Action Area
Speyeria zerene myrtleae	Myrtle's silverspot butterfly	FE	Coastal dunes, scrub, and grassland. Associated with host plant *Viola adunca*.	No potential to occur. Action area does not contain suitable habitat.
Fish				
Acipenser medirostris	green sturgeon	FT	Rivers and estuaries.	Known to occur. Species is known to occur throughout San Francisco Bay.
Eucyclogobius newberryi	tidewater goby	FE	Upper end of lagoons in salinities less than 10 ppt.	No potential to occur. Species is not known to occur in San Francisco Bay.
Hypomesus transpacificus	Delta smelt	FT	Sacramento-San Joaquin Delta, Suisun Bay, San Pablo Bay, river channels and sloughs. Rarely found in salinities greater than 10 to 12 ppt, or areas of over 1/3 seawater.	No potential to occur. Action area does not contain suitable water salinities.
Oncorhynchus kisutch	coho salmon - CCC	FE, CH	Between Punta Gordo and San Lorenzo River; loose, silt-free, gravel beds for spawning, cover, cool water, sufficient dissolved oxygen.	No potential to occur. Species occurs along the California coast but is no longer present in San Francisco Bay.
Oncorhynchus mykiss	CCC DPS steelhead	FT, CH	Delta, Suisun Bay, San Francisco Bay west to the Golden Gate Bridge, and coastal areas designated as critical habitat.	Known to occur. Species is known to occur throughout San Francisco Bay.
Oncorhynchus mykiss	CV DPS steelhead	FT, CH	Sacramento and San Joaquin rivers and their tributaries.	Known to occur. Species is known to occur throughout San Francisco Bay.
Oncorhynchus tshawytscha	CV spring-run Chinook salmon	T, CH	CV rivers and their tributaries, west to the Pacific Ocean.	Known to occur. Species is known to occur throughout San Francisco Bay.
Oncorhynchus tshawytscha	winter-run Chinook salmon, Sacramento River	FE, CH	Sacramento River from Keswick Dam (near Redding) south to Chipps Island, then west through Carquinez Strait, San Pablo Bay, and San Francisco Bay.	Known to occur. Species is known to occur throughout San Francisco Bay.
Amphibians				
Rana draytonii, formerly *Rana aurora draytonii*	California red-legged frog	FT, CH	Lowlands and foothills in or near pools of deep water with dense, shrubby, or emergent riparian vegetation.	No potential to occur. Action area does not contain suitable habitat.
Ambystoma californiense	California tiger Salamander	FT	Vernal pools in grasslands and foothills of California.	No potential to occur. Action area does not contain suitable habitat.
Reptiles				
Masticophis lateralis euryxanthus	Alameda whipsnake	FT	Chaparral, coastal sage scrub, and northern coastal scrub. May be present in adjacent grasslands and oak woodlands.	No potential to occur. Action area does not contain suitable habitat.

Table 1
Determination of Federally Listed Species with Potential to Occur in the Vicinity of the Action Area (Continued)

Scientific Name	Common Name	Status[1]	Preferred Habitat[2]	Likelihood of Occurring in the Action Area
Thamnophis sirtalis tetrataenia	San Francisco garter snake	FE, CH	Vegetated grasslands or wetlands near ponds, marshes, and sloughs. Preys on species that require low salinities.	No potential to occur. Action area does not contain suitable habitat.
Birds				
Charadrius alexandrinus	western snowy plover	FT	Sandy marine and estuarine shores. May nest on salt pond levees.	No potential to occur. Action area does not contain suitable nesting or foraging habitat.
Rallus longirostris	California clapper rail	FE	Coastal wetlands and brackish areas.	No potential to occur. Action area does not contain suitable nesting or foraging habitat.
Sterna antillarum	California least tern	FE	Marine and estuarine shores, abandoned salt ponds. Feeds in shallow estuarine waters.	No potential to occur. Action area does not contain suitable nesting or foraging habitat.
Mammals				
Enhydra lutris nereis	southern sea otter	FT	Coastal offshore habitat in the eastern North Pacific Ocean.	No potential to occur. Action area does not contain suitable habitat.
Eumetopias jubatus	Steller sea lion	FT	Hauls out on coastal islands and offshore rocks along mainland.	Unlikely to occur. Although Steller sea lions may enter the mouth of San Francisco Bay to haul-out at Pier 39, 1.5 miles from the action area, it is unlikely that they would enter the Bay any further.
Reithrodontomys raviventris	salt-marsh harvest mouse	FE	Found only in saline emergent wetlands in San Francisco Bay and its tributaries.	No potential to occur. Action area does not contain suitable habitat.

Notes:

Source: USFWS, 2013a.

[1] Status codes: FE = Federally Endangered. Species in danger of extinction throughout all or a significant portion of its range; FT = Federally Threatened. Species likely to become endangered in the foreseeable future; CH = Critical Habitat. Habitat is essential for the recovery of species.

[2] Preferred habitat description compiled from USFWS, 2013b.

CCC = Central California Coast
CV = Central Valley
DPS = Distinct Population Segment
ppt = parts per thousand

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 PROJECT HISTORY

To accommodate the expansion of water transit service, the project includes construction of three new gates and overwater berthing facilities, in addition to supportive landside improvements, such as additional passenger waiting and queuing areas and circulation improvements.

In 2003, WETA adopted its Implementation and Operations Plan (IOP), which envisioned the future of water transit in the Bay Area. The IOP identified new water transit routes that would be developed, and existing services that would be expanded over a 25-year planning horizon. Since that time, WETA has progressed with implementing the vision of the IOP and developing new water transit routes. To date, WETA has completed construction of one new terminal and is currently developing projects for six new terminals and water transit routes. Most of the new routes will provide service from East and South Bay locations to the Downtown San Francisco Ferry Terminal (Ferry Terminal).

In conjunction with WETA's route expansion, the Port of San Francisco (Port) has been developing plans to improve the Ferry Terminal and the San Francisco Ferry Building (Ferry Building) area as both a transportation hub and an important public space for the City of San Francisco. After the 1989 Loma Prieta earthquake, the Port worked with stakeholders to develop this vision in identifying a series of near- and long-term improvements in the Ferry Building area, including this project.

2.2 PROJECT DESCRIPTION

2.2.1 Project Location

The project location is in northeastern San Francisco, along the Embarcadero, between Pier 1 and Pier 14, including all areas west of the Embarcadero. The project includes the Ferry Building, the Agriculture Building, the Golden Gate Ferry Terminal, the Ferry Plaza, Pier 2, water transit Gates B and E, and the portions of San Francisco Bay. Figure 1 illustrates the project's vicinity and location.

2.2.2 Project Purpose

The purpose of the project is to expand the water transit service with existing Ferry Terminal facilities. The expansion includes both increases in passengers and frequency of existing services, as well as the development of new water transit routes. Currently, WETA has access to two gates at the Ferry Terminal: Gate B and Gate E. With the existing infrastructure, it is assumed that each gate could reasonably and safely accommodate a maximum of four to five vessel arrivals per hour during peak operations. The expansion and improvement of the Ferry Terminal at the Ferry Building would be to accommodate the full expansion of water transit service by adding Gate A in the North Basin, and Gates F and G in the South Basin (Figure 2). Based on the existing and new water transit services that would be operated by WETA, ridership services are projected to increase from 5,100 to 25,700 passengers per weekday by 2035; total ante-meridiem peak-period WETA vessel arrivals are anticipated to increase from 14 to approximately 52 to 57, with approximately 181 total vessel arrivals per weekday.

2.2.3 Project Activities

Several of the existing facilities in the action area will be altered prior to implementation of WETA's project, pursuant to the Bay Conservation and Development Commission (BCDC) Special Area Plan (SAP) amendments. The SAP amendments require that Pier ½ (and its associated piles) be removed by March 2013; the Pier ½ removal was completed in 2012. In addition, the SAP amendments require that the shed on Pier 2, which currently houses a restaurant, be vacated and removed by March 2015.

Therefore, the improvements described below would be required after demolition of these facilities as a part of the America's Cup Project.

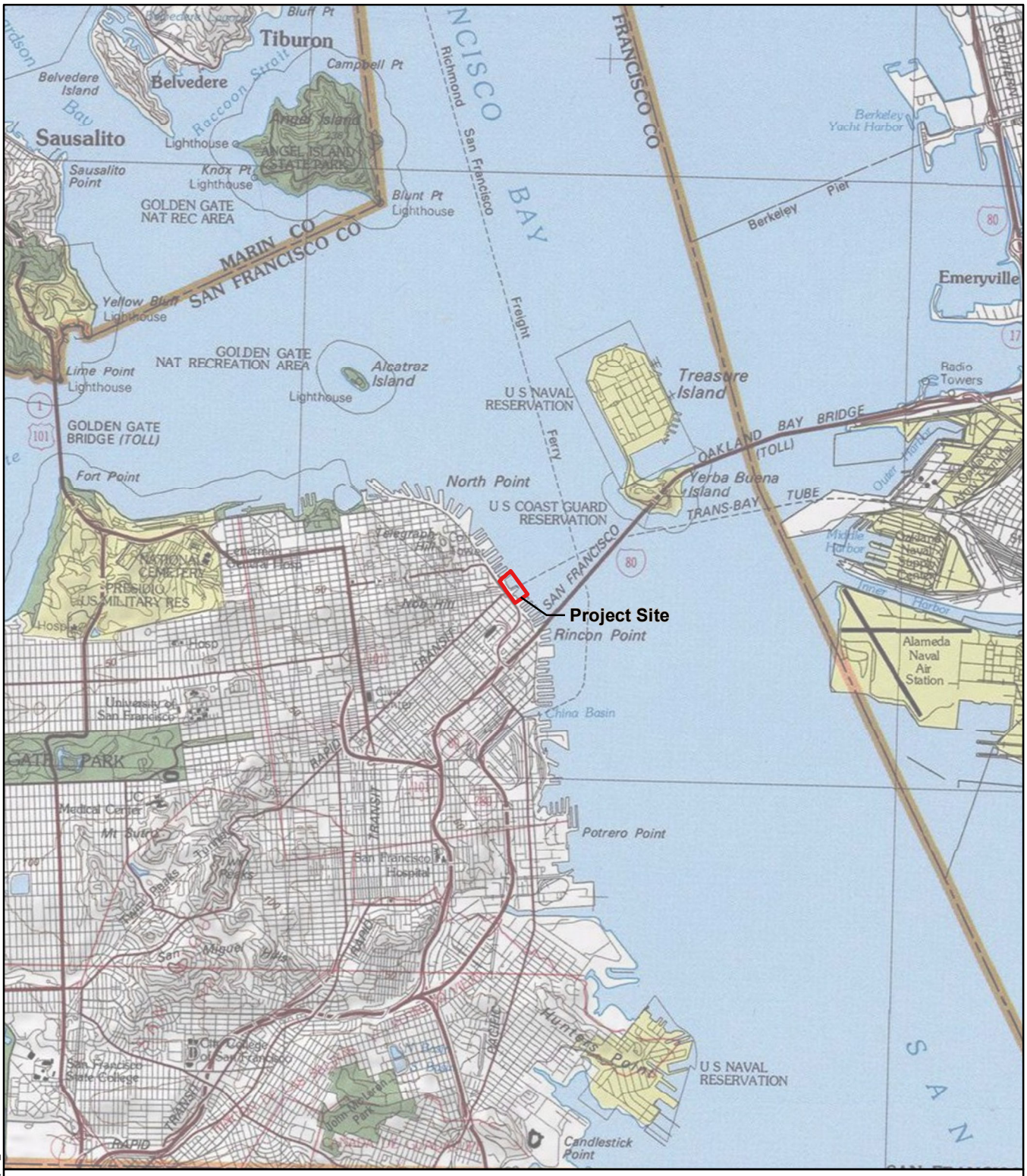
The project includes demolition, removal, repair, and replacement of existing facilities, as well as construction of new facilities. The Ferry Terminal can generally be divided into the North Basin (areas north of the Ferry Plaza) and South Basin (areas south of the Ferry Plaza). The project includes the following elements:

- Removal of portions of existing deck and pile construction and fendering (portions would remain as open water, and other portions would be replaced);
- Construction of one new gate and access pier (Gate A) in the North Basin and two new gates (Gates F and G) in the South Basin; and
- Improved passenger boarding areas, amenities, and circulation, including rebuilding a portion of the marginal wharf in the North Basin, extending the East Bayside Promenade along Gates E, F, and G; strengthening the South Apron of the Agriculture Building; creating the Embarcadero Plaza; and installing weather protection canopies for passenger queuing.

The project elements are summarized in Table 2.

Table 2
Summary of Demolition and New Construction

Project Element	Area	Type of Work
Pier 2 and additional deck structure in the South Basin	20,500 square feet	Demolition of deck and 350 piles
North Basin Marginal Wharf	2,550 square feet	Strengthen piles and replace decking
South Apron of the Agriculture Building	2,400 square feet	Temporary repair of apron structure for use during construction
Gate A	Access Pier = 8,000 square feet Gangway = 1,300 square feet Float = 5,200 square feet Total = 14,500 square feet	New pier and berthing facilities for new gate; new furnishings and equipment on pier (guardrails, lights, ticket machines, etc.)
Gate F	Gangway = 1,300 square feet Float = 5,200 square feet Total = 6,500 square feet	New berthing facilities for new gate
Gate G	Gangway = 1,300 square feet Float = 5,200 square feet Total = 6,500 square feet	New berthing facilities for new gate
Embarcadero Plaza	24,500 square feet total	Surface improvements, as well as new deck and piles
East Bayside Promenade	13,850 square feet	New deck and piles; new furnishings and equipment (guardrails, lights, ticket machines, etc.)
Weather protection canopies	Gate A = 200 feet long by 20 feet wide Gate B = 200 feet long by 20 feet wide South Basin = 420 feet long by 24 feet wide Total = 18,080 square feet	Installation of steel, glass, and photovoltaic cell overhead canopy on the pier deck



Project Site

N

0 0.75 1.5 MILES

PROJECT LOCATION

Downtown San Francisco
Ferry Terminal Expansion Project
San Francisco, California

28067812

URS

FIGURE 1

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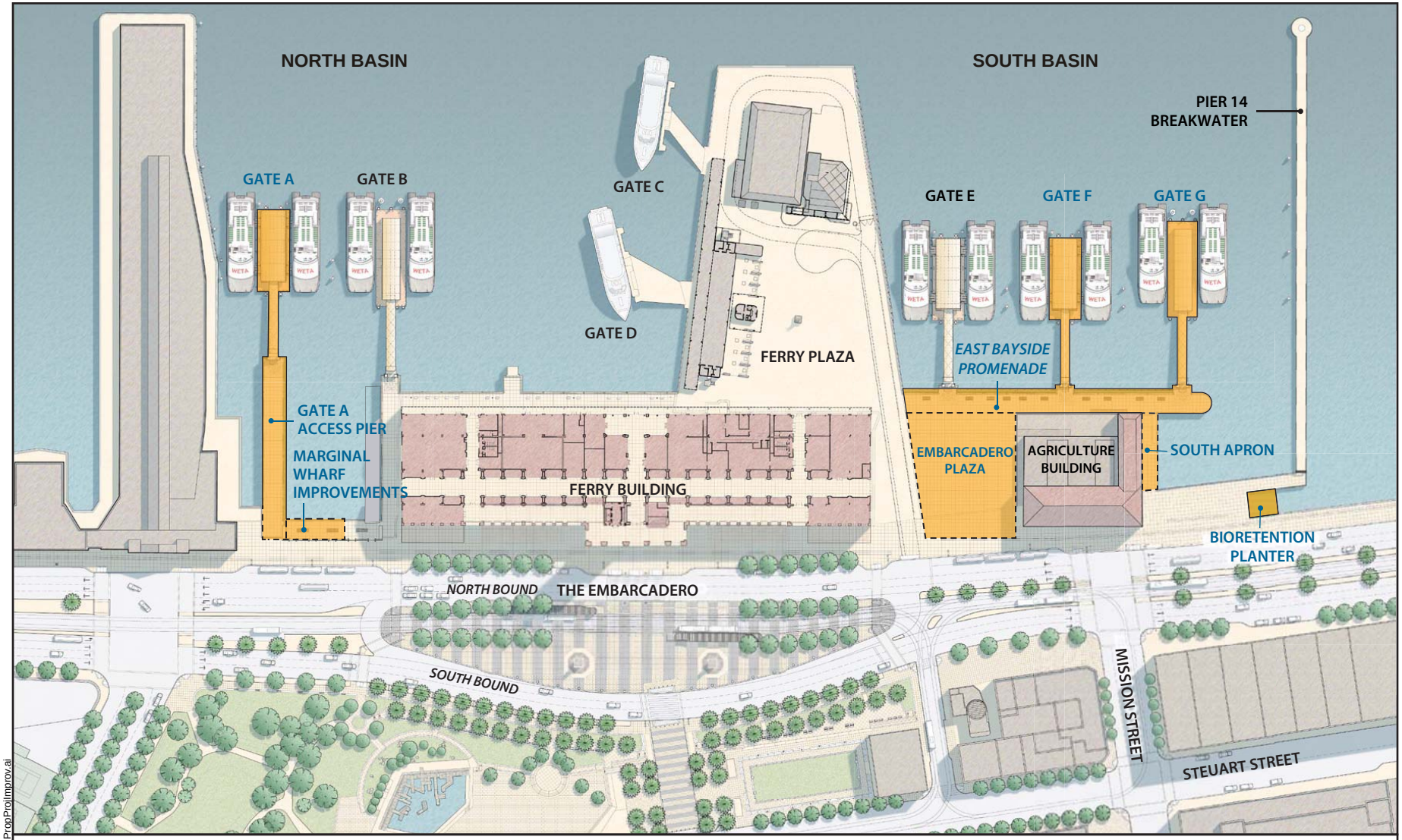
Source: USGS 15' Topo Series, San Francisco Quadrangle, 1995; Species data, CNDDB, 2012.



Areas of Project Improvements

GATE A Project Element

N

0 50 100 150 FEET

PROPOSED PROJECT IMPROVEMENTS

Downtown San Francisco
Ferry Terminal Expansion Project
San Francisco, California

28067812

FIGURE 2

Source: Roma Design Group, et al, 2011

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Implementation of the project improvements would result in a change in the amount and type of fill in San Francisco Bay (Table 3).

In the South Basin, Pier 2 is approximately 15,200 square feet in area, and consists of deck and pile structure. A restaurant (approximately 6,000 square feet) is currently located on the eastern side of Pier 2, and will be removed as a part of the America's Cup Project. Accordingly, as part of the proposed project, the following structures would be removed in the South Basin, as shown in Figure 3.

- Pier 2 would be demolished and removed (including approximately 15,200 square feet of existing deck structure; and
- Approximately 5,300 square feet of the existing deck and piles, west of Pier 2, would be removed so that the structures can be replaced with a new structure that meets Essential Facilities standards.

Three new gates would be constructed, comprising fixed access piers and berthing structures (floats, gangways, guide piles, dolphins with donut-shaped impact-resistant foam that rise and fall with the tides, and fendering). Each of the three gates would be built similarly, in the locations shown in Figure 2.

Due to its location, Gate A would require the construction of a 30-foot-wide, 265-foot-long pier to provide access to the berthing facilities. The pier structure would be supported by approximately 40 piles, each 24 to 36 inches in diameter and spaced 12 to 16 feet apart. The piles would be precast concrete or steel. The piles would be 135 to 140 feet long; would be driven approximately 125 to 130 feet below mean lower low water (MLLW) through the mud into the sand layer; and would extend 7.5 to 11 feet above MLLW. The pier structure would be designed to appropriate weight and loading requirements. The Gate A Access Pier deck would be constructed on the piles, using a system of beam and flat slab concrete construction, similar to what has been built in the Ferry Building area. The beam and slab structure would be either precast or cast-in-place concrete (or a combination of two) and approximately 2.5 feet thick.

As shown in Figure 2, similar access piers would not be required for Gates F and G, because the new berthing structures for Gates F and G would be connected directly to the East Bayside Promenade.

Berthing structures—consisting of floats, gangways, guide piles, dolphins, and fendering—would be provided for each new gate. The concrete or steel floats would be approximately 45 feet wide by 115 feet long. The steel truss gangways would be approximately 12 to 14 feet wide and 92 feet long. The gangway would be designed to rise and fall with tidal variations. The gangway and the float would be designed with canopies, consistent with the current design of Gates B and E.

Each berthing structure would require guide piles and dolphin piles. As with the piles for the pier structure, the piles for the berthing structure would all be driven approximately 125 to 130 feet below MLLW through the mud into the underlying sand layer for support. Each guide pile would be steel, 42 inches in diameter, and would extend 18 feet above MLLW. Six guide piles would be required to secure each concrete float in place. Dolphin piles would be used at each berthing structure to protect against the collision of vessels with other structures or vessels. The dolphin piles would also be steel, 36 inches in diameter, and would extend 20 to 25 feet above MLLW. For Gate A, it is assumed that 10 dolphin piles may be required; for Gates F and G, a total of up to 14 dolphin piles may be installed. Figure 4 depicts a conceptual rendering of the berthing structure.

In addition to the dolphin piles, chock block fendering would be added, where required, to adjacent structures to protect against collision. The chock block fendering would consist of square 12-inch-wide pressure-treated wood blocks that are connected along the side of the adjacent pier structure, and supported by round 14-inch-diameter wood piles that are 64 feet long and placed 10 feet apart. For

Table 3
Summary of Changes in San Francisco Bay Fill

Type of Fill/Project Element	Area of Fill Removed	Area of New Fill	Area of New Fill Considered Replacement Fill[1]	Net Change in Area of Fill[2]
North Basin				
Fill in the Bay[3]	**35 square feet**	**330 square feet**		**295 square feet**
Fender piles removed along Pier 1[4]	35 square feet			
Piles for Gate A Access Pier[5]		165 square feet	See Note 6.	
New Guide, Dolphin and Fender Piles for Gate A Float		165 square feet		
Floating Fill[7]		**5,200 square feet**		**5,200 square feet**
Gate A Float		5,200 square feet		
Shadow Fill[8]		**10,000 square feet**		**10,000 square feet**
Pier Deck		8,000 square feet	7,700 square feet[9]	
Bioretention Planter along Gate A Pier		700 square feet		
Gate A Gangway		1,300 square feet		
Project Elements that would result in no change in fill				
North Basin Marginal Wharf Improvements (2,550 square feet)	n/a	n/a	n/a	n/a
Net Change in Fill in the North Basin				**15,495 square feet**
South Basin				
Fill in the Bay[3]	**1,100 square feet**	**1,150 square feet**		**50 square feet**
Piles Removed for Pier Deck[4]	1,100 square feet			
New Piles for Embarcadero Plaza and East Bayside Promenade[5]		900 square feet	See Note 6.	
New Guide, Dolphin and Fender Piles for Gates F and G Floats		250 square feet		

Table 3
Summary of Changes in San Francisco Bay Fill (Continued)

Type of Fill/Project Element	Area of Fill Removed	Area of New Fill	Area of New Fill Considered Replacement Fill[1]	Net Change in Area of Fill[2]
Floating Fill[7]		**10,400 square feet**		**10,400 square feet**
Gate F and G Floats		10,400 square feet		
Shadow Fill[8]	**20,500 square feet**	**34,490 square feet**	**9,760 square feet**	**13,990 square feet**
Pier Deck	20,500 square feet	29,600 square feet	9,760 square feet	
Bioretention Planters		2,290 square feet		
Gate F and G Gangways		2,600 square feet		
Project Elements that would result in no change in fill				
South Apron of the Agriculture Building Improvements (2,400 square feet)	n/a	n/a	n/a	n/a
Resurfacing of portions of pier deck[10]	n/a	n/a	n/a	n/a
Net Change in Fill in the South Basin				**24,440 square feet**

Notes:

1 Replacement fill refers to areas where fill was demolished and then rebuilt. Replacement fill is not considered in the calculation of the net change in fill, which equals the area of new fill less the area of fill demolished.

2 Net fill is calculated as new fill less the area of fill demolished.

3 Fill in San Francisco Bay is defined as any structure placed in the water column of San Francisco Bay (e.g., piles).

4 For piles that would be removed, it was conservatively assumed all piles are only 24 inches in diameter.

5 For new piles that would support deck structures, a combination of 24-inch and 36-inch piles would be used. For the purposes of this BA, it was assumed that 75 percent of the piles would be 24 inches in diameter, and 25 percent would be 36 inches in diameter.

6 A portion of the new fill for piles that support pier deck would be considered replacement fill. However, for the purposes of this BA, the square footage for replacement fill for piles has not been calculated. This would be determined during final project design.

7 Floating Fill is defined as any structure that floats or is moored on the water surface (e.g., gate float)

8 Shadow Fill is defined as any structure placed over the water that casts shadow on the water (e.g., pier deck)

9 A portion of the Gate A Access Pier would replace portions of Pier ½ that were demolished as a part of the America's Cup Project.

10 In the South Basin, the existing access to Gate E (approximately 4,250 square feet) and an area west of the seawall (approximately 4,500 square feet) would be resurfaced (refer to Figure 2).

Gate A, the existing fendering along the edge of Pier 1 could be removed and replaced with new fendering. During the final design of the project, the existing fendering along the edge of Pier 1 would be inspected to determine whether replacement is necessary. For Gates F and G, the existing fendering along the southern edge of the Ferry Plaza and adjacent to Gate E would be maintained. New fendering would be constructed along the East Bayside Promenade.

At the western edge of Gate A, where the new fixed pier connects with the Embarcadero Promenade, an 85-foot-long segment of the North Basin marginal wharf would be repaired and strengthened to provide a contiguous edge between the new Gate A Access Pier and the Ferry Building Area (Figure 5). As a part of the project, the remaining marginal wharf would be repaired and strengthened. The repair work would involve strengthening the 12 existing piles supporting the deck structure, and the rebuilding of the deck structure. The rebuilt deck structure would be constructed using beams and slab.

The side-loading vessels that would be used at Gates A, F, and G would require a depth of 10 feet below MLLW on the approach and in the berthing area. The floats would require water depth of 12 feet below MLLW. The most recent available bathymetry survey data for the Ferry Terminal basin show that existing depths in the berthing areas range from between 8 and 10 feet below MLLW at Gates F and G, and between 7 and 10 feet below MLLW at Gate A.

The total dredging elements for Gates A, F, and G is 3.92 acres/29,500 to 33,000 cubic yards. These estimates are based on dredging the approach areas to 12 feet below MLLW for Gates A, F, and G; and over-dredging by 2 feet, which is the industry practice. Figure 6 depicts the area that would be dredged for each gate. The dredging for Gate A would take approximately 1 month, and the dredging for Gates F and G would take approximately 2 months.

Dredging and disposal of dredged materials would be conducted in cooperation with the San Francisco Dredged Material Management Office, to comply with the requirements of the Dredging – Dredge Material Reuse/Disposal permit that would be issued by the U.S. Army Corps of Engineers (USACE). Requirements would include development of a sampling plan, sediment characterization, a sediment removal plan, and disposal in accordance with the Long-Term Management Strategy to ensure beneficial reuse, as appropriate.

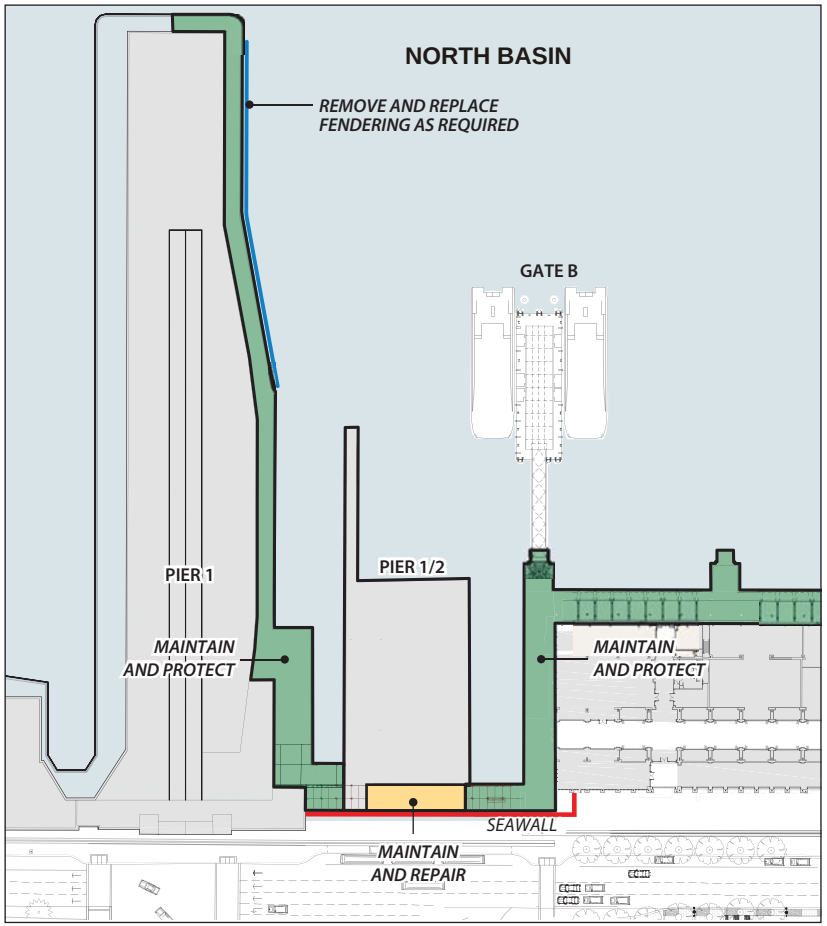
2.2.4 Design Considerations

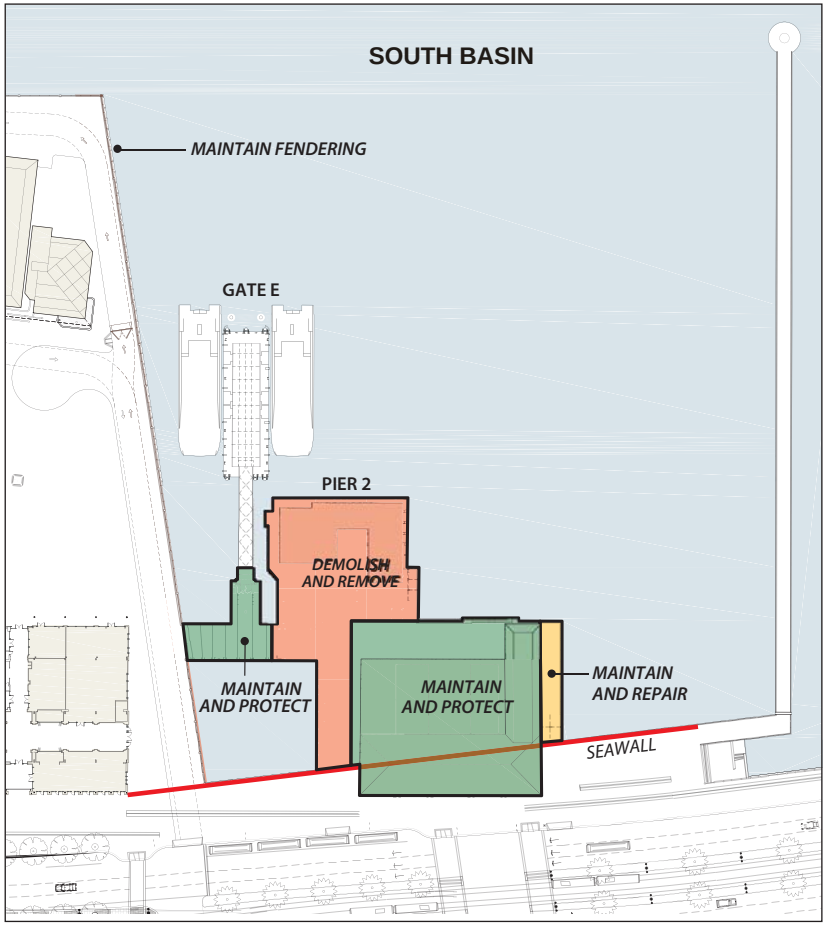
Sea-Level Rise

The ground floor of the Ferry Building is built to an approximate elevation of 11.8 feet above MLLW. This elevation could accommodate approximately 2.5 feet of anticipated sea-level rise above the still water level of 9.2 feet resulting from a 100-year storm event, should that event occur in the near future (Moffatt & Nichol, 2012). The still water level for the 100-year storm, should it occur in 2050, is estimated to be 10.5 feet (MLLW), taking into account a predicted sea-level rise of 16 inches by 2050. Gates B and E are built to 11.4 feet and 11.8 feet above MLLW, respectively. The new gates would be built at 13 to 13.5 feet above MLLW, which would accommodate approximately 3 to 4 feet of anticipated sea-level rise above a 100-year storm event of 9.2 to 10.5 feet (MLLW), should such an event occur during the 50-year design life of the new gates, and would conform to the existing elevations of the action area to meet drainage requirements.

Stormwater Management

Stormwater runoff in the action area currently drains directly to San Francisco Bay. As a part of the project Final Design, WETA would develop a stormwater management plan, in compliance with City and County of San Francisco's and the Port's stormwater management guidelines. The preliminary project





Maintain and Repair

Demolish and Remove

Maintain and Protect

Notes:
1. The America's Cup project has removed all of Pier 1/2 and will remove the building located on Pier 2 prior to project construction.
2. Portions of Pier 2 will be replaced, refer to Figure 2-1.

Source: Roma Design Group, et al, 2011

N

0 50 100 FEET

AREAS PROPOSED FOR DEMOLITON AND REPAIR

Downtown San Francisco
Ferry Terminal Expansion Project
San Francisco, California

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FIGURE 3

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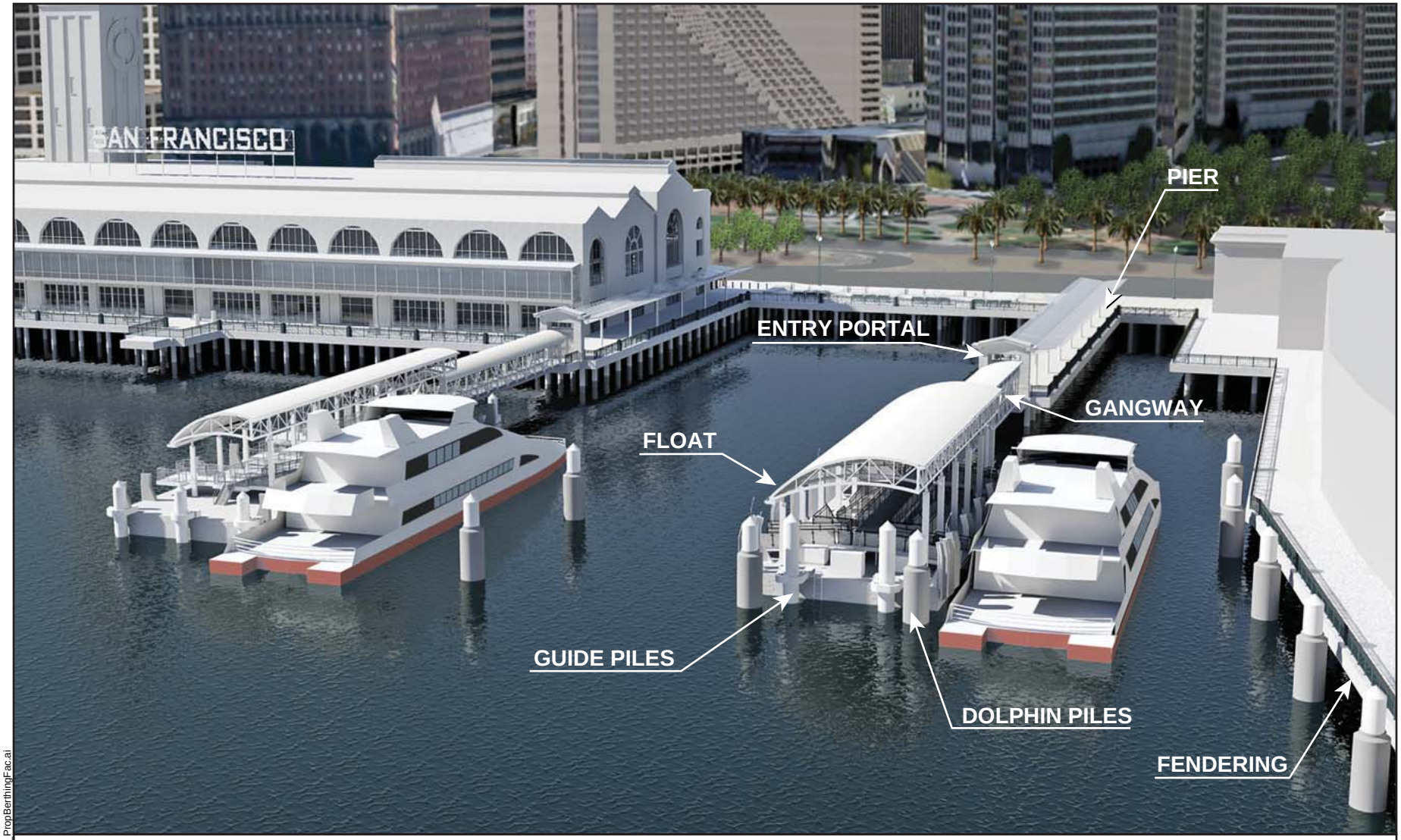

Note:
Gate A shown; berthing facility would the same for Gates F and G.

PROPOSED BERTHING FACILITIES

Downtown San Francisco
Ferry Terminal Expansion Project
San Francisco, California

28067812

FIGURE 4

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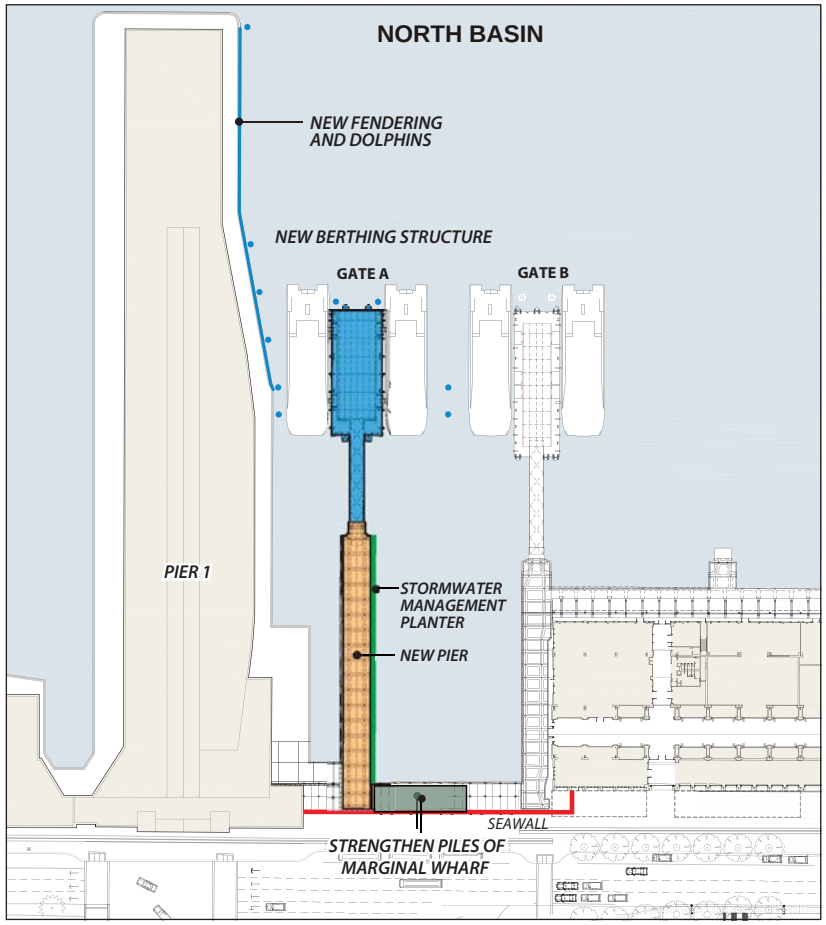
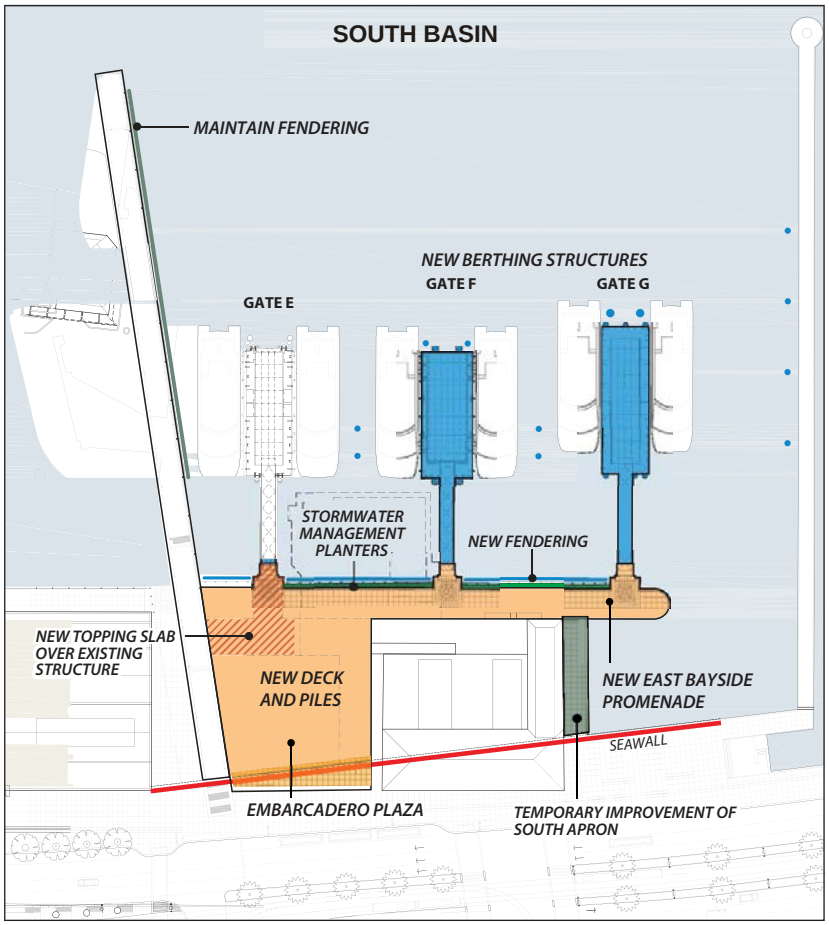
Source: Roma Design Group, et al, 2011





New Berthing Structure

Repair and Improvements

New Deck and Piles

N

0 50 100 FEET

AREAS PROPOSED FOR IMPROVEMENT

Downtown San Francisco
Ferry Terminal Expansion Project
San Francisco, California

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FIGURE 5

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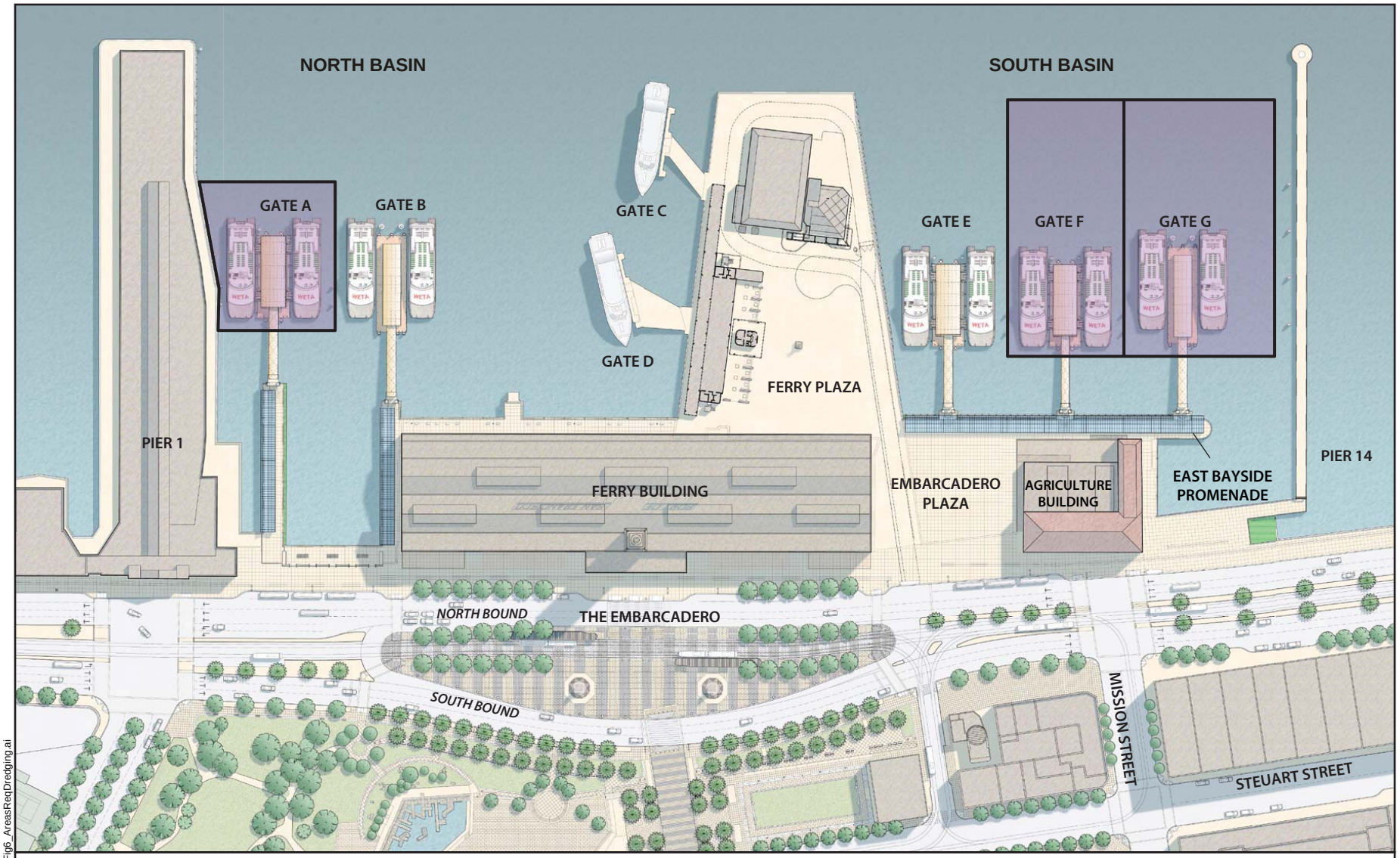
Source: Roma Design Group, et al, 2011



Dredge Area for Gates A, F and G
Total Area = 29,500 to 33,000 cy

N

0 50 100 150 FEET

AREAS REQUIRING DREDGING DURING CONSTRUCTION

Downtown San Francisco
Ferry Terminal Expansion Project
San Francisco, California

28067812

FIGURE 6

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Source: Roma Design Group, et al, 2011

design for new construction includes several bioretention planters that would filter stormwater before it enters San Francisco Bay. Bioretention planters or media filters could be used to filter stormwater. The decision on the specific type, design, and location of stormwater filters in the action area would be determined during Final Design, in coordination with the Port and the permitting agencies.

Both types of treatment are described and will be considered in the analysis of the project. Bioretention planters—each approximately 3 feet in width and 3 feet in depth, and composed of 1½ feet of bioretention soil mix and 1 foot of drainage rock—would provide for ½ foot of ponding. Planters would be placed so that their bottoms are above the highest estimated tide. Planters could be located along the southern side of the new Gate A Access Pier to capture stormwater from the new pier, and along the East Bayside Promenade to capture runoff from the new promenade.

The Embarcadero Plaza would be designed to drain predominantly to the west (to conform to the grade changes in the action area). Along the northern and western edges of the plaza area, a seismic joint would also be required. This joint would be designed to allow seismic movement, and could also be designed to convey water for stormwater treatment to a media filter (sand filter). Alternatively, a landscaped stormwater bioretention and water quality treatment area adjacent to the promenade and the Pier 14 breakwater could be installed to treat stormwater from the Embarcadero Plaza before it enters San Francisco Bay.

Green Building

The project would incorporate green building approaches to the design of the new facilities in several key ways. It may be constructed as a zero net energy project, which would be achieved through the use of photovoltaic cells incorporated into the canopies at Gates A, B, E, F, and G. In addition, the project is designed in response to state, regional, and local standards for stormwater management and water quality, and would also include sustainable construction materials and methods, as required by the San Francisco Green Building Ordinance.

2.3 TIMING OF PROPOSED ACTION

Construction would begin following approval of required permits and final design. Required permits from agencies that have jurisdiction over the action area or resources that the project could potentially impact would be attained. According to current planning and operating assumptions, WETA would not require all three new gates (Gates A, F, and G) to support existing and new services until 2020. As a result, WETA is planning that project construction would be phased. The first phase, beginning as early as 2014, would involve construction of Gate A and all related improvements in the North Basin, because the initial expansion services developed by WETA would be operated in the North Basin. The second phase would include construction of Gates F and G, as well as other related improvements in the South Basin. This work could commence as early as 2017, to support operations of the Treasure Island service. If necessary, WETA could begin construction of some North and South Basin improvements simultaneously.

The improvements in the North Basin could be constructed within 14 months, as shown on Figure 7; many of the construction activities (dredging, Gate A Pier construction, Gate A berthing structure installation, Marginal Wharf Repair, Gate A and Gate B canopy installation, and site finishing work) would overlap. In the South Basin, construction could be completed within 24 months. Several phases of the South Basin construction (demolition, dredging, construction of Embarcadero Plaza, South Apron of the Agriculture Building improvements, construction of the East Bayside Promenade, installation of the berthing structures, installation of the canopies, and site finishing work) would also overlap.

Construction staging would be in areas managed by the Port that are not within other lease boundaries. Due to the lack of potential landside construction staging and access areas in the Ferry Building area, the

majority of demolition and construction would be staged and conducted from barges. The barges would be approximately 60 feet by 130 feet, and the number of barges required would vary by the stage of construction.

2.4 ACTION AREA

The action area includes the project footprint for the project and all areas below mean higher high water (MHHW) that may be directly or indirectly affected by the project. This includes the maximum area that could be affected by noise during pile driving and dredging. As a result of the noise analyses, the waterside portion of the action area was determined to extend up to a 2,372-foot radius from the project footprint, based on the maximum distance at which harmful sound thresholds would be exceeded due to pile driving. Additionally, the action area extends beyond the dredging footprint of 3.92 acres to include areas where dredging may cause increased turbidity. Although these areas cannot be quantitatively determined, the potential effects are discussed in Section 7.3. The baseline environmental and biological conditions in the action area are discussed in Section 3.1 and Section 3.2.

2.5 PROJECT FOOTPRINT

The project footprint is the construction zone where work activities would occur, including all construction, dredging, and construction staging and access, as discussed in the previous sections (Figure 8). All portions of the project footprint are part of the action area.

2.6 GENERAL AVOIDANCE AND MINIMIZATION MEASURES

To avoid and minimize effects on federally listed species and their habitat in the action area, the following general avoidance and minimization measures would be implemented:

- Standard best management practices would be applied to protect species and their habitat(s) from pollution due to fuels, oils, lubricants, and other harmful materials. Vehicles and equipment that are used during the course of the project would be fueled and serviced in a manner that would not affect federally protected species in the action area or their habitats.

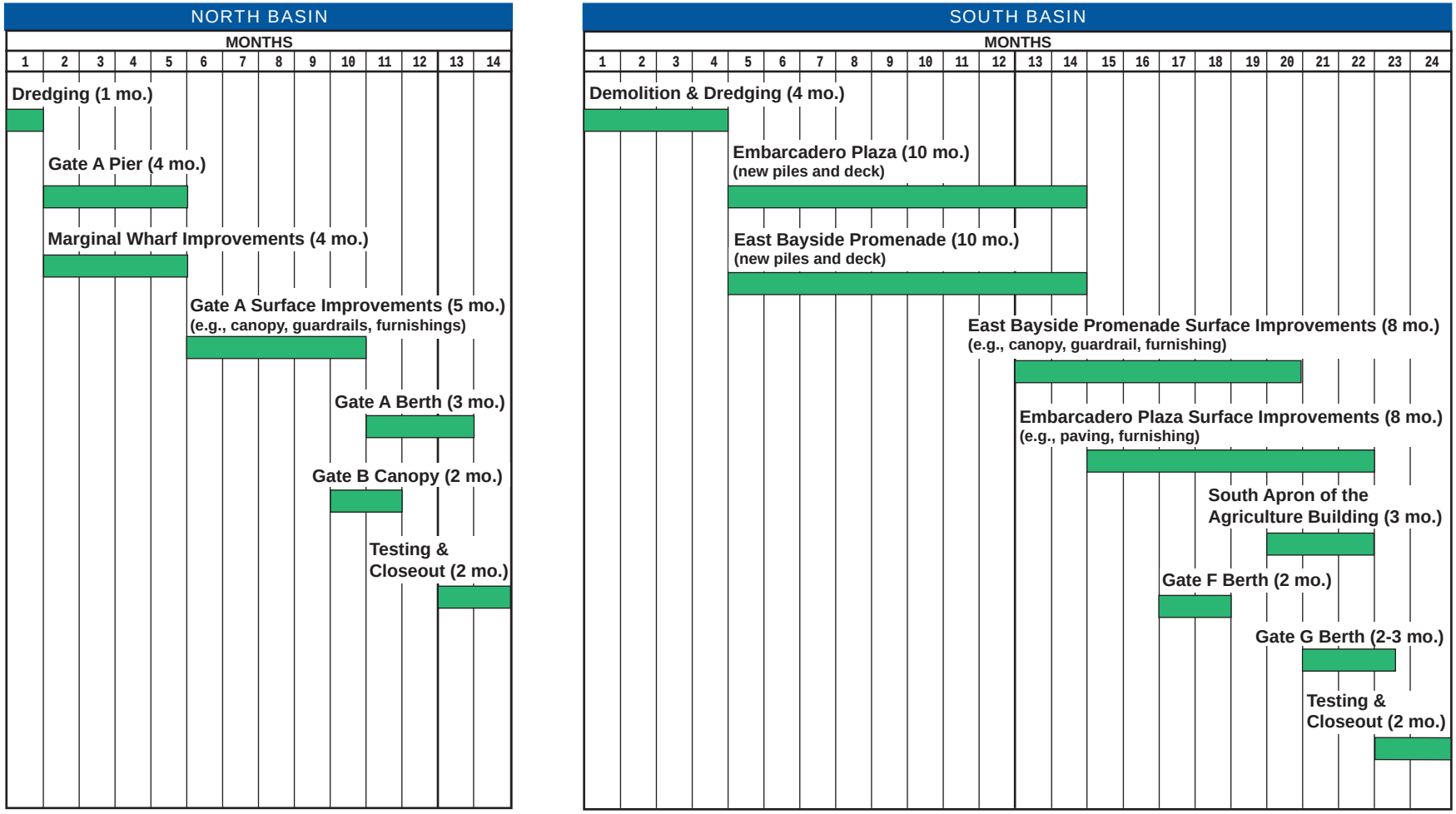
- A Spill Prevention Control and Countermeasure (SPCC) plan would be prepared to address the emergency cleanup of any hazardous material, and would be available on site. The SPCC plan would incorporate SPCC, hazardous waste, stormwater, and other emergency planning requirements. In addition, the project would comply with the Port of San Francisco's stormwater regulations.

- Well-maintained equipment would be used to perform the work, and except in the case of a failure or breakdown, equipment maintenance would be performed off site. Equipment would be inspected daily by the operator for leaks or spills. If leaks or spills are encountered, the source of the leak would be identified, leaked material would be cleaned up, and the cleaning materials would be collected and properly disposed.

- Fueling of land and marine-based equipment would be conducted in accordance with procedures to be developed in the SPCC.

- WETA and its contractors would exercise every reasonable precaution to protect listed species and EFH-protected species and their habitat(s) from construction byproducts and pollutants, such as construction chemicals, fresh cement, saw-water, or other deleterious materials.

- Fresh cement or concrete would not be allowed to enter San Francisco Bay. Construction waste would be collected and transported to an authorized upland disposal area, as appropriate, and per federal, state, and local laws and regulations.



ESTIMATED CONSTRUCTION SCHEDULE

Downtown San Francisco
Ferry Terminal Expansion Project
San Francisco, California

28067812

FIGURE 7

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Construction Zone

Note: The America's Cup project has removed all of Pier 1/2 and will remove the building located on Pier 2 prior to project construction.

0 90 180 FEET

CONSTRUCTION ZONE WITHIN THE PROJECT AREA

Downtown San Francisco
Ferry Terminal Expansion Project
San Francisco, California

28067812

FIGURE 8

3/20/13 vsa/hk...T:\WETA\BA 2013\Fig8_construct_zone.ai

Source: Roma Design Group, et al, 2010, Google Earth Pro 2010.

- All hazardous materials would be stored upland in storage trailers and/or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use would be permitted with the same anti-spill precautions.

- All construction materials, wastes, debris, sediment, rubbish, trash, fencing, etc., would be removed from the site once project construction is complete, and transported to an authorized disposal area, as appropriate, in compliance with applicable federal, state, and local laws and regulations.

2.7 AVOIDANCE AND MINIMIZATION MEASURES FOR PILE DRIVING

Measures specific to pile-driving activity have been developed to reduce project effects on sensitive resources, and include the following:

- When feasible, vibratory hammers would be used to drive piles to reduce noise impacts. An impact hammer may be needed to finish pile driving and achieve the final required depth.

- Piles driven with an impact driver would employ a “soft start” technique to give fish an opportunity to move out of the area before full-powered impact driving begins.

Prior to the start of construction, FTA and/or WETA would develop a NMFS-approved sound monitoring plan. This plan would provide detail on the sound attenuation system and the methods used to monitor and verify sound levels during pile-driving activities. The sound monitoring results would be made available to NMFS. More specific avoidance, minimization, mitigation, and/or conservation measures are discussed further in Chapter 7.

2.8 AVOIDANCE AND MINIMIZATION MEASURES FOR DREDGING

Dredging would be conducted during the Long-Term Management Strategy (LTMS) dredge window of June 1 through November 30, if feasible. During this time period, sensitive life stages of listed salmonids are not present in San Francisco Bay. The LTMS was established in 1998 to reduce impacts from dredging and the placement of dredged material in the San Francisco Bay region.

3.0 AFFECTED ENVIRONMENT

3.1 BASELINE ENVIRONMENTAL CONDITIONS

This section describes the baseline environmental conditions of the action area, including its climate, topography, hydrology, and water quality. These physical characteristics provide context for the biological conditions and the species descriptions that follow.

3.1.1 Climate and Topography

The San Francisco Bay Area has a Mediterranean-type climate characterized by moist, mild winters and dry summers. The action area is on the waterfront of the City of San Francisco, where the average annual rainfall is 23.42 inches. The majority of precipitation occurs between October and April. Average annual high air temperature for San Francisco is 64.9 degrees Fahrenheit (°F), and average annual low temperature is 49.3°F (WRCC, 2013).

3.1.2 Hydrology

The action area is in the Central San Francisco Bay watershed. San Francisco Bay is a large, complex, and highly dynamic estuary. Circulation in the Bay is dependent on tides, river flow, winds, runoff, and bathymetry. Current and wave patterns exhibited in the action area are largely generated by the tides interacting with bottom and shoreline configurations. It also receives inputs from stormwater runoff, and wastewater from municipal and industrial sources that vary in proportion, depending on the location and seasonal weather patterns.

The land bordering the action area consists of Bay fill. All surface waters flow directly into San Francisco Bay.

3.1.3 Turbidity and Suspended Sediment Loads

Suspended sediments are a key component of the estuarine system. The terms “turbidity” and “suspended sediments” are often used interchangeably, although turbidity refers to a number of different suspended particulates, including plankton and sediments; whereas suspended sediments only refers to the actual sediment component in the water column. Most near-shore environments, and estuaries in particular, tend to have higher levels of turbidity or suspended sediment loads due to high nutrient loads and plankton density, discharges from rivers and drainages, and wave action on the substrate in shallow waters. Suspended sediment concentrations in San Francisco Bay tend to be extremely variable, and strongly correlated to season and water depth (Buchanan and Ganju, 2005; McKee et al., 2006). Several groups, including the San Francisco Estuary Institute (SFEI) and the U.S. Geological Survey (USGS), have monitored suspended sediment loads throughout San Francisco Bay for many years. Suspended sediment concentrations can range from well over 1,000 milligrams per liter (mg/L) near the bottom, to as little as 10 mg/L in near-surface measurements (Schoellhamer, 2001).

Most toxicity studies related to suspended sediment loads have been done with forced exposures to sensitive life stages such as salmonid eggs or fry (Bash et al., 2001). The lowest concentration where toxic effects (50 percent mortality) to species and life stages that could be in the action area (adults and juvenile salmonids) are in the range of 1,000 mg/L, but only after 96 hours of continuous exposure to those concentrations.

3.1.4 Sediment Quality

The sediments present in the vicinity of the action area are characterized by the recent deposition and transport of unconsolidated (loose) sediment. Sediment accretes or accumulates as a result of natural

sediment inflows from rivers, creeks, surface runoff, and especially, from resettlement of sediment suspended in Bay waters by natural processes (e.g., tidal action or wind).

Sediments in San Francisco Bay may contain deleterious levels of contaminants, including concentrations of petroleum hydrocarbons, polychlorinated biphenyls (PCBs), dichlorodiphenyl trichloroethane (DDT), and several metals. According to the Eastshore Park Project Resource Inventory, results of previous studies concluded that sediments in the Berkeley waterfront area were typical of sediments encountered in San Francisco Bay, and did not present a probable risk to potential biological receptors (EBRPD, 2001).

3.1.5 Dissolved Oxygen

Waters in San Francisco Bay are generally well-oxygenated, with typical concentrations of dissolved oxygen (DO) ranging from 9 to 10 mg/L during high periods of river flow, 7 to 9 mg/L during moderate river flow, and 6 to 9 mg/L during the late summer months when flows are lowest (SFEI, 2008a). Concerns about sediment disruption causing problems related to reductions in DO occur in areas with anoxic sediment conditions and water bodies with low DO. Studies by SFEI have indicated that sediment disruption caused by dredging activities does not pose an environmental risk related to decreasing DO concentrations (SFEI, 2008b).

3.1.6 Nutrients

Until the 1980s, nutrient enrichment was a major problem to the San Francisco Bay estuary. Approximately 800 million gallons of wastewater carrying 60 tons of nitrogen enters San Francisco Bay annually (USGS, 2013). Prior to the 1980s, concentrations of ammonia and nitrogen in Bay waters were in excess of 15 mg/L. This level of enrichment led to algal blooms and anoxic conditions in portions of the Bay with poor water circulation, including large portions of the South Bay. Improvements in wastewater treatment caused a large decrease in nutrient loads entering the estuary. Concentrations today are less than 3 mg/L, and no anoxic conditions are being recorded. Studies conducted by SFEI examining the effects of dredging on water quality and sensitive fish species have indicated that there is no risk to the ecosystem due to increased nutrient loading caused by dredging activities (SFEI, 2008b).

3.1.7 Soils

Two soil types are present in the vicinity of the action area: Open Water (162) and Urban Land (146). The Urban Land series is found in highly modified, urban areas. These soil mapping units are not listed on the National Hydric Soil List (USDA and NRCS, 2010). No salt marshes that qualify as hydric soil areas in this soil unit are found in the action area (USDA and NRCS, 2010).

3.2 BIOLOGICAL CONDITIONS

The action area includes over-water wharf and pier areas, the waters of San Francisco Bay, and benthic habitat on the existing pilings, submerged debris, and soft-bottom substrates. The land cover and aquatic habitat in the action area are described briefly in the following subsections and Table 4, which lists the acreage of habitat types present in the action area, including baseline conditions and the habitat changes that would result from the project.

3.2.1 Developed Land

Development in the action area is dominated by paved surfaces and Ferry Terminal facilities. Although there are no native-vegetation communities present, landscaped ornamental plant species do occur. These ornamental species are not expected to be used as nesting habitat by birds; however, western gulls (*Larus occidentals*), house finches (*Carpodacus mexicanus*), and double-crested cormorants (*Phalacrocorax*

Table 4 Biological Conditions in the Action Area			
Habitat/Land Cover Type	**Project Component**	**Area (square feet)**	**Area (acres)**
Proposed Structures			
Open-Water/Benthic	Pier, gangway, and floating dock	39,935	0.92
	Piles (total amount of fill)	1,480	0.03
Overall Reduction in Unshaded Open-Water Habitat		41,415	0.95
Other Effects			
Open-Water/Benthic	Dredged gate areas	170,755	3.92
	Maximum Extent of Underwater Noise Effects (approximate)	22,432,292	514.98
Total size of action area, in San Francisco Bay (The maximum extent of underwater noise effects includes the area of all other project components)		**22,432,292**	**514.98**

auritus) could potentially use the rooftops of buildings in and adjacent to the action area as nesting locations. Surveys associated with the Exploratorium Relocation Project noted the presence of more than 100 roosting gulls along the rooftops of buildings on Piers 15 and 17, north of the action area. Bat surveys in the same area did not detect evidence of roosting in the interior or exterior of these buildings (CCSF, 2009).

3.2.2 Open Bay and Site Fauna

Open Bay habitat is subdivided into two subunits: deep Bay and shallow Bay habitats. Deep Bay habitat is defined as those portions of San Francisco Bay deeper than 18 feet below MLLW, including the deepest portions of San Francisco Bay and the largest tidal channels. Shallow Bay is defined as that portion of San Francisco Bay between 18 feet below MLLW and MLLW. Open Bay habitat is an important feeding area for the brown pelican (*Pelecanus occidentalis*), double-crested cormorant, greater scaup (*Aythya marila*), lesser scaup (*Aythya affinis*), and Caspian tern (*Hydroprogne caspia*). Anadromous fish such as Chinook salmon and steelhead use San Francisco Bay as a migratory corridor between their upstream spawning grounds and the Pacific Ocean. Marine mammals such as harbor seals (*Phoca vitulina*) and the California sea lion (*Zalophus californianus*) can be found foraging in San Francisco Bay (Goals Project, 1999).

Plankton

Representing the lower levels of the food chain, plankton is important to many marine community members, including benthic organisms, fish, and mammals. There are three major groups of plankton: phytoplankton, zooplankton, and ichthyoplankton.

Phytoplankton are simple, often microscopic, plants or algae that represent the base of the marine food web. The dominant species found in San Francisco Bay are diatoms, dinoflagellates, and cryptophytes (Cloern and Dufford, 2005). Studies have shown that plankton growth and distribution in San Francisco Bay can be attributed to the amount of sunlight, turbidity, and influx of fresh water (Cloern et al., 1985; Alpine and Cloern, 1988; Cloern, 1999; Jassby et al., 2002; May et al., 2003; NOAA, 2007b). The productivity of other organisms, including clams, worms, mussels, and zooplankton, depends on the growth of phytoplankton (SFEP, 1992).

Zooplankton consist of microscopic and macroscopic animals that either free-float or feebly swim in open water. Common zooplankton found in San Francisco Bay include species of copepods, rotifers, tintinnids, and meroplankton (larval forms of gastropods, bivalves, barnacles, polychaetes, and crustaceans such as the Dungeness crab [*Cancer magister*]; [Ambler et al., 1985; NOAA, 2007b]). Their distribution is driven by seasonality, geographical variations, and life histories (Ambler et al., 1985; Gewant and Bollens, 2005; NOAA, 2007b). Zooplankton also provide an ecologically important food source for many types of fish, such as anchovies, smelt, and striped bass.

Ichthyoplankton are the eggs and larval forms of marine fishes, such as Pacific herring (*Clupea pallasii*), northern anchovy, goby (*Gobiidae* sp.), white sea bass (*Cynoscion nobilis*), staghorn sculpin (*Leptocottus armatus*), and diamond turbot (*Hypsopsetta guttulata*). Seasonal abundance and distribution of individual ichthyoplankton species are dependent on the reproductive cycles of the adult fish species and their circulation in San Francisco Bay.

Benthos

In San Francisco Bay, many benthic invertebrates, bottom-dwelling organisms, live in sedimentary or soft-bottom habitats, usually in the top 2 to 10 centimeters of the soft sediment. The benthic community inhabiting the nearshore area of this portion of the Central Bay is identified as Marine Muddy (Thompson et al., 2000), which is characterized by species such as polychaetes (*Euchone liminicola* and *Mediomastus spp*.); and by amphipods, including *Ampelisca abdita* and several species of the genus *Corophium*.

Some benthic invertebrates also live on hard substrates, which are much less common in San Francisco Bay compared to sedimentary habitats. Structures such as piers, breakwaters, rip rap, and other hard substrates function as habitat for colonization of benthic invertebrates. These artificial intertidal habitats are populated by algae, barnacles (*Balanus glandula* and *Chthamalus fissus*), mussels (*Mytilus spp.*), tunicates, bryozoans, cnidarians, and crabs. Additionally, these structures can serve as habitat for invasive species such as the alga (*Undaria pinnatifida*) (CCC, 2010).

Several of the more common benthic species in San Francisco Bay today were accidentally or intentionally introduced species (SFEP, 1992). Some of these nonindigenous species serve ecological functions similar to those of the native species that they have displaced. Examples of these include the eastern oyster (*Crassostrea virginica*), the Japanese littleneck clam (*Tapes philippinarum*), and the soft-shelled clam (*Mya arenaria*), all of which have supported commercial or sport fisheries. However, other species, such as *Corbula amurensis*, have a negative effect on phytoplankton and zooplankton populations and organisms that depend on them. The benthos also provide an important food source for many species of fish, birds, and mammals in the marine environment.

Fish

More than 100 species of fish inhabit the San Francisco Bay system. The majority of species are native, but there are also many introduced species. Many complete all stages of life in San Francisco Bay; a smaller portion, anadromous fish, migrate from ocean waters, through the San Francisco Bay-Delta Estuary, and into a series of freshwater streams where they spawn. As adults or young-of-the-year, they migrate back to the ocean. Three anadromous species—steelhead, Chinook salmon, and green sturgeon—are known to occur in San Francisco Bay. Other common fish species include the Pacific sardine (*Sardinops sagax*), northern anchovy (*Engraulis mordax*), topsmelt (*Atherinops affinis)*, jacksmelt (*Atherinopsis californiensis)*, striped bass (*Morone saxatilis)*, white croaker (*Genyonemus lineatus*), Pacific herring (*Clupea pallasii*), and English sole (*Parophrys vetulus*; NOAA, 2007b).

Fish reported to be, or to have potential to be, in the action area include white croaker, northern anchovy, shiner perch (*Cymatogaster aggregata*), starry flounder (Platichthys stellatus), speckled sanddab (*Citharichthys stigmaeus*), American shad (*Alosa sapidissima*), bat ray, brown rockfish (*Sebastes*

auriculatus), leopard shark (*Triakis semifasciata)*, and striped bass (NOAA, 2007b); and green sturgeon, and Pacific herring (SFEP, 1992).

Birds

Roughly 120 waterbird species from 16 families occur in San Francisco Bay. Of these birds, approximately two-thirds are represented by three families: *Anatidae* (waterfowl), *Laridae* (gulls and terns), and *Scolopacidae* (sandpipers and phalaropes).

San Francisco Bay serves as an important staging and wintering ground on the Pacific Flyway for numerous species of waterbirds, both common and uncommon. The Pacific Flyway is a bird migration corridor along the Pacific Coast that stretches as far north as northern Canada and Alaska, and as far south as the southern tip of South America (SFEP, 1992). In San Francisco Bay, the greatest waterbird abundance and species diversity is seen in winter, as birds migrate along the flyway. Each year, nearly one million waterfowl and more than one million shorebirds pass through this area.

Some of the most common birds in the open San Francisco Bay are diving ducks, including canvasback (*Aythya valisineria*), scoters (*Melanitta* sp.), and scaup (*Aythya* sp.). San Francisco Bay supports the largest population of canvasback along the Pacific Coast, 46 percent of the midwinter population in the Pacific Flyway (Goals Project, 2000). Additionally, San Francisco Bay provides crucial wintering habitat for surf scoter (*Melanitta perspicillata*; Goals Project, 2000).

The action area could also be used for foraging by brown pelicans, double-crested cormorant, and Forester's tern (*Sterna forsteri*); and other fish-eating birds, such as osprey (*Pandion haliaetus)* and belted kingfisher (*Megaceryle alcyon*)—although there is no suitable nesting habitat for these species in the action area. Studies along the southern San Francisco Bay waterfront (Piers 24 and 96) noted the presence of nesting western gulls at Pier 24, and perching brown pelicans at Piers 32 and 36 (GGAS, 2007, 2008); there is also potential for western gulls to nest in the action area on rooftops or other structures.

Marine Mammals

The most common marine mammals in San Francisco Bay are the Pacific harbor seal and the California sea lion, and these are the most likely species to occur in the action area. Other marine mammal species that have been seen occasionally in San Francisco Bay include the gray whale (*Eschrichtius robustus*), harbor porpoise (*Phocoena phocoena*), northern elephant seal (*Mirounga angustirostris*), northern fur seal (*Callorhinus ursinus*), and less frequently, the southern sea otter (*Enhydra lutris*). On rare occasions, individual humpback whales (*Megaptera novaeangliae*) have entered San Francisco Bay.

Pacific harbor seals are nonmigratory and use San Francisco Bay year-round, where they engage in limited seasonal movements associated with foraging and breeding activities (Kopec and Harvey, 1995). Harbor seals forage in shallow waters on a variety of fish and crustaceans, and therefore could occasionally be found foraging in the action area. Harbor seals haul out (come ashore) in groups ranging in size from a few individuals to several hundred. Habitats used as haul-out sites include tidal rocks, bayflats, sandbars, and sandy beaches (Zeiner et al., 1990).

California sea lions breed in Southern California and along the Channel Islands. After the breeding season, males migrate up the Pacific Coast and enter San Francisco Bay. In San Francisco Bay, sea lions are known to haul out at Pier 39 in the Fisherman's Wharf area. During anchovy and herring runs, approximately 400 to 500 sea lions (mostly immature males) feed almost exclusively in the North and Central bays (USFWS, 1992), and could occasionally forage in the action area.

Terrestrial Mammals

There is no natural habitat in upland areas in the action area. The upland area consists of urban and marina development, intermixed with landscape vegetation. Bats, such as the Townsend's big-eared bat (*Corynorhinus townsendii*), are known to roost along the San Francisco waterfront, and could potentially occur in the action area.

4.0 THREATENED AND ENDANGERED SPECIES

This section describes the methods used to identify federally listed species that may be present in the action area, and describes each species in detail.

4.1 STUDY METHODS

4.1.1 Database Searches and Literature Review

A literature review was conducted to investigate the presence of all species in the action area. Species occurrence summaries were obtained from the sources listed below:

- The Sacramento Office of the USFWS online database for the San Francisco North, San Francisco South, Point Bonita, San Quentin, San Rafael, Oakland West, Richmond, and Hunters Point USGS 7.5-minute topographic Quadrangles (Appendix A).
- California Natural Diversity Database RareFind 3, occurrence records from 7.5-minute quadrangles: San Francisco North, Point Bonita, San Rafael, San Quentin, Richmond, Oakland West, Hunters Point, and San Francisco South (CDFG, 2011).

Information gathered to complete Table 1 was obtained from the sources listed below:

- California Department of Fish and Wildlife (CDFW), Wildlife Habitat Relations System (CDFW, 2013), used to identify the habitat requirements and distribution of special-status species.
- Calfish database, a California cooperative fish and habitat data program that tracks occurrence and habitat for anadromous fish (Calfish, 2013).
- Species-specific studies presented in scientific journals and other publications.

The resulting list of species presented in Table 1 was then refined to limit the remaining analysis to those species that are either threatened or endangered under the ESA, and could reasonably be expected to occur in the action area, as shown in Table 5. A species was not included in Table 5 if it could not occur in the action area due to habitat constraints and/or the action area was outside the species' known range.

4.1.2 Plant Communities/Special-Status Plants/Wetland Delineation

The action area does not contain any special-status plants, plant communities, or wetlands. One marine plant community, eelgrass (*Zostera marina*) beds, occurs in San Francisco Bay. Eelgrass beds are designated as a Habitat Area of Particular Concern (HAPC) for fish species in the Pacific Groundfish EFH Management Plan by NMFS. This community provides important habitat for fisheries in the Bay, but does not occur in the action area (Merkel, 2004).

4.2 SPECIES ACCOUNTS AND STATUS OF SPECIES IN THE ACTION AREA

Three federally listed species have potential to occur in the action area (steelhead, Chinook salmon, and green sturgeon). In addition, designated critical habitat is present in the action area for CCC steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon. Below are descriptions of each listed species, as well as likelihood to occur, listing and recovery status, and factors limiting growth.

Table 5
Designated Critical Habitat and Listed Species with Potential to Occur in the Action Area

Scientific Name	Common Name	Federal Status[1]	Species or Habitat Presence	Rationale
Fish				
Oncorhynchus mykiss	Steelhead, CCC DPS	T	P	Known runs of steelhead occur in drainages of San Francisco Bay, such as the Guadalupe River, Alameda Creek, Coyote Creek, and San Francisquito Creek.
—	Critical Habitat, Steelhead, CCC DPS	X	P	Includes the San Francisco Bay estuary, up to the point of higher high tide. Also includes designated reaches of rivers and creeks below specified migration barriers.
—	Steelhead, California CV DPS	T	P	This DPS includes all naturally spawned populations of steelhead in the Sacramento and San Joaquin Rivers, and their tributaries, excluding those from San Francisco and San Pablo bays and their tributaries.
Oncorhynchus tshawytscha	Chinook salmon, Sacramento River winter-run ESU	E	P	Sacramento River winter-run Chinook must pass through San Francisco Bay during their migration route, which may include the action area.
—	Critical Habitat, Chinook salmon, Sacramento River winter-run ESU	X	P	Includes all waters of San Francisco Bay north of the San Francisco/Oakland Bay Bridge from San Pablo Bay to the Golden Gate Bridge.
—	Chinook salmon, CV spring-run ESU	T	P	CV spring-run Chinook must pass through San Francisco Bay during their migration route, which may include the action area.
Acipenser medirostris	Green sturgeon, Southern DPS	T	P	Known to occur, Bay waters in the action area are classified as critical habitat.
—	Critical Habitat, Green sturgeon, Southern DPS	X	P	All portions of San Francisco Bay below higher high water are classified as critical habitat for this species.

Notes:

[1] Status:
- E Endangered
- T Threatened
- X Critical Habitat
- DPS Distinct Population Segment
- ESU Ecologically Significant Unit

CCC = Central California Coast
CV = Central Valley

[2] Species or Habitat Presence:
- P Species or General Habitat is Present

4.2.1 Steelhead

Taxonomy, Ecology, and Biology

Both CV and CCC juvenile steelhead typically rear in freshwater, usually from 1 to 3 years—a longer period than other salmonids. There is great variation in the amount of time that steelhead spend in freshwater during their lives. Throughout their range, steelhead typically remain at sea for one to four growing seasons before returning to freshwater to spawn (Burgner et al., 1992). Because juvenile steelhead remain in the creeks year-round, adequate flows, suitable water temperatures, and an abundant food supply are necessary throughout the year to sustain steelhead populations. The most critical period is in the summer and early fall, when these conditions become limiting. Steelhead also require cool, clean, well-oxygenated water, and appropriate gravel for spawning. Spawning habitat condition is strongly affected by water flow and quality, especially temperature, DO, shade, and silt load; all of which can greatly affect the survival of eggs and larvae (USFWS, 2013c).

The spawning season for steelhead extends from late December through April, although they will often move up coastal streams in the fall, and then hold in deep pools until the spawning period. Steelhead likely enter the Bay in early winter in preparation for the spawning migration. Steelhead prefer main channels as opposed to small tributaries, and migrating fish require deep holding pools with cover such as underwater ledges and caverns. Coarse gravel beds in riffle areas are used for egg laying, and yolk sac fry habitat once eggs have hatched. Quantity and quality of summer rearing habitat with cool water pools and extensive cover for older juvenile steelhead is often a limiting factor for steelhead in California streams. Sedimentation of pool habitat as a result of urban and agricultural development in watersheds, and the removal of woody vegetation for flood control purposes, have severely impacted steelhead summer rearing habitat in many California streams.

Little is known about transit times and migratory pathways of steelhead in San Francisco Bay. An ongoing study of outmigration and distribution of juvenile hatchery-raised steelhead released in the lower Sacramento River is currently being conducted. Results from 2008-2009 show that steelhead spend an average of 2.5 days in transit time in San Pablo and San Francisco bays. The study concluded that transit time was greater in the upper estuary than in the lower estuary, San Francisco Bay (Klimley et al., 2009). This could be due to the lower salinity in the upper estuary, which serves as a transition zone between freshwater and saltwater, allowing steelhead to transition from freshwater to saltwater. Once steelhead reach San Francisco Bay, salinities are similar to ocean water, which may lead steelhead to spend less time in this portion of the estuary. Migratory pathways of juvenile steelhead were largely inconclusive due to equipment loss and data gaps. However, a positive correlation between smolt captures and water depth was observed between 3 and 37 feet MLLW (Klimley et al., 2009). In other words, the deeper the water, the more fish detected, up to 37 feet deep. Studies conducted by NMFS (NMFS, 2001) and CDFW (then CDFG) (Baxter, 1999) indicate that the primary migration corridor is through the northern reaches of Central San Francisco Bay (Raccoon Straight and north of Yerba Buena Island). It is unlikely that a large number of steelhead would occur in the action area.

Listing and Recovery Status

Central Valley Steelhead

The CV Steelhead was listed as threatened on March 19, 1998. These are winter steelhead that enter freshwater from August through October. They hold in the main stem until tributary flows are high enough for spawning (Moyle, 2002). Spawning begins in December and can extend into April. This ESU represents the longest freshwater migration of any winter-run steelhead (NOAA, 2000).

Central California Coast Steelhead

The CCC steelhead Distinct Population Segment (DPS) was listed as threatened on August 18, 1997 (62 Code of Federal Regulations [CFR] 43937-43954). The DPS includes all naturally spawned anadromous steelhead populations below natural and manmade impassable barriers in California streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun bays, eastward to Chipps Island at the confluence of the Sacramento and San Joaquin rivers (NMFS, 2006). The DPS also includes tributary streams to Suisun Marsh, including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), excluding the Sacramento–San Joaquin River basins, as well as two artificial propagation programs: the Don Clausen Fish Hatchery, and Kingfisher Flat Hatchery/Scott Creek (Monterey Bay Salmon and Trout Project) steelhead hatchery programs (NMFS, 2006).

Status of Species in the Region

Central Valley Steelhead

Information about steelhead abundance is limited, but the run sizes are substantially lower than historic estimates throughout the region. Current estimates indicate an average of 14,100 adult steelhead per year for the entire steelhead DPS, down from over 90,000 in the 1960s (NMFS, 2006). Less than half of the tributaries to San Francisco Bay that historically supported steelhead still maintain populations (Leidy et al., 2005).

Central California Coast Steelhead

Information on abundance and productivity trends for the naturally spawning component of the CCC steelhead DPS is extremely limited. There are no time series of population abundance for the naturally spawned adult component of the DPS; however, estimates of steelhead statewide show a reduction in numbers from 603,000 in the early 1960s to between 240,000 and 275,000 in the 1980s (McEwan & Jackson, 1996), indicating a potential decline of at least 54 percent. In the CCC steelhead DPS, estimates of run sizes in the largest river system, the Russian River, have gone from 65,000 in the 1960s to between 1,750 and 7,000 in the 1990s (Busby et al., 1996; Good et al., 2005), indicating a potential decline of at least 89 percent. Abundance in smaller streams in the DPS was assessed as stable, but at low levels (Busby et al., 1996).

Status of Species in the Action Area

A review of literature and the Calfish database, a California cooperative fish and habitat data program, has verified that steelhead are known to spawn in several drainages of San Francisco Bay, including Coyote Creek, the Guadalupe River, and San Francisquito Creek, and they are likely to occur throughout the Delta and San Francisco Bay during the migration season of December 1 through May 31 of the following year (Calfish, 2013). For all of these reasons, both CV and CCC steelhead have the potential to be present in the marine portions of the action area, although at low densities.

Factors Limiting Growth

The largest factor limiting growth for both CV and CCC steelhead species is the placement of migration barriers that prevent access to spawning habitat (NMFS, 2006). Water diversions further reduce freshwater habitat quality throughout the range of these species. Other threats to steelhead include agricultural operations, forestry operations, gravel extraction, illegal harvest, streambed alteration, unscreened or substandard fish screens on diversions, suction dredging, urbanization, water pollution, potential genetic modification in hatchery stocks resulting from domestication selection, incidental

mortality from catch-and-release hooking, climatic variation leading to drought, flooding, variable ocean conditions, and predation (NMFS, 2006).

4.2.2 Chinook Salmon

There are several ESUs of Chinook salmon that use San Francisco Bay for an adult spawning migration corridor and feeding ground for emigrating juveniles. Several of these ESUs have state or federal listing status, as outlined in Table 6. This table also describes the spawning locations and migration periods for these populations. For the purposes of this document, all ESUs of Chinook salmon that may potentially occur in the action area will be discussed as a single group in the impact analysis, as the impacts are expected to be identical for each ESU.

Table 6
Chinook Salmon Potentially Occurring in the Action Area

ESU Name	Listing Status	Adult In-Migration	Juvenile Out-Migration	Spawning/Natal Waters
Sacramento River winter-run	Federal/State Endangered	November through December	Indeterminate	Currently limited to the Sacramento River below Keswick Dam
Central Valley spring-run	Federal Threatened	Spring	Fall, Winter, and Spring	Currently limited to the Sacramento River Drainage, including Deer, Mill, Battle, and Butte Creeks and the Feather and mainstem Sacramento Rivers
Central Valley fall/late fall-run	EFH FMP*	Fall and Early Winter	Late Winter through summer	Major tributaries of the Sacramento River and the San Joaquin River

Notes:
* This population of Chinook salmon is managed under the Pacific Salmon FMP.
EFH = Essential Fish Habitat
ESU = Evolutionarily Significant Unit
FMP = fisheries management plan

Chinook salmon have two basic life history types: stream-type and ocean-type. Stream-type have adults that run upstream before they have reached full maturity, in spring or summer; and juveniles that spend usually more than 1 year in freshwater. Ocean-type have adults that spawn soon after entering freshwater in summer and fall; and juveniles that spend 3 months to a year rearing in freshwater. The fall/late fall-run Chinook salmon exhibit the ocean-type life history, the spring run exhibit the stream-type life history, and the winter run exhibit a hybrid of the two approaches, with adults that move upstream before maturity, and juveniles that spend more than 1 year rearing in fresh water and estuarine areas (Moyle, 2002).

When in freshwater, juvenile Chinook salmon are opportunistic drift feeders and eat a wide variety of terrestrial and aquatic insects. As Chinook salmon grow larger and mature into adults, fish becomes a dominant part of their diet. Adult Chinook salmon spend 1 to 5 years in the ocean before returning to their natal stream to spawn. Once they reach their natal stream, Chinook salmon select large, deep pools (usually greater than 2 meters) with bedrock bottoms and moderate velocities for holding. Spawning occurs in areas with a substrate mixture of gravel and small cobbles with low silt content and adequate subsurface flow (Moyle, 2002).

Once juvenile Chinook salmon emerge from the gravel, they initially seek areas of shallow water and low velocities. As they grow, they have a tendency to shift toward deeper and faster waters, using deep pools and heavy cover to avoid predators. Juvenile Chinook salmon move downstream at a wide variety of sizes and conditions. In general, ocean-type juveniles move downstream and out to sea as smolts, at lengths of 80 to 150 millimeters, but stream-type juveniles move downstream at lengths of 30 to 50 millimeters to rear in the estuary (Moyle, 2002).

Listing and Recovery Status

Sacramento River Winter-Run Chinook Salmon

The Sacramento River winter-run Chinook salmon ESU was listed as a threatened species on January 4, 1994, and reaffirmed on June 28, 2005 (NMFS, 2005). The ESU includes all naturally spawned winter-run Chinook salmon in the Sacramento River and all of its tributaries in California, as well as two artificial propagation programs: winter-run Chinook salmon from the Livingston Stone National Fish Hatchery, and winter-run Chinook salmon in a captive broodstock program maintained at Livingston Stone National Fish Hatchery and the University of California Bodega Marine Laboratory.

Central Valley Spring-Run Chinook Salmon

The CV spring-run Chinook salmon ESU was listed as a threatened species on September 16, 1999, and reaffirmed on June 28, 2005 (NMFS, 2005). The ESU includes all naturally spawned spring-run Chinook salmon in the Sacramento River and all of its tributaries in California, including the Feather River, as well as the Feather River hatchery spring-run Chinook salmon program.

Central Valley Fall/Late-Fall-Run Chinook Salmon

The CV fall-/late-fall-run Chinook salmon is not considered threatened or endangered under the ESA. Therefore, it will not be discussed further in this section.

Status of Species in the Region

Sacramento River Winter-Run Chinook Salmon

Historically, winter-run Chinook salmon spawned in the upper reaches of Sacramento River tributaries, including the McCloud, Pit, and Little Sacramento rivers. Shasta and Keswick dams now block access to the historic spawning areas. Winter-run Chinook salmon, however, were able to take advantage of cool summer water releases downstream of Keswick Dam. In the 1940s and 1950s, the population showed signs of recovery. However, beginning in 1970, the population experienced a dramatic decline, to a low of approximately 200 spawners by the early 1990s (Good et al., 2005).

Central Valley Spring-Run Chinook Salmon

Spring-run Chinook salmon enter rivers as immature fish in spring and early summer and exhibit a classic stream-type life history pattern. They migrate up the Sacramento River and hold for several months in deep, cold pools before spawning in early fall. Juveniles rear in the streams for 3 to 15 months before migrating to the ocean. The CV spring-run Chinook salmon historically made up one of the largest sets of runs on the Pacific Coast, including the San Joaquin River (Moyle, 2002). All spawning habitat in the San Joaquin River was cut off to salmon in 1945 with the completion of Friant Dam, ending the spring-run in the San Joaquin River. The principal habitats remaining open to the CV spring-run Chinook salmon are Deer Creek, Mill Creek, Butte Creek, and the mainstem of the Sacramento River (Moyle, 2002).

Status of Species in the Action Area

Sacramento River Winter-Run Chinook Salmon

Adult winter-run Chinook salmon pass under the Golden Gate Bridge from November through May of the following year, and pass into the Sacramento River from December through early August of the following year. Winter-run Chinook salmon spawn in the upper mainstem Sacramento River from mid-April through August. Fry and smolts emigrate downstream from July through March of the following year through the Sacramento River, reaching San Francisco Bay from September through June of the following year.

A review of literature and the Calfish database, a California cooperative fish and habitat data program, confirmed that Sacramento River winter-run Chinook salmon are likely to occur throughout the Delta and San Francisco Bay during periods of migration (Calfish, 2013). Typical migration routes between the ocean and Sacramento River spawning grounds are most likely north of the action area, in Raccoon Strait or Central San Francisco Bay, where approximately 80 percent of tidal exchange occurs (NMFS, 2001). Approximately 20 percent of the tidal exchange in San Francisco Bay passes under the Bay Bridge (NMFS, 2001). A 1997 study conducted by the NMFS Tiburon Laboratory found that residency time of juvenile Chinook salmon in the San Francisco Bay Estuary was about 40 days, with little growth occurring at that time (NMFS, 2001). This would indicate that juvenile Chinook salmon do not spend much time foraging in San Francisco Bay before moving to the ocean. Sacramento River winter-run Chinook salmon are assumed to be present in the marine portions of the action area at low densities during the upstream and downstream migration period.

Central Valley Spring-Run Chinook Salmon

A review of literature and the Calfish database confirmed that CV spring-run Chinook salmon are likely to occur throughout the Sacramento–San Joaquin Delta (Delta) and the northern portion of San Francisco Bay during periods of migration (Calfish, 2013). CV spring-run Chinook salmon do not spawn in southern San Francisco Bay, and their typical migration routes between the ocean and the Sacramento River are likely similar to that of Sacramento River winter-run Chinook salmon, where migrants pass through the Bay north of the action area, in Raccoon Strait or Central San Francisco Bay (NMFS, 2001). For this reason, the CV spring-run Chinook salmon are assumed to be present in the marine portions of the action area at low densities during the upstream and downstream migration period.

Factors Limiting Growth

The leading factor of decline for this species has been the construction of dams that prevent access to spawning habitat (Moyle, 2002). Water diversions further reduce freshwater habitat quality throughout the range of these species. Other threats to Chinook salmon include agricultural operations, forestry operations, gravel extraction, illegal harvest, streambed alteration, unscreened or substandard fish screens on diversions, suction dredging, urbanization, water pollution, potential genetic modification in hatchery stocks resulting from domestication selection, incidental mortality from catch-and-release hooking, climatic variation leading to drought, flooding, variable ocean conditions, and predation (NMFS, 2007).

4.2.3 Green Sturgeon

Taxonomy, Ecology, and Biology

Green sturgeon in San Francisco Bay are part of the southern DPS of North American green sturgeon. Like all sturgeon species, it is a long-lived, slow-growing fish. It is an anadromous species, and the most marine species of sturgeon, coming into rivers primarily to spawn. Juveniles rear in freshwater for as long as 2 years before migrating to sea. Green sturgeon are thought to spawn every 3 to 5 years in deep

pools with turbulent water velocities, and they prefer cobble substrates, but can use substrates ranging from clean sand to bedrock. Females produce 60,000 to 140,000 eggs that are broadcast to settle into the spaces between cobbles. Spawning occurs in the Sacramento River in late spring and early summer (March through July). San Francisco Bay and the CV river system contain the southernmost spawning population of green sturgeon (Moyle, 2002). According to recent studies, green sturgeon adults begin moving upstream through the Bay during the winter (Kelly et al., 2003).

Once green sturgeon emigrate from freshwater, they disperse widely and are considered the most broadly distributed and wide-ranging species of the sturgeon family. The green sturgeon ranges from Mexico to Alaska, and is observed in bays and estuaries up and down the West Coast of North America (Moyle et al., 1995). Green sturgeon tagged in the Sacramento River are captured primarily in coastal and estuarine waters to the north of San Francisco Bay (Miller and Kaplan, 2001). Adults are found throughout the San Francisco Bay and Delta during periods of migration, and juveniles are present in the southern San Francisco Bay year-round, mostly south of the Dumbarton Bridge. Adults feed on benthic invertebrates—and to a lesser extent—small fish. Juveniles feed on opossum shrimp and amphipods in the San Francisco Bay estuary.

A number of other presumed spawning populations (Eel River, South Fork Trinity River, and San Joaquin River) may have been lost in the past 25 to 30 years (Moyle et al., 1995). However, green sturgeon juveniles have been collected in Willow Creek, a tributary to the Trinity River (Scheiff et al., 2001), and are assumed to be from spawning adults in the Trinity River.

Listing and Recovery Status

The southern DPS of green sturgeon was listed as federally threatened on April 6, 2006 by NMFS. This DPS of green sturgeon consists of all coastal and CV populations south of the Eel River, with the only known spawning population in the Sacramento River (62 CFR 43937-43954).

Status of Species in the Region

Sample surveys conducted by NMFS in the late 1990s and early 2000s suggests that the abundance of green sturgeon that make up the southern DPS has been stable, except for a large increase in the 2001 estimate of 8,421 fish. That is approximately four times higher than any previous estimate, which in the years prior to 2001, ranged from several hundred to approximately 2,000 individuals. The data suggest an increasing trend in green sturgeon abundance, but the increase was not statistically significant, even with the large increase in the 2001 estimate (NOAA, 2003).

Status of Species in the Action Area

A review of literature and the Calfish database verified that juvenile green sturgeon occur throughout the Sacramento River Delta and San Francisco Bay (Calfish, 2013). No current or historic spawning locations for green sturgeon are known in San Francisco Bay drainages outside of the Sacramento/San Joaquin river systems. The southern San Francisco Bay contains green sturgeon throughout the year in both the seawater and mixing zones (Miller and Kaplan, 2001). During the spring months, sturgeon are regularly caught by sport fishermen from the Dumbarton Public Fishing Pier. CDFW estimates that one-fifth of the sturgeon landed in the estuary are green sturgeon, and that the rest are white sturgeon (Moyle, 2002). Green sturgeon have the potential to be present throughout all marine portions of the action area throughout the year.

Factors Limiting Growth

The primary factor limiting growth of this species is the exclusion from or modification of historic breeding grounds (NMFS, 2009). Green sturgeon are also extremely susceptible to overfishing, as sexual maturity is not reached until 15 to 20 years of age (Miller and Kaplan, 2001). Other factors that may be limiting growth include the introduction of nonnative estuarine species, alterations in water quality and flow regimes due to water diversions, and recreational fishing takes (NMFS, 2009).

5.0 CRITICAL HABITAT

The action area falls within the following designated critical habitat areas:

- Designated Critical Habitat for CCC and CV steelhead;
- Designated Critical Habitat for the Sacramento River winter-run Chinook salmon ESU; and
- Designated Critical Habitat for green sturgeon.

Section 8.1.2 contains a discussion of the potential effects to designated critical habitat for steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon.

5.1 CRITICAL HABITAT FOR STEELHEAD

Critical habitat was established for the CCC steelhead DPS on September 2, 2005 (70 CFR 52488-52626). Designated critical habitat for this species includes all portions of San Francisco Bay below MHHW. The designation includes natal spawning and rearing waters, migration corridors, and estuarine areas that serve as rearing areas. The lateral extent of this critical habitat is defined by the ordinary high-water line (NMFS, 2005). The following primary constituent elements (PCEs) defined by NMFS (2005), which are physical or biological features essential to the conservation of a species on which its critical habitat is based, have been designated for this species:

- Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development.

- Freshwater rearing sites with:
  - Water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility;
  - Water quality and forage supporting juvenile development; and
  - Natural cover such as shade, submerged and overhanging large wood, log jams, and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

- Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.

- Estuarine areas free of obstruction and excessive predation with:
  - Water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh water and saltwater;
  - Natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and
  - Juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

5.2 CRITICAL HABITAT FOR CHINOOK SALMON

Critical habitat for the Sacramento River winter-run Chinook salmon was designated by the NMFS (50 CFR Part 226) in 2005. Designated critical habitat for this species includes the waters of San Francisco Bay north of the Bay Bridge. The designation includes natal spawning and rearing waters, migration corridors, and estuarine areas that serve as rearing areas. The lateral extent of this critical habitat is defined by the ordinary high-water line (NOAA, 2005). The following PCEs defined by NMFS (2005) are the same as described above for steelhead.

5.3 CRITICAL HABITAT FOR GREEN STURGEON

On October 9, 2009, the NMFS issued a final designation of critical habitat for green sturgeon (74 CFR 52300-52351). This includes the designation of specific rivers, estuaries, and coastal areas as critical habitat for this species. Under this ruling, the entire San Francisco Bay below MHHW is designated as critical habitat.

The PCEs essential for the conservation of the green sturgeon in estuarine areas defined by NMFS (2009) are:

- Food resources. Abundant prey items in estuarine habitats and substrates for juvenile, subadult, and adult life stages. Prey species for juvenile, subadult, and adult green sturgeon in bays and estuaries consist primarily of benthic invertebrates and fishes, including crangonid shrimp, burrowing thalassinidean shrimp, amphipods, isopods, clams, annelid worms, crabs, and small fish.

- Water flow. In bays and estuaries adjacent to the Sacramento River (i.e., the Sacramento, San Joaquin Delta, and the Suisun, San Pablo, and San Francisco bays), sufficient flow into the bay and estuary to allow adults to successfully orient to the incoming flow and migrate upstream to spawning grounds.

- Water quality. Water quality, including temperature, salinity, oxygen content, and other chemical characteristics necessary for normal behavior, growth, and viability of all life stages.

- Migratory corridor. A migratory pathway necessary for the safe and timely passage of green sturgeon in estuarine habitats and between estuarine and riverine or marine habitats. Safe and timely passage requires that human-induced physical, chemical, or biological impediments do not alter the migratory behavior of the fish such that its survival or the overall viability of the species is compromised. An impediment is something that compromises the ability of individual fish to reach a thermal refuge by the time it enters a particular life stage.

- Depth. A diversity of depths necessary for shelter, foraging, and migration of juveniles, subadult, and adult life stages. Subadult and adult green sturgeon occupy a diversity of depths in bays and estuaries for feeding and migration. Tagged adults and subadults in the San Francisco Bay estuary primarily occupied waters over shallow depths of less than 33 feet, either swimming near the surface or foraging along the bottom.

- Sediment quality. Sediment quality (i.e., chemical characteristics) necessary for normal behavior, growth, and viability of all life stages. This element includes sediments free of elevated levels of contaminants (e.g., selenium, organochlorine pesticides) that can cause adverse effects on all life stages of green sturgeon.

6.0 ESSENTIAL FISH HABITAT

6.1 ESSENTIAL FISH HABITAT

The San Francisco Bay, including the action area, is classified as EFH under the MSA that serves as habitat for 14 species of commercially important fish and sharks that are federally managed under two fisheries management plans (FMPs): the Pacific Groundfish FMP, and the Coastal Pelagic FMP (Table 7).

Table 7
Federally Managed Fish Species of San Francisco Bay

Fisheries Management Plan	Species, Common Name	Species, Scientific Name	Life Stage*	Abundance
Coastal Pelagic	Northern anchovy	*Engraulis mordax*	J, A	Abundant
	Jack mackerel	*Trachurus symmetricus*	E,L	Present
	Pacific sardine	*Sardinops sagax*	J, A	Present
Pacific Groundfish	English sole	*Parophrys vetulus*	J, A	Abundant
	Sand sole	*Psettichthys melanostictus*	L, J ,A	Present
	Curlfin sole	*Pleuronichthys decurrens*	J	Present
	Pacific sanddab	*Citharichthys sordidus*	E, L, J, A	Present
	Starry flounder	*Platichthys stellatus*	J, A	Abundant
	Lingcod	*Ophiodon elongatus*	J, A	Present
	Brown rockfish	*Sebastes auriculatus*	J	Abundant
	Pacific whiting (hake)	*Merluccius productus*	E,L	Present
	Kelp greenling	*Hexagrammos decagrammus*	J, A	Present
	Leopard shark	*Triakis semifasciata*	J, A	Present
	Spiny dogfish	*Squalus acanthias*	J, A	Present
	Skates	*Raja* ssp.	J, A	Present
	Soupfin shark	*Galeorhinus galeus*	J, A	Present
	Bocaccio	*Sebastes paucispinis*	J	Rare
	Cabezon	*Scorpaenichthys marmoratus*	J	Few
Pacific Coast Salmon	Chinook salmon	*Oncorhynchus tshawytscha*	J, A	Seasonally Present
	Coho salmon	*Oncorhynchus kisutch*	J, A	Not Present

Source: NMFS, 2009

Notes:

A = Adult
J = Juvenile
L = Larvae
E = Egg

In addition, the entire San Francisco Bay is classified as EFH for species managed under the Pacific Coast Salmonid FMP, which includes Chinook salmon (Table 7). NMFS has established environmental work windows for dredging for Chinook salmon, in San Francisco Bay between June 1 and November 30.

In addition to EFH designations, San Francisco Bay is designated as a HAPC for various fish species in the Pacific Groundfish and Coastal Pelagic FMPs, because this estuarine system serves as breeding and rearing grounds important to these fish stocks.

6.1.1 Coastal Pelagic EFH

The Coastal Pelagic FMP is designed to protect habitat for a variety of fish species that are associated with open coastal waters. Fish managed under this plan include planktivores and their predators; the species covered under this plan that may occur in the action area are listed in Table 7.

6.1.2 Pacific Groundfish EFH

The Pacific Groundfish FMP is designed to protect habitat for more than 90 species of fish, including rockfish, flatfish, groundfish, some sharks and skates, and other species that associate with the underwater substrate. This includes both rocky and muddy substrates. Table 7 lists the species managed under this plan that may occur in the action area.

6.1.3 Pacific Salmon EFH

The Pacific Salmon FMP is designed to protect habitat for commercially important salmonid species. Fish managed under this plan, for which Pacific Salmon EFH has been designated, are listed in Table 7. Chinook salmon is the only one of these species that may be seasonally present in the action area. Although some evidence suggests that migrating salmonids move along the deeper channels of the Bay, migrational behavior in estuaries is poorly understood, and migrating fish may pass through the action area.

7.0 ANALYSIS OF EFFECTS OF THE PROPOSED ACTION

Effects from the project are discussed by type and categorized as follows: noise in the water column, shading from pier construction, and water quality effects from pier construction and dredging.

7.1 NOISE IN THE WATER COLUMN

Construction of the project improvements would require pile-driving activities. Pile-driving activities for the project include impact or vibratory pile driving associated with construction of the Gate A Access Pier, berthing structures, and the Embarcadero Plaza and East Bayside Promenade; as well as installation of a fendering "chock block" along Pier 1 and adjacent to Gates E, F, and G. Piles would be steel, concrete, or wood, depending on the application. Pile types, numbers, and sizes are described in Chapter 2 and summarized in Tables 2 and 3.

Underwater sound and acoustic pressure resulting from pile driving could affect aquatic resources (e.g., fish and marine mammals) by causing behavioral avoidance of the construction area and/or injury to sensitive species.

Background underwater sound levels in the action area are considered in the assessment of the project's construction impacts. Underwater noise in the Ferry Terminal area is regularly generated by small- to medium-sized boats, including the existing water transit vessels. Based on the 2003 Water Transit Authority Programmatic Environmental Impact Report, underwater sound levels for water transit vessels ranged from 152 decibels (dB) to 177 dB (referenced at 1 microPascal [µPa] at 1 meter) (WETA, 2003). Representative underwater noise levels for San Francisco Bay show that typical ambient noise levels are 120 dB with 133 dB root-mean-square, as measured in the Oakland Outer Harbor (Caltrans, 2009). Based on this information, existing underwater background noise levels in the action area are expected to be 120 dB or greater.

7.1.1 Fundamentals of Underwater Sound

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water. Sound is generally characterized by several variables, including frequency and intensity. Frequency describes the pitch of a sound and is measured in Hertz; intensity describes the loudness of a sound and is measured in dB, using a logarithmic scale.

When a pile-driving hammer strikes a pile, a pulse is created that propagates through the pile and radiates sound into the water and the ground substrate, as well as the air. The sound pressure pulse, as a function of time, is referred to as the waveform. The peak pressure is the highest absolute value of pressure over measured waveform, and can be a negative or positive pressure peak. Peak pressures for underwater applications are typically expressed in dB referenced to 1 µPa.

Another measure of the pressure waveform that can be used to describe the pulse is the sound energy itself. The total sound energy in the pulse is referred to in many ways, including the "total energy flux" (Finneran et al., 2005). Total energy flux is equivalent to the unweighted sound exposure level (SEL) for a plane wave propagating in a free field, a common unit of sound energy used in airborne acoustics to describe short-duration events. The unit for SEL is dB referenced to 1 μPa^2*sec. The total sound energy in an impulse accumulates over the duration of that pulse. How rapidly the energy accumulates may be significant in assessing the potential effects of impulses on fish.

Vibratory pile drivers also produce high-intensity noise, but work on a different principle and have a very different sound profile than discussed above. A vibratory driver works by inducing particle motion to the substrate immediately below and around the pile, causing liquefaction, allowing the pile to sink downward. For this reason, vibratory pile driving is only suitable where soft substrates are present. The

noise produced during vibratory driving is lower in intensity, and can be considered continuous in comparison to the pulse-type noise produced during impact pile driving. Peak noise levels from vibratory driving are typically 10 to 20 dB lower than impact driving for a particular pile type (Caltrans, 2009).

7.1.2 Applicable Noise Criteria for Fish

On July 8, 2008, the Fisheries Hydroacoustic Working Group (FHWG), whose members include NMFS' Southwest and Northwest Divisions; California, Washington, and Oregon departments of transportation; the CDFW (then CDFG); and the U.S. Federal Highway Administration issued an agreement for the establishment of interim threshold criteria to determine the effects of high-intensity sound on fish. While these criteria are not formal regulatory standards, they are generally accepted as viable criteria for underwater noise effects on fish. These criteria were established after extensive review of the most recent analysis of the effect of underwater noise on fish. The agreed-upon threshold criteria for impulse-type noise to harm fish have been set at 206 dB peak, 187 dB accumulated SEL for fish over 2 grams, and 183 dB for fish less than 2 grams (Table 8).

Table 8
NMFS Underwater Noise Thresholds for Fish

	Peak Noise (dB)	Accumulated Noise (SEL) (dB)
Impulse and Continuous Sound		
Fish less than 2 grams in weight	>206	>183
Fish more than 2 grams in weight	>206	>187

Source: FHWG, 2008

Notes:

> = greater than
dB = decibel
NMFS = National Marine Fisheries Service
SEL = sound exposure level

The FHWG has determined that noise at or above the 206-dB peak level can cause barotrauma to auditory tissues, the swim bladder, or other sensitive organs. Noise levels above the accumulated SEL may cause temporary hearing-threshold shifts in fish. Behavioral effects are not covered under these criteria, but could occur at these levels or lower. Behavioral effects may include fleeing, and the temporary cessation of feeding or spawning behaviors. A specific criterion has not yet been set by the FHWG for continuous noise, such as vibratory driving, so the same criteria as impulse-type noise will be used for this analysis.

Because green sturgeon and listed anadromous fish spawn in freshwater, no young of listed species weighing less than 2 grams are expected in the action area. According to Moyle (2002), stream-type juvenile Chinook salmon (winter-run and spring-run) migrate downstream as smolts, between the sizes of 80 to 150 millimeter fork length (approximately 20 to 110 milligrams). The 183-dB SEL criterion for fish of less than 2 grams will thus not apply for the listed species potentially present in the action area. Therefore, for the purposes of this analysis, a 206-dB peak level and 187-dB SEL are used as thresholds for potential harm to listed fish species.

The limits of the action area are determined by the 187-dB SEL threshold. Although underwater sound produced by the project may extend beyond this point, overall sound levels beyond the 187-dB SEL are expected to be similar to baseline conditions due to heavy ship traffic associated with the maritime activities.

7.1.3 Assessing Sound Levels from Project Construction

Reference sound levels were based on underwater sound measurements documented for a number of pile-driving projects with similar pile sizes and types at similar sites (i.e., estuarine areas of soft substrate [Caltrans, 2009]). The noise energy would dissipate as it spreads from the pile at a rate of roughly 4.5 dB per doubling of distance (Caltrans, 2009). This is a conservative value for areas of shallow water with soft substrates, and actual dissipation rates would likely be higher. Using this information, and the number and size of piles presented in Chapter 2, underwater sound levels were estimated to determine whether the thresholds described above would be exceeded. Results are shown in Table 9.

Table 9
Calculated Distance (feet) from Pile Where Sound Threshold Would Be Exceeded

Project Element Requiring Pile Installation[1]	Thresholds for Fish[2]	
	206 dB Peak Noise	187 dB SEL
South Basin Circulation Improvements[2]		
24-Inch Concrete Piles – Impact Driver	Not exceeded over any distance	263 feet
24-Inch Steel Piles – Vibratory Driver	Not exceeded over any distance	105 feet
24-Inch Steel Piles – Impact Driver	22 feet	1,530 feet
36-Inch Steel Piles – Vibratory Driver	Not exceeded over any distance	344 feet
36-Inch Steel Piles – Impact Driver	43 feet	1,580 feet
Gate A Access Pier[2]		
24-Inch Concrete Piles – Impact Driver	Not exceeded over any distance	263 feet
24-Inch Steel Piles – Vibratory Driver	Not exceeded over any distance	105 feet
24-Inch Steel Piles – Impact Driver	22 feet	1,530 feet
36-Inch Steel Piles – Vibratory Driver	Not exceeded over any distance	344 feet
36-Inch Steel Piles – Impact Driver	43 feet	1,580 feet
Berthing Structure Guide Piles		
42-Inch Steel Piles – Vibratory Driver	Not exceeded over any distance	612 feet
42-Inch Steel Piles – Impact Driver	57 feet	2,372 feet
Berthing Structure Dolphin Piles		
36-Inch Steel Piles – Vibratory Driver	Not exceeded over any distance	344 feet
36-Inch Steel Piles – Impact Driver	43 feet	1,580 feet
Fendering (Wood Piles – Vibratory or Impact Driver)	Not exceeded over any distance	Not exceeded over any distance

Notes:

The dimensions presented before the pile type indicates the diameter of the pile for which sound levels were calculated.

[1] For the South Basin Circulation Improvements and Gate A Access Pier, piles could be either concrete and installed by impact pile driving, or steel and vibrated into place. Both options are evaluated.

[2] As established by the FHWG (FHWG, 2008)

dB = decibel
FHWG = Fisheries Hydroacoustic Working Group
SEL = sound exposure level

As shown in Table 9, pile-driving activities would exceed levels that would cause injury to fish (206 dB peak) for impact driving of steel piles at distances of 22 feet for 24-inch piles, 43 feet for 36-inch piles, and up to 57 feet for the largest (42-inch) piles for the berthing structure. Vibratory driving of steel piles and impact driving of concrete piles would not generate sound levels in excess of the 206 dB level that could cause injury. Within the distances shown in Table 9, fish may be exposed to sound levels above the 187 dB SEL threshold from either impact or vibratory pile driving, which may result in temporary reduction of hearing capacity or temporary changes in behavior, but would not be expected to cause injury or mortality.

7.1.4 Estimation of Project Pile Driving Effects

The only significant source of underwater noise during construction would be during pile driving, including the installation of the 24-, 36-, and 42-inch piles. Other construction activities, such as dredging, are not expected to produce noise levels above ambient conditions at the ferry terminal. The piles would be driven in the Bay, in water depths ranging from approximately 4 to 15 feet, depending on location and tidal phase, using impact or vibratory driving methods. Generally, pile driving in shallow water (less than 30 feet) limits underwater noise levels. To estimate underwater sound pressure levels for the proposed project, measurements from a number of underwater pile-driving projects conducted under similar circumstances (shallow water in areas of soft substrate) were reviewed for use as source level data.

The analysis of pile-driving impacts assumes that a receptor (such as a fish) in the area of noise effects is stationary during the pile driving, and does not relocate away from the activity during driving, and that all pile strikes produce noise at the maximum SEL. This allows a calculation of the worst-case scenario for accumulated sound effects over a 24-hour period. The following analysis also assumes an attenuation factor of 17 (~5 dB per doubling of distance) in the action area. This is a conservative value for attenuation in shallow water pile driving (depths of less than 45 feet); the attenuation in the action area will likely be greater than 17 (Caltrans, 2009). Table 10 provides a summary of the noise impact analysis that is presented in the following paragraphs.

24- and 36-Inch Precast Concrete or Steel Pipe Piles

As summarized in Section 2, Gate A would require the installation of piles and structural deck. To support the fixed pier, approximately 40 precast concrete or steel pipe piles, 24 and 36 inches in diameter and spaced 12 to 16 feet apart would be required. The piles would be 135 to 140 feet long, and would be driven approximately 125 to 140 feet below MLLW through the mud into the sand layer, extending 7.5 to 11 feet above MLLW. Installation could require up to 1,800 blows from an impact hammer using a DelMag D46-32 or similar diesel hammer, producing approximately 122,000 foot-pounds maximum energy per blow, and 1.5 seconds per blow average. This analysis assumes that up to three of the 24-inch piles would be installed per day, or that two of the 36-inch or 42-inch piles would be installed per day.

Other projects conducted under similar circumstances were reviewed to estimate the approximate sound effects of the 24-inch steel piles. These projects include the Richmond-San Rafael Bridge project, Rodeo Dock Repair project, and the Amorco Wharf Repair project. During impact pile driving associated with these projects, which occurred under similar circumstances, measured peak noise levels ranged from 195 to 205 dB, and the SEL (single strike) ranged between 163 and 178 dB (Caltrans, 2009). The “best fit” data come from the Rodeo Dock Repair project, where 36-inch steel piles were driven into a similar water depth and substrate, producing peak noise of 203 dB and a single strike SEL of 178 dB. For 24-inch concrete piles, the “best fit” data comes from the Berth 32 reconstruction at the Port of Oakland, where similar pile driving circumstances produced a peak noise of 185 dB and a single strike SEL of 163 dB.

Table 10
Expected Pile-Driving Sound Levels and Distances of Criteria Level Exceedance with Impact and Vibratory Driver

Pile Type	Maximum Source Levels (dB)			Distance of Threshold[1] (feet)	
	Peak Sound Level	SEL, Single Strike or Per Second	SEL, Accumulated	206 dB Peak	187 dB SEL
Impact Driving					
24-inch concrete pipe	185	165	202	NE	263
24-inch steel pipe	203	178	215	22	1,530
36-inch steel pipe	208	180	216	43	1,580
42-inch steel pipe	210	183	219	57	2,372
14-inch wood pile	169	133	166	NE	NE
Vibratory Driving					
24-inch steel pipe	175	163	196	NE	105
36-inch steel pipe	180	170	204	NE	244
42-inch steel pipe	183	173	209	NE	612
14-inch wood pile	169	133	166	NE	NE

Notes:
[1] The distance from the pile over which the effects threshold of 206 dB peak sound level and 187 dB accumulated SEL would be exceeded. These threshold values apply to fish over 2 grams in weight.
dB = decibels
NE = threshold not exceeded
SEL = sound exposure level

Based on the above sound levels, installation of the 24-inch steel pipe or concrete piles could have the potential to produce accumulated SEL values above the aforementioned thresholds of the 187-dB SEL, but not above the peak threshold of 206 dB. During installation of the 24-inch steel pipe piles for the project, up to 5,400 strikes could occur per day; as a result, the radius over which the 187-dB SEL threshold could be expected to be exceeded is 1,530 feet. During installation of the 24-inch concrete piles for the project, up to 5,400 strikes could occur per day; as a result, the radius over which the 187-dB SEL threshold could be expected to be exceeded is 263 feet.

As with the 24-inch piles, other projects conducted under similar circumstances were reviewed to approximate the sound effects of the 36-inch steel piles. During impact pile driving associated with these projects, which occurred under similar circumstances, peak noise levels ranged from 195 to 208 dB, and the SEL (single strike) ranged between 170 and 180 dB (Caltrans, 2009). Based on the above sound levels, installation of the 36-inch steel pipe piles could have the potential to produce peak and accumulated SEL noise values above the aforementioned thresholds. If pile driving produces the maximum anticipated peak level of 208 dB, the peak threshold of 206 dB may be exceeded over a radius of 43 feet. During installation of the 36-inch steel pipe piles for the project, up to 3,600 strikes could occur per day; as a result, the radius over which the 187-dB SEL threshold could be expected to be exceeded is 1,580 feet.

The actual sound levels for both the 24- and 36-inch piles would likely be less than these potential values, due to the shallow water depth at the installation site, which would provide attenuation at the water-air interface.

42-Inch Steel Pipe Piles

Installation of the floating dock requires the placement of six 42-inch steel pipe piles. These piles would be driven in an area with a water depth of approximately 6 to 15 feet, depending on tidal stage. These piles would be driven to a depth of approximately 120 feet below MLLW. The substrate at the site includes Bay Mud and other unconsolidated sediment. It is estimated that each pile could be driven in 45 minutes. Up to two of these piles could be installed in one work day. Installation for each pile could require approximately 1,800 blows from a DelMag D62-22 or similar diesel hammer, producing approximately 165,000 foot-pounds maximum energy (may not need full energy), and 1.5 seconds per blow average.

As with the 24-inch piles, other projects conducted under similar circumstances were reviewed to approximate the sound effects of the 42-inch steel piles. The impact pile driving associated with these projects, which occurred under similar circumstances, had peak noise levels ranged from 195 to 210 dB, and the SEL (single strike) ranged between 170 and 183 dB (Caltrans, 2009). Based on the above sound levels, installation of the 42-inch steel pipe piles could have the potential to produce peak and accumulated SEL noise values above the aforementioned thresholds. If pile driving produces the maximum anticipated peak level of 210 dB, the peak threshold of 206 dB may be exceeded over a radius of 57 feet. During installation of the 42-inch steel pipe piles for the project, up to 3,600 strikes could occur per day; as a result, the radius over which the 187-dB SEL threshold could be expected to be exceeded is 2,372 feet. The actual sound levels would likely be less than these potential values, due to the shallow water depth at the installation site, which would provide attenuation at the water-air interface.

7.1.5 Summary of Effects from Noise

Impact driving of the 36-inch and 42-inch steel pipe piles could have the potential to exceed the 206-dB threshold for injury to fish over a distance of 43 and 57 feet, respectively. Under all scenarios, the pile driving could exceed the SEL threshold of 187 dB. The distances over which these thresholds could be exceeded depend on the rate at which the piles are driven. Over areas where the SEL threshold would be exceeded, fish could experience temporary shifts in hearing-threshold and behavioral effects. These behavioral effects could result in the temporary abandonment of habitat in the area of effect during active pile driving. This would apply to both listed fish species and EFH species in the action area. Following the cessation of pile driving, fish are expected to resume the use of the action area. If pile-driving activity occurs during the migration period for salmonids, the pile-driving noise may alter migration paths or cause a temporary halt of migrating salmonids.

The project would use vibratory hammers as much as feasible to drive piles; this would be expected to reduce peak sound levels to below the set threshold for harm or injury. These measures would be expected to minimize the potential effect on affected species (steelhead, Chinook salmon, and green sturgeon).

WETA plans to conduct all piling installation and dredging between approved work windows, between June 1 and November 30, when the likelihood of sensitive fish species being present in the work area is minimal (LTMS, 1998).

Until Final Design is completed and a contractor is selected, WETA cannot make a final determination as to whether piling installation or dredging must occur at times other than the approved work window. In addition, factors beyond WETA's control, such as requirements of other agencies or conflicting timing requirements, may prevent WETA from conducting all piling installation and dredging within the

approved work window. In the event that these activities must be conducted outside of the approved window, the project sponsors will undertake formal ESA consultation to identify avoidance and minimization methods that will be implemented to reduce effects on sensitive marine resources. Methods may include monitoring by a qualified biologist, and halting of dredging or pile-driving activities for a specific period, if spawning activity is noted in the construction area.

WETA will minimize project-related sound level exposure to fish. The performance standards for these minimization efforts are described later in this measure. To provide the final implementation level details, WETA will develop a Hydroacoustic and Biological Monitoring Plan in consultation with NMFS, prior to the start of construction. This plan will provide detail on the methods used to monitor and verify sound levels during pile-driving activities. The plan will include specific measures to minimize exposure of fish to high sound levels. At a minimum, avoidance and minimization measures will meet the following performance standards, and will include the following methods:

- Underwater noise levels will be measured during pile-driving activities to determine the distance at which sound levels do not exceed injury thresholds for fish (206 dB).
- A "soft start" technique shall be employed in all pile driving to give fish an opportunity to vacate the area.
- If an activity produces underwater sound levels that exceed the injury threshold for fish, work will be stopped and sound levels will be reduced through noise control measures such as the installation of NMFS-approved attenuation devices (e.g., bubble curtains) or modification of construction methods (such as using cushioning between the hammer and pile).

7.2 SHADING AND HABITAT MODIFICATION FROM PIER CONSTRUCTION

Expansion of the Ferry Terminal would add 39,590 square feet (0.91 acre) of floating and shading fill over the waters of San Francisco Bay (Figure 2 and calculations from Table 3). Overwater or floating structures that shade marine waters are typically located in intertidal and shallow subtidal areas, and these structures can alter the primary physical processes, including depth (elevation), substrate type, wave energy, light, and water quality (TRAC, 2001). Additionally, installation of the new piles would permanently remove 345 square feet (0.008 acre) of soft-bottomed subtidal benthic habitat, while creating a proportionally larger area of hard-substrate benthic habitat within the water column.

Light reduction lowers the amount of energy available for photosynthesis by phytoplankton, benthic algae, and attached macroalgae. These photosynthesizers are an important part of the food webs supporting juvenile salmon and other fish species in estuarine and nearshore marine environments. Shade cast from docks, piers, and pilings reduces the amount of ambient light wavelengths in the marine environment. In the Pacific Northwest, distributions of invertebrates, fishes, and plants in nonshaded vegetated habitats have been found to significantly differ from distributions found in under-dock environments (TRAC, 2001). Examples of shade impacts include a reduction in biomass of eelgrass by over 30 percent in under-dock environments (Shafer, 1999). The area of shade that would result from the project is small relative to the size of the Bay, and the impact on the food chain is expected to be negligible.

The reduction in light resulting from overwater structures can also create "behavioral barriers" that can deflect or delay fish migration, reduce prey resource production and availability, and alter predator-prey relationships associated with high-intensity night lighting (TRAC, 2001). Shading of the nearshore environment may reduce biological productivity of these waters, and increase predation rates or feeding success of certain fishes. Many predatory fish, such as striped bass, are associated with structures (Haeseker et al., 1996), and would be expected to occur in the area associated with the pier expansion. This could result in a slight increase in predation on larval and young fish in the action area locally. This

increase would be most pronounced during high tide, when larger predatory fish move into shallow water to feed. Young fish would most likely avoid areas near the pier when vegetated area decreases due to shading. These young fish will prefer vegetated habitat that provides cover and prey items. Other predatory fish found in San Francisco Bay, such as California halibut, are not associated with structure. Halibut move onto shallow mud flats during high tide to feed on benthic invertebrates and fish. Although they could be expected to occur near and under the pier, their densities would not be expected to increase as a result of the pier construction, and increased predation by these fish would therefore not occur.

7.2.1 Summary of Effects from Shading

Effects from shading due to implementation of the project would expect to be relatively minor. Reduction in photosynthesis would not be significant due to the tidal influence and constant water circulation in the area. Also, the pier could potentially create an increased zone of predation, but it is unlikely that prey fish would remain in this zone and experience significant increases in predation due to the rapid changes in water depths resulting from tidal action.

7.3 EFFECTS OF CLAMSHELL DREDGING

This section discusses the mechanisms of clamshell dredging that have the potential to adversely affect special-status species, components of their habitat, and EFH. NMFS has identified the following adverse effects of dredging on EFH: (1) direct removal/burial of organisms; (2) turbidity/siltation effects, including light attenuation from turbidity; (3) contaminant release and uptake, including nutrients, metals, and organics; (4) release of oxygen-consuming substances; (5) entrainment; (6) noise disturbances; and (7) alteration to hydrodynamic regimes and physical habitat (NMFS, 2005). The same factors have the potential to affect special-status species and their designated critical habitat.

7.3.1 Removal/Burial of Benthic Organisms

Dredging of the approach channel and turning basin associated with the project would disturb up to 3.92 acres of soft-bottomed subtidal habitat. During dredging, benthic invertebrates would also be removed with the substrate. This could temporarily reduce the diversity and productivity of benthic habitat in the dredged area. The lateral movement of sediment during dredging has the potential to bury organisms in the immediate vicinity of the dredging activity, causing injury or mortality. These effects are considered temporary, because benthic invertebrates are expected to re-colonize the dredged area shortly after work is completed. In soft substrate areas of San Francisco Bay, dredging-induced substrate disturbance is considered small in scale to naturally occurring physical events, such as storm-generated waves and the deposition of sediment from riverine sources (USACE, 2004).

7.3.2 Turbidity and Siltation from Resuspension of Sediments during Dredging and Disposal

Dredging suspends sediments as the clamshell dredge makes contact with the Bay floor, and is subsequently pulled to the surface while full of dredged material. Additionally, areas that have been recently dredged may be more susceptible to scour until the disturbed sediment has settled and stabilized.

Increased suspended solids can impact aquatic organisms in two ways: (1) physical impacts related to the physical properties of suspended sediments (reduced light transmission by increasing turbidity and biological effects resulting from contact with particulates); and (2) resettling impacts that can smother aquatic habitats and organisms. Changes in light transmission can affect primary production by limiting photosynthesis and reducing foraging abilities for organisms that rely on visual signals for feeding (e.g., salmonids and several species of birds; Anchor Environmental, 2003, in USACE, 2009a).

A study was conducted by USACE's Engineering Research and Development Center (August 2003) to determine the concentration and spatial extent of resuspended sediment plumes generated during maintenance dredging of Oakland Outer Harbor with a clamshell dredge. The results indicated that peak concentrations of suspended sediments in the action area reached 275 mg/L. The plume was largely confined to the lower water column (where substrate impact with the clamshell dredge occurs), and was driven by weak currents (less than 25 centimeters per second). The plume decayed to background conditions (10 to 15 mg/L in surface waters, and 20 to 50 mg/L in bottom waters) within 1,300 feet from dredging activities (ERDC, 2007).

Based on tidal current modeling previously used by URS in a study of the hydrodynamic effects of reconfiguring the runways at San Francisco International Airport (URS, 2003), the maximum tidal currents expected in the action area would have a mean tidal velocity of around 0.5 meter per second (m/s; average velocity for all depths). It is expected that increases in suspended sediment concentrations and the spatial extent and duration of the suspended sediment plume resulting from initial and maintenance dredging of the action area would be similar to findings of the USACE August 2003 study, although the increase in maximum currents from 0.25 m/s to 0.5 m/s may carry the sediment plume over a proportionally greater distance. If background turbidity were to be higher than the example study, the plume would have an effect over a proportionally smaller area.

7.3.3 Contaminant Release and Uptake

The suspension of sediment during dredging activity has the potential to release constituents of concern bound to the water column. Once released, these constituents have the potential to degrade water quality and be absorbed by biological receptors. Some of the constituents have the potential to be biomagnified up the food chain.

Complex chemical and physical interactions may occur as the sediment is suspended in the water. Constituents of concern that are adsorbed (bound to sediment particles) or dissolved in sediment pore water may be released into the water and alter water chemistry, or be absorbed by organisms. Such interactions are controlled by several factors, including: particle geometry, concentration, site water chemical concentrations, pH, salinity, fraction of organic carbon in the sediment, and residency time in the water column (Anchor Environmental, 2003 in USACE, 2009a).

San Francisco Bay is designated by the U.S. Environmental Protection Agency under Section 303(d) as an impaired water body. The Central Basin of San Francisco Bay is included in the 2006 Clean Water Act list of water quality limited segments for the following pollutants/stressors: chlordane, DDT, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, polycyclic aromatic hydrocarbons (PAHs), PCBs, and selenium.

Metals are generally tightly bound to sediment; as such, only small concentrations are dissolved and biologically available. A literature review of laboratory results and field observations of the effects of dredging conducted by Anchor Environmental (2003) found that during dredging, release of dissolved metals from sediments was minimal, even in highly contaminated areas. At the transition zone between anoxic and aerobic sediments, metals can often become soluble, thus increasing the potential for metals to be released in the water column (Anchor Environmental, 2003 in USACE, 2009a).

Organic compounds (e.g., PCBs, PAHs, and pesticides) are often hydrophobic, and therefore have limited solubility in water. When sediments containing organic compounds are resuspended, some of the organic compounds are desorbed and diffuse into the water column. Field observations indicate that releases of organics into the water column are generally small, compared to the diluting effect of the larger body of water, and changes in water quality were often transient, even in areas with high organic compound contamination (Anchor Environmental 2003, in USACE, 2009a). A sediment testing plan would be approved by the Dredge Materials Management Office (DMMO) prior to dredging. Because the action

area contains active maritime facilities that have been in use for a long period, it is expected that detectable levels of contaminants would be present. Applicable recommendations of the DMMO would be applied during dredging.

7.3.4 Release of Oxygen-Consuming Substances

The resuspension of sediment has the potential to reduce DO concentrations by introducing reduced compounds into the water column. The compounds readily bind with the DO, reducing its availability to biotic processes. Generally, dredging activities result in a measurable temporary reduction of DO in the area of the sediment plume (USACE, 2009b). Surface waters tend to return to ambient DO levels shortly after dredging ceases; however, DO reduction in bottom waters is generally more significant (United States Navy, 1990).

Such effects are of greater concern in water bodies that have low baseline DO due to warm temperatures and limited mixing. The action area, however, contains well-mixed waters in a portion of the Bay that is not listed as being prone to low DO conditions (USACE, 2009b). Project-related dredging is not expected to reduce DO conditions to levels that would be harmful to organisms.

7.3.5 Entrainment

Clamshell dredges do not use suction, and therefore have no potential to entrain organisms. Organisms may be directly removed with benthic substrate, as described above.

7.3.6 Noise Disturbances

The proposed dredging, materials transport, and disposal activity is not expected to produce underwater or aerial noise levels above background levels. The underwater and aerial noise produced by boats used for the project is similar to normal boat traffic in the action area.

7.3.7 Alteration to Physical Habitat

After initial dredging during construction, maintenance dredging could be required at Gates F and G. Dredging in these areas would be anticipated to occur every 3 to 4 years, and approximately 5,000 to 10,000 cubic yards of material could be removed. Periodic maintenance dredging would disturb bottom sediments, which would increase turbidity, disturb benthic habitat and associated communities of organisms living in or on the mud bottom, and affect EFH. This disturbance could result in the temporary loss or reduction of habitat suitable for fish foraging for sensitive species, such as steelhead, Chinook salmon, and green sturgeon, as well as fish managed under the MSA. Pacific herring, a commercially important species, could also be affected if spawning had occurred in the area just before or during maintenance dredging activities.

7.3.8 Summary of Effects from Dredging

Initial and maintenance dredging impacts could be substantial; however, based on the current site use as a ferry terminal, coupled with the relatively small area being dredged; it is anticipated that impacts would be short-term, and similar to other small maintenance dredging operations in San Francisco Bay.

To minimize impacts to special-status and commercially important fish species, dredging will be conducted during the LTMS dredge window of June 1 through November 30, if feasible. During this time period, sensitive life stages of listed salmonids are not present in San Francisco Bay.

Green sturgeon are present in San Francisco Bay all year; therefore, regardless of when maintenance dredging is conducted, green sturgeon are likely to be affected.

7.4 INTERFERENCE WITH THE MOVEMENT OF RESIDENT OR MIGRATORY FISH OR WILDLIFE SPECIES DURING CONSTRUCTION

The project would involve the demolition and removal of existing piers, and the installation of additional in-water and over-water structures. The noise and in-water disturbance associated with these activities could cause fish and wildlife species to temporarily avoid the immediate construction area when work is being conducted.

The project location is in the Central Bay, which is a major corridor used by fish and marine mammals as they move between different habitats in San Francisco Bay and open ocean. However, the affected area would be limited to the immediate construction zone, and would not substantially limit the available habitat or movement of fish, seabirds, or marine mammals in San Francisco Bay if these animals avoid the immediate construction area. The construction area is small compared to the relative size of the Bay, and the impact to fish and wildlife migration would be considered negligible.

7.5 CUMULATIVE IMPACTS

The geographic area of potential biological cumulative impacts is central San Francisco Bay.

The project could result in adverse biological effects related to construction activities in the waters of San Francisco Bay due to dredging and other construction activities. Other projects along the waterfront, such as the America's Cup Project, Port maintenance dredging, the Bay Bridge Seismic Safety Project, the Pier 36/Brannan Street Wharf Project, and the Pier 15 to 17 Exploratorium Relocation Project, could involve activities similar to the proposed Ferry Terminal modifications that could also affect biological resources in central San Francisco Bay. The in- and over-water construction activities associated with these cumulative projects represent a potential adverse cumulative impact.

Construction activities would be temporary, and it is unlikely that construction on the various projects listed above would occur simultaneously with the project's construction activities. WETA would comply with existing regulations, requirements, and conditions in permits from the USACE, NMFS, Regional Water Quality Control Board (RWQCB), CDFW, and BCDC for dredging and underwater noise impacts. In addition, WETA would implement avoidance and minimization measures to reduce underwater noise impacts. For these reasons, the project's contribution would not be cumulatively considerable.

During operations, the project could result in periodic and temporary adverse water quality impacts to the action area from maintenance dredging, and in an increase in permanent fill and shading in the terminal area. Similar activities that could affect biological resources would be associated with the projects identified above.

Maintenance dredging activities for the project would be small and infrequent (5,000 to 10,000 cubic yards of material every 3 or 4 years) in comparison to the ongoing maintenance dredging programs in San Francisco Bay. In 2010, approximately 2,000,000 cubic yards of material were dredged for maintenance dredging projects in San Francisco Bay (DMMO, 2011). In addition, WETA would comply with existing regulations, requirements, and conditions in permits from the USACE, NMFS, RWQCB, CDFW, and BCDC for dredging. Therefore, the project's contribution to cumulative dredging impacts would not be considerable.

Fill in the terminal area, including shading, is small relative to surrounding open areas of San Francisco Bay. Although the increase in project-related fill would combine with fill associated with other projects and result in a cumulative increase of fill in San Francisco Bay, the amount of fill for the project would be small and placed in an area that is already substantially altered by Ferry Terminal facilities. Therefore, the fill from the project would have negligible cumulative impacts.

8.0 CONCLUSIONS AND DETERMINATIONS

8.1 CONCLUSIONS

This section presents the conclusions and determinations of this BA that were formulated using the discussion of species presence, habitat presence, and project effects presented in prior sections of this report.

8.1.1 Potential Effects on Listed Species

Without implementation of avoidance and minimization measures, the project could adversely affect steelhead, Chinook salmon, and green sturgeon; primarily through the barotrauma effects of pile driving, and water quality effects associated with dredging. Direct mortality or effects associated with hearing loss could affect individuals of these species. However, the avoidance and minimization measures, in combination with the ability of these species to move themselves out of the range affected by injury-causing noise and turbidity, would minimize the direct impacts on individuals, and thus on populations of the species.

Vibratory hammers would be used when feasible instead of impact hammers for pile-driving activities to reduce underwater peak noise levels. Additionally, when impact hammers are used, a “soft start” would be employed so that fish would have warning to move away from the pile-driving location before high-intensity noise is produced.

Through the implementation of these measures, steelhead, Chinook salmon, and green sturgeon are not likely to be exposed to noise levels capable of causing mortality, injury, or permanent hearing loss. WETA would develop a monitoring plan to record and verify sound levels during pile driving, and this information would be made available to the NMFS and other regulatory agencies.

Although the implementation of the described avoidance and minimization measures would reasonably be expected to prevent death or injury, individuals of these species could be exposed to sound levels above the cumulative SEL, experiencing temporary shifts in hearing and behavioral responses. Temporary hearing shifts could decrease feeding success or the ability to avoid predators in affected individuals. Exposure to the sediment plume created during dredging may also have temporary behavioral effects on these species.

If pile-driving or dredging activities occur during the juvenile salmonid migration period (December 1 through May 31 of the following year), temporary adverse effects to steelhead and Chinook salmon may occur. When pile-driving or dredging activities occur between the proposed work window of June 1 to November 30, steelhead and Chinook salmon would likely not be present, and the potential for adverse impact or take of steelhead or Chinook salmon will be eliminated. Green sturgeon, however, occur in the action area year-round, and although the project would not be expected to result in death or injury, the project could have an adverse behavioral effect on individual green sturgeon, regardless of the time of year that pile driving or dredging occurs.

In summary, the project may result in:

- Temporary impacts to individual green sturgeon, primarily through disturbance and habitat avoidance during pile driving and dredging;
- Temporary impacts to individual adult steelhead, primarily through disturbance and habitat avoidance, if pile driving or dredging occurs during their migration;

- Temporary impacts to migrating juvenile steelhead if pile driving or dredging occurs during their migration period; and
- Impacts to migrating juvenile Chinook salmon if pile driving or dredging occurs during their migration period.

8.1.2 Effects on Designated Critical Habitat

The project activities could result in temporary disturbance and impacts to designated critical habitat for steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon. The following impacts to designated critical habitat may occur as a result of the project:

- Localized turbidity from dredging activity;
- Disturbance of benthic habitat and the removal of forage material during dredging activity;
- The installation of overwater structures, causing localized habitat changes associated with underwater structure and a reduction in open-water habitat;
- Fish exposed to prolonged pile driving may experience temporary shifts to hearing thresholds that may reduce foraging success or predator avoidance; and
- Temporary exclusion from occupied habitat resulting from the avoidance of high noise levels generated during pile driving.

Given the wide availability of similar suitable designated critical habitat in the project vicinity, the temporary loss of habitat associated with noise-avoidance behavior would be minimal, and is not likely to adversely modify critical habitat for these species. Implementing the proposed avoidance and minimization measures described in Section 2.6 would further reduce the potential for temporary habitat impacts associated with the release of sediment or hazardous materials.

The impacts on species and habitats protected under the ESA are summarized in Table 11.

8.1.3 Potential Effects to Essential Fish Habitat

The placement of structures and dredging activity associated with the project may affect EFH in the following ways:

- Localized and temporary turbidity impacts caused by dredging;
- Disturbance of benthic foraging habitat during dredging;
- Potential temporary exclusion from occupied habitat associated with the avoidance of high noise levels generated during pile driving;
- The installation of overwater structures, causing localized habitat changes associated with underwater structure and a reduction in open-water habitat;
- Fish exposed to prolonged pile driving may experience temporary shifts to hearing thresholds that may reduce foraging success or predator avoidance;
- If pile driving occurs during the migration period for Chinook salmon, noise avoidance could alter migration behavior.

Table 11
Summary of Effects for Federally Listed Species and Critical Habitat

Species	Permanent Impacts	Death or Injury	Temporary Effects
Steelhead	No	Potential injury or mortality from noise – not likely	Temporary effects on hearing, potential loss of foraging habitat during out-migration, exposure to dredging plume
Steelhead, critical habitat	No	N/A	Potential partial migration barrier due to noise avoidance
Sacramento winter-run Chinook	No	Potential injury or mortality from noise – not likely	Temporary effects on hearing, potential loss of foraging habitat during out-migration, exposure to dredging plume
Sacramento winter-run Chinook, critical habitat	No	N/A	Potential partial migration barrier due to noise avoidance
Central Valley spring-run Chinook	No	Potential injury or mortality from noise – not likely	Temporary effects on hearing, potential loss of foraging habitat during out-migration, exposure to dredging plume
Green sturgeon, Southern DPS	No	Potential injury or mortality from noise – not likely	Temporary effects on hearing, likely loss of foraging habitat, exposure to dredging plume
Green sturgeon, Southern DPS, critical habitat	No	N/A	Potential exclusion due to noise avoidance

Notes:
DPS = Distinct Population Segment
N/A = Not applicable

Given the wide availability of similar EFH in the project vicinity, the temporary loss of habitat associated with pile driving and dredging would have a minimal effect on EFH. Implementing the proposed avoidance and minimization measures described in Section 2.6 would further reduce the potential for temporary habitat impacts associated with the release of sediment or hazardous materials.

8.1.4 Interrelated and Interdependent Effects

The project does not have any potential interrelated or interdependent effects on listed species, designated critical habitat, or EFH. The project is to support existing and future planned water transit services operated by WETA and WETA's emergency operations. The project is part of an overall program that includes development of new or improvement of existing ferry terminals; however, there are no other specific planned developments that rely on completion of this project for justification.

8.1.5 Cumulative Effects

The only projected projects that may result in cumulative effects involve expansion and construction in the downtown San Francisco waterfront. Such actions would include pile and float replacement, maintenance dredging, and the installation of docks or navigational aids. Most of these actions would have temporary effects and are not expected to produce cumulative effects on listed species or EFH. Although project dredging would add to current dredging operations near the downtown San Francisco waterfront, cumulative effects from dredging would be in a limited area for a short duration.

8.2 DETERMINATIONS

As described in Sections 2.6, 2.7, and 2.8, general and specific conservation measures are proposed that would avoid and minimize, to the maximum extent practicable, the project's potential impacts to steelhead, critical habitat for steelhead, Chinook salmon, critical habitat for Sacramento River winter-run Chinook salmon, green sturgeon, critical habitat for green sturgeon, and EFH for a variety of MSA-managed species.

Given implementation of these measures, the FTA has determined and WETA supports the determination that the proposed project could result in the following:

- If pile-driving and dredging activities occur during the proposed work window between June 1 and November 30, the project ***may affect, but is not likely to adversely affect*** steelhead, Sacramento River winter-run Chinook salmon, and CV spring-run Chinook salmon.

- If pile-driving and dredging activities occur outside of the proposed work window between (i.e., between December 1 and May 31), the project is ***likely to adversely affect*** steelhead, Sacramento River winter-run Chinook salmon, and CV spring-run Chinook salmon.

- Pile-driving and dredging activities for the project, regardless of timing, are ***likely to adversely affect*** green sturgeon.

With regard to designated critical habitat in the action area, FTA has determined and WETA supports the determination that:

- The project does not appreciably diminish the value of designated critical habitat for CCC and CV steelhead. Therefore, the project ***may affect, but is not likely to adversely modify***, the capability of designated critical habitat for CCC and CV steelhead to support the survival and recovery of this species.

- The project does not appreciably diminish the value of designated critical habitat for Sacramento River winter-run Chinook salmon. Therefore, the project ***may affect, but is not likely to adversely modify***, the capability of designated critical habitat for Sacramento River winter-run Chinook salmon to support the survival and recovery of the species.

- The project does not appreciably diminish the value of designated critical habitat for green sturgeon. Therefore, the project ***may affect, but is not likely to adversely modify***, the capability of designated critical habitat for green sturgeon to support the survival and recovery of the species.

With regard to EFH in the action area, FTA has determined and WETA supports the determination that:

- Although short-term and only during construction activities, the project ***may adversely affect*** EFH in the action area through the noise-related impacts and localized increases in turbidity caused by dredging. Expansion of the ferry pier would create underwater structures, permanently altering a very small portion of EFH in the action area. This may increase habitat value for some species of groundfish.

- EFH may be disturbed due to pile-driving and dredging activities, which ***may adversely affect*** EFH for Pacific salmon species.

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Appendix A U.S. Fish and Wildlife Service Species List and Letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

January 25, 2013

Document Number: 130125074159

Norm Ponferrada
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612

Subject: Species List for WETA Downtown San Francisco Ferry Terminal Expansion Project

Dear: Mr. Ponferrada

We are sending this official species list in response to your January 25, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area and also ones that may be affected by projects in the area. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 25, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the Counties and/or
U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 130125074159

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Euphydryas editha bayensis
- bay checkerspot butterfly (T)
- Critical habitat, bay checkerspot butterfly (X)

Haliotes cracherodii
- black abalone (E) (NMFS)

Haliotes sorenseni
- white abalone (E) (NMFS)

Icaricia icarioides missionensis
- mission blue butterfly (E)

Speyeria callippe callippe
- callippe silverspot butterfly (E)

Speyeria zerene myrtleae
- Myrtle's silverspot butterfly (E)

Fish

Acipenser medirostris
- green sturgeon (T) (NMFS)

Eucyclogobius newberryi
- critical habitat, tidewater goby (X)
- tidewater goby (E)

Hypomesus transpacificus
- delta smelt (T)

Oncorhynchus kisutch
- coho salmon - central CA coast (E) (NMFS)
- Critical habitat, coho salmon - central CA coast (X) (NMFS)

Oncorhynchus mykiss
- Central California Coastal steelhead (T) (NMFS)
- Central Valley steelhead (T) (NMFS)
- Critical habitat, Central California coastal steelhead (X) (NMFS)
- Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
- California coastal chinook salmon (T) (NMFS)
- Central Valley spring-run chinook salmon (T) (NMFS)
- Critical habitat, winter-run chinook salmon (X) (NMFS)
- winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii

California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Caretta caretta
loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. agassizi)
green turtle (T) (NMFS)

Dermochelys coriacea
leatherback turtle (E) (NMFS)

Lepidochelys olivacea
olive (=Pacific) ridley sea turtle (T) (NMFS)

Masticophis lateralis euryxanthus
Alameda whipsnake [=striped racer] (T)
Critical habitat, Alameda whipsnake (X)

Thamnophis sirtalis tetrataenia
San Francisco garter snake (E)

Birds

Brachyramphus marmoratus
Critical habitat, marbled murrelet (X)
marbled murrelet (T)

Charadrius alexandrinus nivosus
western snowy plover (T)

Diomedea albatrus
short-tailed albatross (E)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Strix occidentalis caurina
northern spotted owl (T)

Mammals

Arctocephalus townsendi
Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis
sei whale (E) (NMFS)

Balaenoptera musculus
blue whale (E) (NMFS)

Balaenoptera physalus
finback (=fin) whale (E) (NMFS)

Enhydra lutris nereis
southern sea otter (T)

Eubalaena (=Balaena) glacialis
right whale (E) (NMFS)

Eumetopias jubatus
Critical Habitat, Steller (=northern) sea-lion (X) (NMFS)
Steller (=northern) sea-lion (T) (NMFS)

Physeter catodon (=macrocephalus)

sperm whale (E) (NMFS)

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Plants

Arctostaphylos hookeri ssp. ravenii
Presidio (=Raven's) manzanita (E)

Arctostaphylos pallida
pallid manzanita (=Alameda or Oakland Hills manzanita) (T)

Arenaria paludicola
marsh sandwort (E)

Calochortus tiburonensis
Tiburon mariposa lily (T)

Castilleja affinis ssp. neglecta
Tiburon paintbrush (E)

Chorizanthe robusta var. robusta
robust spineflower (E)

Clarkia franciscana
Presidio clarkia (E)

Hesperolinon congestum
Marin dwarf-flax (=western flax) (T)

Holocarpha macradenia
Critical habitat, Santa Cruz tarplant (X)
Santa Cruz tarplant (T)

Layia carnosa
beach layia (E)

Lessingia germanorum
San Francisco lessingia (E)

Pentachaeta bellidiflora
white-rayed pentachaeta (E)

Streptanthus niger
Tiburon jewelflower (E)

Suaeda californica
California sea blite (E)

Trifolium amoenum
showy Indian clover (E)

Proposed Species

Plants

Arctostaphylos Franciscana
Critical Habitat, Franciscan Manzanita (X)

Quads Containing Listed, Proposed or Candidate Species:

HUNTERS POINT (448A)

SAN FRANCISCO SOUTH (448B)

RICHMOND (466A)

SAN QUENTIN (466B)

SAN FRANCISCO NORTH (466C)

OAKLAND WEST (466D)

SAN RAFAEL (467A)

POINT BONITA (467D)

County Lists

No county species lists requested.

Key:

(E) Endangered - Listed as being in danger of extinction.

(T) Threatened - Listed as likely to become endangered within the foreseeable future.

(P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.

(C) Candidate - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) Critical Habitat designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of

1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern.

However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 25, 2013.

Appendix B CNDDB RareFind 3 Occurrence Record

California Department of Fish and Game
Natural Diversity Database
Downtown San Francisco Ferry Terminal Expansion Project
San Francisco South, San Francisco North, San Rafael, San Quentin, Richmond, Point Bonita, Oakland West, Hunters Point

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	Accipiter cooperii Cooper's hawk	ABNKC12040			G5	S3	
2	Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	SC
3	Amorpha californica var. napensis Napa false indigo	PDFAB08012			G4T2	S2.2	1B.2
4	Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070			G2?	S2?	1B.2
5	Antrozous pallidus pallid bat	AMACC10010			G5	S3	SC
6	Archoplites interruptus Sacramento perch	AFCQB07010			G3	S1	SC
7	Arctostaphylos franciscana Franciscan manzanita	PDERI040J3			G1	S1	1B.1
8	Arctostaphylos imbricata San Bruno Mountain manzanita	PDERI040L0		Endangered	G1	S1	1B.1
9	Arctostaphylos montana ssp. montana Mt. Tamalpais manzanita	PDERI040J5			G3T2	S2.2	1B.3
10	Arctostaphylos montana ssp. ravenii Presidio manzanita	PDERI040J2	Endangered	Endangered	G3T1	S1	1B.1
11	Arctostaphylos montaraensis Montara manzanita	PDERI042W0			G2	S2.2	1B.2
12	Arctostaphylos pacifica Pacific manzanita	PDERI040Z0		Endangered	G1	S1	1B.2
13	Arctostaphylos pallida pallid manzanita	PDERI04110	Threatened	Endangered	G1	S1	1B.1
14	Arctostaphylos virgata Marin manzanita	PDERI041K0			G2	S2.2	1B.2
15	Ardea alba great egret	ABNGA04040			G5	S4	
16	Ardea herodias great blue heron	ABNGA04010			G5	S4	
17	Arenaria paludicola marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
18	Asio flammeus short-eared owl	ABNSB13040			G5	S3	SC
19	Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1			G2T2	S2	1B.2
20	Athene cunicularia burrowing owl	ABNSB10010			G4	S2	SC
21	Atriplex joaquinana San Joaquin spearscale	PDCHE041F3			G2	S2	1B.2
22	Banksula incredula incredible harvestman	ILARA14100			G1	S1	
23	Caecidotea tomalensis Tomales isopod	ICMAL01220			G2	S2	

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24	California macrophylla round-leaved filaree	PDGER01070			G2	S2	1B.1
25	Callophrys mossii bayensis San Bruno elfin butterfly	IILEPE2202	Endangered		G4T1	S1	
26	Calochortus tiburonensis Tiburon mariposa-lily	PMLIL0D1C0	Threatened	Threatened	G1	S1	1B.1
27	Calystegia purpurata ssp. saxicola coastal bluff morning-glory	PDCON040D2			G4T2	S2.2	1B.2
28	Carex comosa bristly sedge	PMCYP032Y0			G5	S2	2.1
29	Castilleja affinis ssp. neglecta Tiburon paintbrush	PDSCR0D013	Endangered	Threatened	G4G5T1	S1	1B.2
30	Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened		G4T3	S2	SC
31	Chloropyron maritimum ssp. palustre Point Reyes bird's-beak	PDSCR0J0C3			G4?T2	S2.2	1B.2
32	Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	PDPGN04081			G2T2	S2.2	1B.2
33	Chorizanthe robusta var. robusta robust spineflower	PDPGN040Q2	Endangered		G2T1	S1	1B.1
34	Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101			G5T2	S1	
35	Circus cyaneus northern harrier	ABNKC11010			G5	S3	SC
36	Cirsium andrewsii Franciscan thistle	PDAST2E050			G2	S2.2	1B.2
37	Cirsium hydrophilum var. vaseyi Mt. Tamalpais thistle	PDAST2E1G2			G2T2	S2	1B.2
38	Cirsium occidentale var. compactum compact cobwebby thistle	PDAST2E1Z1			G3G4T2	S2.1	1B.2
39	Clarkia franciscana Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1	1B.1
40	Coastal Brackish Marsh	CTT52200CA			G2	S2.1	
41	Coastal Terrace Prairie	CTT41100CA			G2	S2.1	
42	Collinsia corymbosa round-headed Chinese-houses	PDSCR0H060			G1	S1	1B.2
43	Collinsia multicolor San Francisco collinsia	PDSCR0H0B0			G2	S2.2	1B.2
44	Corynorhinus townsendii Townsend's big-eared bat	AMACC08010			G4	S2S3	SC
45	Danaus plexippus monarch butterfly	IILEPP2010			G5	S3	
46	Dirca occidentalis western leatherwood	PDTHY03010			G2G3	S2S3	1B.2
47	Dufourea stagei Stage's dufourine bee	IIHYM22010			G1?	S1?	

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
48	Egretta thula snowy egret	ABNGA06030			G5	S4	
49	Elanus leucurus white-tailed kite	ABNKC06010			G5	S3	
50	Emys marmorata western pond turtle	ARAAD02030			G3G4	S3	SC
51	Enhydra lutris nereis southern sea otter	AMAJF09012	Threatened		G4T2	S2	
52	Eriogonum luteolum var. caninum Tiburon buckwheat	PDPGN083S1			G5T2	S2	1B.2
53	Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered		G3	S2S3	SC
54	Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened		G5T1	S1	
55	Fissidens pauperculus minute pocket moss	NBMUS2W0U0			G3?	S1	1B.2
56	Fritillaria lanceolata var. tristulis Marin checker lily	PMLIL0V0P1			G5T1	S1.1	1B.1
57	Fritillaria liliacea fragrant fritillary	PMLIL0V0C0			G2	S2	1B.2
58	Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A			G5T2	S2	SC
59	Gilia capitata ssp. chamissonis blue coast gilia	PDPLM040B3			G5T2	S2.1	1B.1
60	Gilia millefoliata dark-eyed gilia	PDPLM04130			G2	S2.2	1B.2
61	Grindelia hirsutula var. maritima San Francisco gumplant	PDAST470D3			G5T1Q	S1	3.2
62	Helianthella castanea Diablo helianthella	PDAST4M020			G2	S2	1B.2
63	Helminthoglypta nickliniana bridgesi Bridges' coast range shoulderband	IMGASC2362			G2T1	S1	
64	Hemizonia congesta ssp. congesta white seaside tarplant	PDAST4R065			G5T2T3	S2S3	1B.2
65	Hesperevax sparsiflora var. brevifolia short-leaved evax	PDASTE5011			G4T2T3	S2S3	1B.2
66	Hesperolinon congestum Marin western flax	PDLIN01060	Threatened	Threatened	G2	S2	1B.1
67	Hoita strobilina Loma Prieta hoita	PDFAB5Z030			G2	S2	1B.1
68	Holocarpha macradenia Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
69	Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043			G4T1	S1.1	1B.1
70	Horkelia tenuiloba thin-lobed horkelia	PDROS0W0E0			G2	S2.2	1B.2

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
71	Hydroporus leechi Leech's skyline diving beetle	IICOL55040			G1?	S1?	
72	Hydroprogne caspia Caspian tern	ABNNM08020			G5	S4	
73	Ischnura gemina San Francisco forktail damselfly	IIODO72010			G2	S2	
74	Kopsiopsis hookeri small groundcone	PDORO01010			G5	S1S2	2.3
75	Lasionycteris noctivagans silver-haired bat	AMACC02010			G5	S3S4	
76	Lasiurus blossevillii western red bat	AMACC05060			G5	S3?	SC
77	Lasiurus cinereus hoary bat	AMACC05030			G5	S4?	
78	Laterallus jamaicensis coturniculus California black rail	ABNME03041		Threatened	G4T1	S1	
79	Layia carnosa beach layia	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
80	Leptosiphon rosaceus rose leptosiphon	PDPLM09180			G1	S1.1	1B.1
81	Lessingia germanorum San Francisco lessingia	PDAST5S010	Endangered	Endangered	G1	S1	1B.1
82	Lessingia micradenia var. micradenia Tamalpais lessingia	PDAST5S063			G2T1	S1.1	1B.2
83	Lichnanthe ursina bumblebee scarab beetle	IICOL67020			G2	S2	
84	Malacothamnus arcuatus arcuate bush-mallow	PDMAL0Q0E0			G2Q	S2.2	1B.2
85	Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
86	Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S			G5T2?	S2?	SC
87	Melospiza melodia samuelis San Pablo song sparrow	ABPBXA301W			G5T2?	S2?	SC
88	Microcina leei Lee's micro-blind harvestman	ILARA47040			G1	S1	
89	Microcina tiburona Tiburon micro-blind harvestman	ILARA47060			G1	S1	
90	Microseris paludosa marsh microseris	PDAST6E0D0			G2	S2.2	1B.2
91	Microtus californicus sanpabloensis San Pablo vole	AMAFF11034			G5T1T2	S1S2	SC
92	Mylopharodon conocephalus hardhead	AFCJB25010			G3	S3	SC
93	Navarretia rosulata Marin County navarretia	PDPLM0C0Z0			G2?	S2?	1B.2

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
94	Northern Coastal Salt Marsh	CTT52110CA			G3	S3.2	
95	Northern Maritime Chaparral	CTT37C10CA			G1	S1.2	
96	Nycticorax nycticorax black-crowned night heron	ABNGA11010			G5	S3	
97	Nyctinomops macrotis big free-tailed bat	AMACD04020			G5	S2	SC
98	Oncorhynchus kisutch coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G4	S2?	
99	Pentachaeta bellidiflora white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
100	Phalacrocorax auritus double-crested cormorant	ABNFD01020			G5	S3	
101	Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	PDBOR0V061			G3T2Q	S2.2	1B.2
102	Plagiobothrys diffusus San Francisco popcornflower	PDBOR0V080		Endangered	G1Q	S1	1B.1
103	Plagiobothrys glaber hairless popcornflower	PDBOR0V0B0			GH	SH	1A
104	Plebejus icarioides missionensis Mission blue butterfly	IILEPG801A	Endangered		G5T1	S1	
105	Pleuropogon hooverianus North Coast semaphore grass	PMPOA4Y070		Threatened	G2	S2	1B.1
106	Polemonium carneum Oregon polemonium	PDPLM0E050			G4	S1	2.2
107	Polygonum marinense Marin knotweed	PDPGN0L1C0			G1Q	S1.1	3.1
108	Pomatiopsis binneyi robust walker	IMGASJ9010			G1	S1	
109	Quercus parvula var. tamalpaisensis Tamalpais oak	PDFAG051Q3			G4T1	S1.3	1B.3
110	Rallus longirostris obsoletus California clapper rail	ABNME05016	Endangered	Endangered	G5T1	S1	
111	Rana boylii foothill yellow-legged frog	AAABH01050			G3	S2S3	SC
112	Rana draytonii California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3	SC
113	Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	
114	Riparia riparia bank swallow	ABPAU08010		Threatened	G5	S2S3	
115	Sanicula maritima adobe sanicle	PDAPI1Z0D0		Rare	G2	S2.2	1B.1
116	Scapanus latimanus insularis Angel Island mole	AMABB02032			G5T1	S1	
117	Scapanus latimanus parvus Alameda Island mole	AMABB02031			G5T1Q	S1	SC

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
118	Serpentine Bunchgrass	CTT42130CA			G2	S2.2	
119	Sidalcea calycosa ssp. rhizomata Point Reyes checkerbloom	PDMAL11012			G5T2	S2.2	1B.2
120	Sidalcea hickmanii ssp. viridis Marin checkerbloom	PDMAL110A4			G3T2	S2.2?	1B.3
121	Silene verecunda ssp. verecunda San Francisco campion	PDCAR0U213			G5T2	S2.2	1B.2
122	Sorex vagrans halicoetes salt-marsh wandering shrew	AMABA01071			G5T1	S1	SC
123	Speyeria callippe callippe callippe silverspot butterfly	IILEPJ6091	Endangered		G5T1	S1	
124	Stebbinsoseris decipiens Santa Cruz microseris	PDAST6E050			G2	S2.2	1B.2
125	Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2S3	
126	Streptanthus batrachopus Tamalpais jewel-flower	PDBRA2G050			G1	S1.2	1B.3
127	Streptanthus glandulosus ssp. niger Tiburon jewel-flower	PDBRA2G0T0	Endangered	Endangered	G4T1	S1	1B.1
128	Streptanthus glandulosus ssp. pulchellus Mount Tamalpais bristly jewel-flower	PDBRA2G0J2			G4T1	S1.2	1B.2
129	Suaeda californica California seablite	PDCHE0P020	Endangered		G1	S1	1B.1
130	Symphyotrichum lentum Suisun Marsh aster	PDASTE8470			G2	S2	1B.2
131	Taxidea taxus American badger	AMAJF04010			G5	S4	SC
132	Thamnophis sirtalis tetrataenia San Francisco garter snake	ARADB3613B	Endangered	Endangered	G5T2	S2	
133	Trachusa gummifera San Francisco Bay Area leaf-cutter bee	IIHYM80010			G1	S1	
134	Trifolium amoenum showy rancheria clover	PDFAB40040	Endangered		G1	S1	1B.1
135	Trifolium hydrophilum saline clover	PDFAB400R5			G2	S2	1B.2
136	Triphysaria floribunda San Francisco owl's-clover	PDSCR2T010			G2	S2.2	1B.2
137	Triquetrella californica coastal triquetrella	NBMUS7S010			G1	S1	1B.2
138	Tryonia imitator mimic tryonia (=California brackishwater snail)	IMGASJ7040			G2G3	S2S3	
139	Valley Needlegrass Grassland	CTT42110CA			G3	S3.1	
140	Vespericola marinensis Marin hesperian	IMGASA4140			G2G3	S2S3	
141	Xanthocephalus xanthocephalus yellow-headed blackbird	ABPBXB3010			G5	S3S4	SC

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
142	Zapus trinotatus orarius Point Reyes jumping mouse	AMAFH01031			G5T1T3Q	S1S3	SC

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

June 30, 2014 **In response refer to:** SWR-2013-9595

Leslie T. Rogers
U.S. Department of Transportation
Federal Transit Administration
Region IX
201 Mission Street, Suite 1650
San Francisco, California 94105

Command Master Chief Klobuchar
U.S. Coast Guard
Sector San Francisco
Yerba Buena Island
San Francisco, California 94130-9309

Lieutenant Colonel John K. Baker
Department of the Army
San Francisco District
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Dear Mr. Rogers, Command Master Chief Klobuchar, and Colonel Baker:

Thank you for the Federal Transit Agency's (FTAs) letter of April 29, 2013, requesting initiation of formal consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), and the Essential Fish Habitat (EFH) provisions of the Magnuson Stevens Fishery Conservation and Management Act (MSA) for the Downtown San Francisco Ferry Terminal Expansion project (Project) located in San Francisco Bay in the City and County of San Francisco, California. The proposed Project involves actions and permits by three Federal Agencies: the FTA, the U.S. Coast Guard (USCG), and the U.S. Army Corps of Engineers (Corps). The FTA is the federal lead agency for the purpose of conducting the Project's section 7 consultation with NMFS. San Francisco Bay Area Water Emergency Transportation Authority (WETA) is the non-federal Project Applicant.

The enclosed biological opinion is based on our review of the above Federal Agencies' proposal to authorize and fund the Applicants' proposal to construct three new gates and overwater berthing facilities and supportive landside improvements, such as additional passenger waiting and queuing area, and circulation improvements at the San Francisco Ferry Terminal. The biological opinion describes NMFS' analysis of the Project's potential effects on Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*), threatened Central Valley (CV) steelhead (*O. mykiss*), threatened CV spring-run Chinook salmon (*O. tshawytscha*), endangered Sacramento River winter-run Chinook salmon (*O. tshawytscha*), threatened southern distinct population segment (DPS) of North American green sturgeon (*Acipenser medirostris*), and designated critical habitat for green sturgeon, CCC steelhead, and winter-run Chinook salmon in accordance with section 7 of the ESA. In the enclosed biological opinion, NMFS concludes the project is not likely to jeopardize the continued existence of these listed salmonid species or green sturgeon. NMFS has also concluded the proposed project is not likely to result in the destruction or adverse modification of the critical habitats described above. However, NMFS anticipates take of green sturgeon will occur during project construction from sound pressure waves associated with pile driving. An incidental take statement which applies to this project with non-discretionary terms and conditions is included with the enclosed biological opinion.

The Biological Opinion will be available through NMFS' Public Consultation Tracking System [https://pcts.nmfs.noaa.gov/pcts-web/homepage.pcts].[1] A complete record of this consultation is on file at the NMFS North-Central Coast Office in Santa Rosa, California.

This letter also transmits NMFS' Essential Fish Habitat (EFH) Conservation Recommendations (Enclosure 2) as required by the Magnuson-Stevens Fisheries Conservation and Management Act (MSA) (16 U.S.C. 1801 *et seq.*). NMFS has reviewed the proposed project for potential effects on EFH and determined that the proposed project would adversely affect EFH for various federally managed fish species under the Pacific Salmon, Coastal Pelagic, and Pacific Groundfish Fishery Management Plans (FMPs). However, the proposed minimization and mitigation measures proposed by the Applicant will adequately address these adverse effects, and therefore, NMFS has no EFH Conservation Recommendations.

Please contact Amanda Morrison at 707-575-6083 or Amanda.Morrison@noaa.gov if you have any questions concerning this section 7 consultation, or if you require additional information.

Sincerely,

for Joyce Anderson

William W. Stelle, Jr.
Regional Administrator

Enclosure

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[1] Once on the PCTS homepage, use the following PCTS tracking number within the Quick Search column: SWR-2013-9595

cc: Alex Smith, Federal Transit Authority, San Francisco, California
Michael Gougherty, Water Emergency Transit Authority, San Francisco, California
Ryan Olah, U.S. Fish and Wildlife Service, Sacramento, California
Copy to file ARN 151422SWR2013SR00132

BIOLOGICAL OPINION

ACTION AGENCY: U.S. Federal Transit Authority, San Francisco
U.S. Coast Guard, San Francisco
U.S. Army Corps of Engineers, San Francisco

ACTION: Downtown San Francisco Ferry Terminal Expansion project, San Francisco, California.

CONSULTATION CONDUCTED BY: National Marine Fisheries Service, West Coast Region

TRACKING NUMBER: SWR-2013-9595

DATE ISSUED: ___June 30, 2014____

1. INTRODUCTION

1.1. Background and Consultation History

Between November 2011, and March 2013, NOAA's National Marine Fisheries Service (NMFS) provided technical and policy assistance to the Federal Transit Authority (FTA) and the San Francisco Bay Area Water Emergency Transportation Authority (WETA) for the preparation of a Draft Environmental Impact Statement (EIS) and Environment Impact Report (EIR) for the Project. During this time, NMFS participated in an initial coordination meeting on December 8, 2011, along with representatives from FTA, WETA, the US Army Corps of Engineers (Corps), Environmental Protection Agency (EPA), Port of San Francisco (Port), California State Lands Commission (CSLC), Bay Area Rapid Transit (BART), San Francisco Bay Conservation and Development Commission (BCDC), US Coast Guard (USCG), and URS, the environmental consultant hired by the Applicant. The purpose of the meeting was to discuss a plan for coordinating public and agency participation and comment during FTA and WETA's preparation of the EIS/EIR. Pursuant to the National Environmental Protection Act (NEPA), NMFS was a Cooperating Agency in the development of the EIS. On December 14, 2012, NMFS provided comments on the Second Administrative Draft EIS/EIR, dated November 2012. On June 4, 2013, WETA provided NMFS a copy of the Draft EIS/EIR, dated June 2013, by mail.

By letter dated April 29, 2013, the FTA requested initiation of formal consultation with NMFS pursuant to section 7 of the ESA and Section 305(b)(4)(B) of the MSA regarding Downtown San Francisco Ferry Terminal Expansion project in Central San Francisco Bay. With the FTA's April 29, 2013, letter requesting consultation, the FTA provided NMFS a Biological Assessment for the Proposed Action, dated April 2013. The FTA determined the proposed project may affect, but is not likely to adversely affect threatened Central California Coast (CCC) steelhead,

threatened Central Valley (CV) steelhead, threatened Central Valley (CV) spring-run Chinook salmon, and endangered Sacramento River winter-run Chinook salmon; and that the project may adversely affect threatened southern DPS green sturgeon. Regarding critical habitat, FTA determined the project is likely to adversely affect, but is not likely to adversely modify designated CCC steelhead, Sacramento winter-run Chinook, and southern DPS green sturgeon critical habitat. Regarding EFH, the FTA determined the Proposed Action may adversely affect EFH for species managed under the Pacific Groundfish Fishery Management Plan (FMP) and the Coastal Pelagic FMP.

By email dated, August 20, 2013, to FTA and WETA, NMFS requested clarification of project elements and additional project information. The Applicant responded to NFMS questions via email on October 28, 2013.

By email dated November 25, 2013, NMFS requested additional information related to the Applicant's pile driving sound analysis, contaminant levels in occurring in sediments within the action area, proposed dredge material disposal locations, sampling of sediments at dredge sites, and the potential compensatory mitigation proposals for shading impacts incurred by the Proposed Action.

By email dated December 12, 2013, WETA provided additional information related to NMFS's request of November 25, 2013. A follow-up conference call on December 19, 2013, among NMFS, WETA, and URS took place to discuss remaining questions and comments related to contaminant levels in the sediment at the proposed dredge sites, potential dredge material disposals sites, testing of sediments by the Applicant at the proposed dredge sites, and compensatory mitigation for impacts to EFH.

By emails dated December 20, 2013, and January 13, 2014, URS provided NMFS with additional information on the anticipated pile driving sound impacts, contaminant levels in sediments in the action area, and potential dredge material disposal locations.

Between January 28 and February 27, 2014, NMFS and WETA exchanged several email conversations regarding the amount and type of compensatory mitigation for impacts to Essential Fish Habitat (EFH).

NMFS contacted WETA on April 29 and April 30, 2014, via phone and email to discuss the potential for the non-native Asian kelp species, *Undaria pinnatifida*, to be spread via ferry vessels transiting the Ferry Terminal. WETA explained that they implement several measures to prevent the spread of non-native organisms via ferry vessels. By email dated, May 1, 2014, WETA provided additional details regarding the type of measures that WETA proposes to implement to prevent the spread of invasive species, such as *Undaria*, via ferry vessels transiting the Ferry Terminal.

On May 22, 2014, via email, NMFS contacted WETA and FTA to request additional information related historical oil or other hazardous material spills at the Ferry Terminal. Representatives from NMFS, WETA, and URS participated in a conference call on May 23, 2014, to discuss the

matter. During this conference call, WETA and URS explained that the majority of spills documented at the Ferry Terminal have been from other operators at the Ferry Terminal. NMFS requested that WETA provide a description of the best management practices that WETA proposes to implement to prevent and respond to spills. By email dated May 29, 2014, WETA provided additional information related to their oil and hazardous material spill prevention and response protocols and best management practices.

1.2. Proposed Action

The FTA proposes to provide funding for the proposed Project. The Corps proposes to issue a permit for the in-water construction activities and an initial dredging episode (29,500-33,000 cubic yards over 3 months) pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Future maintenance dredging at the site would be carried out by the Port of San Francisco or its contractors in accordance with the Port's 10-year maintenance dredging Department of the Army Permit.

The purpose of the project is to support existing and future planned water transit services operated by WETA on San Francisco Bay, as established in its Implementation and Operations Plan (IOP) (WETA 2003) and in accordance with City and County of San Francisco and regional policies to encourage transit use. Furthermore, the project will address deficiencies in the transportation network that impede water transit operations, passenger access, and passenger circulation at the Ferry Terminal. The proposed project includes demolition, removal, repair, and replacement of existing facilities, as well as construction of three new gates and overwater berthing facilities, in addition to supportive landside improvements, such as additional passenger waiting and queuing areas and circulation improvements.

The planned improvements build on improvements that were completed by the Port in 2003 (referred to as Phase I of the Ferry Terminal Expansion Project). This project (referred to as Phase II), which will begin as early as 2014 and be completed by 2020, will consist of demolition of Pier 2, construction of three new ferry gates, installation of amenities such as weather-protected areas for queuing, improvements to pedestrian circulation, and filling of the lagoon for future use as a staging area for evacuees in the event of a major catastrophe. Figures 1 and 2 show the locations of existing and future Ferry Terminal features.

Full build out (Phase III) of the proposed improvements is contingent on potential ridership demand at full build out of the proposed Treasure Island redevelopment. Phase III would involve the replacement of the existing Gate E with a berthing facility that could accommodate two bow loading vessels that would be used for the service to Treasure Island. Phase III would be implemented sometime between 2020 and 2030, once new development on Treasure Island is fully built-out and ridership demand requires the use of larger vessels. WETA and FTA did not include Phase III in their EIS/EIR analysis because they considered it too speculative since future ridership projections can be served with side-loading vessels. Therefore, NMFS did not consider Phase III as part of the proposed action.

1.2.1. In-Water Construction and Demolition

1.2.1.1. Removal of Existing Facilities

The Ferry Terminal can generally be divided into the North Basin (areas north of the Ferry Plaza) and South Basin (areas south of the Ferry Plaza) (see Figure 1). In the South Basin, Pier 2 is approximately 15,200 square feet in area, and consists of deck and pile structures. Pier 2 will be demolished and removed (including approximately 15,200 square feet of existing deck structure), and approximately 5,300 square feet of the existing deck and piles just west of Pier 2 will be removed. Approximately 350 piles will also be removed. The piles to be removed are both wood and concrete and range in size from 12 to 18-inch diameter. Piles will be removed by either pulling the pile or cutting them off at or below the mud line.

Demolition of a total of 20,500 square feet of existing deck and 350 pile structures, as described above, will be conducted from barges. Two barges will be required, one for materials storage and one outfitted with demolition equipment (crane, clamshell bucket for pulling of piles, and excavator for removal of the deck). Demolition activities in the North and South Basin will result in the removal approximately 1,135 square feet of fill.

1.2.1.2. Repairing Existing Facilities

In the North Basin, the existing fenders along the edge of Pier 1 may be removed and replaced with new fenders. During the final design of the project, the existing fenders along the edge of Pier 1 will be inspected to determine whether replacement is necessary. New fenders would be approximately 330 linear feet and consist of square 12-inch wide pressure-treated wood blocks that are connected along the side of the adjacent pier structure, and supported by 33 round 14-inch diameter wood piles that are 64 feet long and placed 10 feet apart.

Also in the North Basin, along the western edge of the new Gate A access pier, where the new pier connects with the Embarcadero Promenade, an 85-foot-long segment of the marginal wharf[1] will be repaired and strengthened to provide a contiguous edge between the new Gate A Access Pier and the Ferry Building Area (see Figure 2). The repair work will involve strengthening the 12 existing piles supporting the deck structure with steel jackets, and the rebuilding of the deck structure. The rebuilt deck structure will be constructed using beams and slabs of concrete. The new decking will be approximately 18 inches above grade to match the grade of the portion of the marginal wharf recently improved by the Port, and will also include new guardrails.

1.2.1.3. Installation of New Facilities.

Three new gates will be constructed: Gate A in the North Basin and Gates F and G in the South Basin (see Figure 2). Each of the three gates will be built similarly, in the locations shown in

[1] A marginal wharf is a wharf that is flush with the adjacent shoreline and made of solid construction (usually a masonry wall), as opposed to an open pile type of construction.

Figure 2. Each gate will be comprised of fixed access piers and berthing structures. Due to its location, Gate A will require the construction of a 30-foot-wide, 265-foot-long pier to provide access to the berthing facilities. The pier structure will be supported by approximately 40 piles (Table 2). The Gate A Access Pier deck will be constructed on the piles, using a system of beam and flat slab concrete construction, similar to existing access piers at the Ferry Terminal. New access piers will not be required for Gates F and G because the new berthing structures for Gates F and G will be connected directly to the East Bayside Promenade. The berthing structures will consist of floats, gangways, guide and dolphin piles (piles with donut-shaped impact resistant foam that rise and fall with the tides), and fenders. The concrete or steel floats will be approximately 45 feet wide by 115 feet long. The steel truss gangways will be approximately 12 to 14 feet wide and 92 feet long. The gangways will be designed to rise and fall with tidal variations. The gangways and the floats will be designed with canopies, consistent with the current design of Gates B and E. Each berthing structure will require guide piles and dolphin piles as described below (Table 2).

In the South Basin, a new Embarcadero Plaza will be created and the East Bayside Promenade will be expanded to improve passenger circulation at the Ferry Plaza (see Figure 2). The Embarcadero Plaza will require new deck and pile construction (Table 2) to fill an open water area (the "lagoon", as depicted in Figure 1) and replace subgrade structures. The East Bayside Promenade to the west of Pier 2 connects the Ferry Building to Pier 2. Approximately 5,300 square feet of the East Bayside Promenade's existing deck and piles will be replaced by new decking for the new Embarcadero Plaza and expansion of the East Bayside Promenade (see Figure 2). Extension of the East Bayside Promenade by approximately 460 feet will provide a 30-foot-wide connection along Gates E, F, and G. The extension of the Promenade would also require installation of piles (Table 2) and new decking for the East Bayside Promenade and Embarcadero Plaza will be concrete, either precast or cast in place (or a combination of the two), and approximately 2.5 feet thick. Approximately 330 linear feet of new fenders will be added along the East Bayside Promenade to protect against collision. The new fenders will have the same design as the replacement fenders that may be installed along Pier 1 (described above). New fenders at the East Bayside Promenade will require the installation of wood piles (Table 2). Also in the South Basin, the South Apron of the Agriculture Building will also be upgraded to temporarily support access for construction and improve passenger circulation.

Overall, the installation and removal of Ferry Terminal features (as described above) will result in a net increase in the amount of shaded area and the amount of solid structure in the Bay (Table 1). The Project will increase shaded area by approximately 39,590 square feet (0.91 acre) and increase the amount of solid structure in the Bay by approximately 345 square feet (0.001 acre) (Table 1).

Table 1. Summary of the change in shaded area and solid structure within the action area as a result of the Project.

Project Elements	Shaded Area			Solid Structure		
	Amount Installed (sq ft)	Amount Removed (sq ft)	Net Change (sq ft)	Amount Installed (sq ft)	Amount Removed (sq ft)	Net Change (sq ft)
NORTH BASIN Gate A float, pier, gangway, and bioretention planter; Pier 1 (removal of fender piles)	15,200	0	15,200	330	35	295
SOUTH BASIN Gate F and Gate G float, piers, gangway, and bioretention planter; Embarcadero Plaza; and East Bayside Promenade	44,890	20,500	24,390	1,150	1100	50
TOTAL PROJECT	**60,090**	**20,500**	**39,590**	**1,480**	**1,135**	**345**

The Project proposes to install 358 piles for the construction of Ferry Terminal features. Two different methods will be used to install new piles in San Francisco Bay: (1) vibratory hammer installation; and (2) impact hammer installation. Table 2 presents the pile types, sizes, and installation methods that will be used to construct the Project. All piles will be installed from a marine derrick barge. Steel and concrete piles will be driven approximately 120 to 140 feet below MLLW. Installation of 24- and 36-inch piles will require up to 1,800 blows from an impact hammer using a DelMag D46-32, or similar diesel hammer, producing approximately 122,000 foot-pounds maximum energy per blow, and 1.5 seconds per blow average. The Applicant expects that up to three of the 24-inch piles will be installed per day, or that two 36-inch piles will be installed per day. Installation of 42-inch diameter piles will require up to 1,800 blows from an impact hammer using a DelMag D62-32 or similar diesel hammer, producing approximately 165,000 foot-pounds maximum energy per blow, and 1.5 seconds per blow average. The Applicant expects that up to two 42-inch piles will be installed per day. The Applicant expects up to six wood piles will be installed per day.

Table 2. Approximate location, size, type, method and number of piles that will be installed for the Proposed Action.

Construction Element	Pile Diameter (inches)	Pile Type	Installation Method	Number of Piles
Pier 1	14	Wood	Impact or Vibratory Driver	33
East Bayside Promenade Fendering	14	Wood	Impact or Vibratory Driver	33
Gate A Access Pier	24 or 36	Concrete or Steel; 135-155 feet in length	Impact or Vibratory Driver	40
Embarcadero Plaza and East Bayside Promenade	24 or 36	Concrete or Steel; 135-155 feet in length	Impact or Vibratory Driver	210
Gates A, F, and G Berthing Structure Dolphin Piles	36	Steel; 135-155 feet in length	Impact or Vibratory Driver	24
Gates A, F, and G Berthing Structure Guide Piles	42	Steel; 140-150 feet in length	Impact or Vibratory Driver	18
Total Number of Piles	--	--	--	**358**

1.2.1.4. Dredging

The side-loading vessels that would be used at Gates A, F, and G will require a depth of 10 feet below MLLW to approach the gates and in the berthing area. The floats will require water depth of 12 feet below MLLW to insure structural stability under the influence of tidal shifts and boat wakes. The most recent available bathymetry survey data for the Ferry Terminal basin shows that existing depths in the berthing areas range from between 8 and 10 feet below MLLW at Gates F and G, and between 7 and 10 feet below MLLW at Gate A (Moffatt & Nichol 2012).

In order to facilitate vessels at the new gates and the new floats, the berthing areas will need to be dredged. The expected initial dredging volumes are presented in Table 3. These estimates are based on dredging the approach areas to 12 feet below MLLW for Gates A, F, and G, and over-dredging by 2 feet. The dredging for Gates A, F and G will take approximately 1 month each.

Table 3. Summary of proposed initial dredging activities.

Location	Area (acre)	Initial Dredge Volume (cubic yards)	Initial Dredge Duration (month)
Gate A	0.9	9,000	1
Gate F	1.29	9,500-11,000	1
Gate G	1.73	11,000-13,000	1
Total for Gates A, F, and G	3.92	29,500-33,000	3

Based on observed patterns of sediment accumulation at the site, WETA anticipates some dredging will likely be required on a regular maintenance cycle beneath the floats at Gates F and G, due to their proximity to the Pier 14 breakwater. It is expected that this minor maintenance dredging will be required at Gates F and G every 3 to 4 years, and will require removal of approximately 5,000 to 10,000 cubic yards of material (between Gates F and G combined). It is not anticipated that a regular maintenance cycle of dredging will be required at Gate A. The expected maintenance dredging volumes are presented in Table 4. These estimates are based on maintaining depths of -12 feet MLLW at Gates F, and G, with over-dredging by 2 feet. Maintenance dredging at Gates F and G will take less than one 1 month at each site.

Table 4. Summary of proposed maintenance dredging.

Location	Maintenance Dredge Volume (cubic yards)	Maintenance Dredge Frequency (years)
Gate F	5,000-10,000 (Gates F and G combined)	3-4
Gate G		3-4
Total for Gates F and G	5,000-10,000	3-4

Dredging and disposal of dredged materials will be conducted in cooperation with the DMMO, to comply with the requirements of the permits from the Corps. Requirements of the Corps dredging permits include development of a sampling plan, sediment characterization, a sediment removal plan, and disposal in accordance with the LTMS for San Francisco Bay to ensure beneficial reuse, as appropriate. The potential alternatives for placement of dredged materials include disposal at SF-DODS, disposal at an upland facility, or placement at a permitted beneficial reuse site.

1.2.2. Operations

The Ferry Terminal currently serves approximately 11,200 average weekday passengers on six water transit routes, with approximately 21 AM peak-period vessel arrivals each weekday. Of this total, the three routes operated by WETA currently serve approximately 5,100 average weekday passengers, and account for 28 AM and PM peak-period vessel arrivals.

As described in WETA's approved IOP and Program EIR for the IOP, water transit service is planned to expand on San Francisco Bay (WTA 2003). WETA plans to add up to seven routes from the Ferry Building (Downtown San Francisco to Antioch, Berkeley, Martinez, Hercules, Redwood City, Richmond, and Treasure Island). Based on the existing and new water transit services that would be operated by WETA, ridership on WETA services is projected to increase from the current ridership level of 5,100 passengers per weekday to 25,700 passengers per weekday by 2035; total AM and PM peak-period Ferry Terminal vessel arrivals are anticipated to increase from 28 vessel arrivals to approximately 104 to 138 (see Table 5), with approximately 181 total vessel arrivals per weekday.

The Ferry Terminal only serves as a passenger loading and offloading facility. Refueling and servicing of vessels will occur offsite at the Vallejo-Baylink Ferry Maintenance Facility or the Central Bay Operations and Maintenance Facility. The potential impacts of construction and operation of the Vallejo and the Central Bay facilities were assessed by NMFS during formal Section 7 consultations on April 10, 2012 and October 31, 2012, respectively. These impacts are described below in the Environmental Baseline (Section 2.3).

Table 5. Existing and estimated future vessel traffic of WETA vessels in San Francisco Bay.

Route	Operator	Current AM and PM Peak Arrivals[2]	Estimated 2035 AM and PM Peak Arrivals
Existing Routes			
Alameda Harbor Bay-San Francisco	WETA	6	10
Alameda/Oakland-San Francisco	WETA	6	20
Vallejo-San Francisco	WETA	8	10
Tiburon-San Francisco	Blue & Gold Fleet[1]	8	8-10
Proposed New Routes			
Berkeley-San Francisco	WETA	0	10
Hercules-San Francisco	WETA	0	4-6
Treasure Island-San Francisco	WETA	0	20
Richmond-San Francisco	WETA	0	10
Martinez-San Francisco	WETA	0	4-6
Antioch-San Francisco	WETA	0	4-6
Redwood City-San Francisco	WETA	0	4-6
TOTAL VESSEL ARRIVALS AT WETA BERTHS	WETA and Blue and Gold Fleet	28	104-138

[1]The Blue & Gold Fleet service to Tiburon is included in the totals presented for "WETA services" because the Blue & Gold Fleet service to Tiburon shares Gate B with WETA.

[2] AM peak period reflects Weekday AM peak from approximately 6:30 AM-9 AM. The PM peak period reflects Weekday PM peak from approximately 4:00 PM to 6:30 PM.

1.2.3. Mitigation Actions

WETA proposes to offset the new shaded area and solid structure (i.e., fill) in San Francisco Bay created by the proposed project improvements by removing fill elsewhere in San Francisco Bay. Sites that would be considered for fill removal include dilapidated piers, wharfs, and remnant pilings that were constructed with creosote treated wood and have no current maritime uses. WETA proposes a mitigation ratio of 1:1 if the mitigation action is located within Central San Francisco Bay and is in-kind open-water enhancement (i.e. removal of existing shading). The mitigation ratio will be 2:1 if the mitigation action is located outside Central San Francisco Bay and is in-kind open-water enhancement. If the mitigation action is within Central San Francisco Bay, but out-of-kind habitat enhancement, the mitigation will be 2:1. This mitigation would be funded prior to completion of construction of the project. The final details on fill removal location, amount and approval will be coordinated between the WETA, NMFS, BCDC and other concerned agencies. The mitigation will likely be part of an ongoing restoration project that has already been consulted on by NMFS.

1.2.4. Measures to Protect Listed Species and Critical Habitat

The Project proposes to implement several measures related to the control and containment of construction-related contaminants, noise, sound, and turbidity. The following measures would be implemented:

- A Spill Prevention Control and Countermeasure (SPCC) plan will be prepared to address the emergency cleanup of any hazardous material, and will be available on site. The SPCC plan will incorporate SPCC, hazardous waste, stormwater, and other emergency planning requirements. In addition, the project will comply with the Port of San Francisco's stormwater regulations. Fueling of land and marine-based equipment will be conducted in accordance with procedures outlined in the SPCC.

- Well-maintained equipment will be used to perform work, and except in the case of a failure or breakdown, equipment maintenance will be performed off site. Equipment will be inspected daily by the operator for leaks or spills. If leaks or spills are encountered, the source of the leak will be identified, leaked material will be cleaned up, and the cleaning materials will be collected and properly disposed.

- Fresh cement or concrete will not be allowed to enter San Francisco Bay.

- All construction materials, wastes, debris, sediment, rubbish, trash, fencing, etc., will be removed from the site once project construction is complete, and transported to an authorized disposal area.

- All piling installation and dredging will be conducted between June 1 and November 30.

- When feasible, vibratory hammers will be used to drive piles to reduce noise impacts.

- Piles driven with an impact hammer will employ a "soft start" technique to give fish an opportunity to move out of the area before full-powered impact pile driving begins. Impact hammers will be cushioned using a 12-inch-thick wood cushion block. Only a single impact hammer will be operated at a time. During impact pile driving of steel piles the Applicant will use a bubble curtain or other attenuation device (e.g., cofferdam) to attenuate underwater sound levels.

- WETA will develop a sound monitoring plan in consultation with NMFS, prior to the start of construction. This plan will provide details on the methods used to monitor and verify sound levels during pile-driving activities. The sound monitoring results will be made available to NMFS.

- An NMFS-approved biological monitor will monitor the installation of at least 10 percent of the 24- to 42-inch diameter steel piles that will be installed by impact hammer.

- Piles will be removed by direct pull or vibratory extraction. If the pile cannot be removed, the pile will be cut at or below the mudline. Specific requirements for cutoff will be determined on a case-by-case basis through coordination among the Applicant, NMFS, and other agencies (i.e., RWQCB and BCDC) and considering the mud line elevation and the presence of contaminants in the sediment.

- Sediment disturbance during the removal of dilapidated piers, wharfs, and pilings will be minimized using a floating boom around the work area to contain and capture debris; and absorbent pads will be available and used in the event that a petroleum sheen develops during removal of the structures.

- WETA will prepare a sampling and analysis plan in accordance with U.S. EPA guidance to characterize the material to be dredged. The plan will describe sampling that will be conducted, and quality assurance procedures that will be implemented, to ensure the collection of data of appropriate quality to support a decision regarding a suitable disposal method. The plan, which will be reviewed by all participating DMMO agencies, including NMFS, must be approved by the DMMO. WETA will sample the sediments in accordance with the approved sampling and analysis plan, and submit a report to the DMMO documenting the sampling event.

- The smallest possible dredge head (5-10 cubic yards) will be used to reduce the likelihood of fish becoming entrained in the mechanical dredge.

- To minimize the spread of invasive species, including *Undaria pinnatifida*, WETA dry-docks their vessels every year for hull cleaning and refinishing with an EPA-approved anti-fouling finish. All hull cleaning is done out of water.

- To prevent the discharge of oil or other hazardous materials during the operation of WETA vessels and equipment, WETA will comply with all Federal, State, and Local laws and regulations concerning the handling of hazardous materials; fuel and service vessels off-site; locate all vessel tanks and plumbing within hulls which provide secondary containment; avoid discharging contaminated bilge water from vessels; and provides full containment systems for hydraulic lifts on WETA boarding ramps (gangways) and use non-petroleum biodegradable hydraulic fluid. WETA will implement a comprehensive spill response plan to respond to oil or other hazardous materials entering surrounding waters from the operation of WETA vessels or equipment.

1.3. Action Area

The action area is defined as all areas affected directly or indirectly by the Federal action and not merely the immediate area involved (50 CFR 402.02). The Project consists of approximately 7.1 acres of waterside space in Central San Francisco Bay where Ferry Terminal upgrades will be constructed, a 3.92 acre nearshore area to be dredged, and the dredge material disposal site. Dredged materials will be transported by barge for disposal at SF-DODS, an upland facility, or a permitted beneficial reuse site, depending upon the chemical constituents contained in dredged

material. SF-DODS is located approximately 50 miles outside the Golden Gate in water depths of approximately 10,000 feet. At this time, permitted beneficial reuse sites in the Bay include the Cullinan Ranch Tidal Restoration Project and the Montezuma Wetlands Restoration Project. Beneficial reuse sites that are in the planning stages and may be permitted for use in the future include Bel Marin Keys (Unit V), the South Bay Salt Ponds Restoration Project, and Alameda Point. The San Francisco Bay portion of the action area includes areas that will be affected by noise and turbidity during construction, dredging, and future operations. The area in San Francisco Bay which will be subject to sound levels that could result in behavioral responses, injury, or mortality of listed fish (i.e., in excess of 150 dB root-mean-square pressure (RMS) or 206 dB peak sound pressure level for any single strike, and/or accumulated sound exposure level [SEL] of 187 dB referenced to one micropascal, as described in the effects section below) is presented in Figure 3. The action area also includes: 1) the area where fill will be removed according to the mitigation actions described above in section 1.2.3 of this Biological Opinion, and 2) the areas where Ferry boats will be fueled and maintained—the Vallejo-Baylink Ferry Maintenance Facility or the Central Bay Operations and Maintenance Facility.

2. ENDANGERED SPECIES ACT: BIOLOGICAL OPINION AND INCIDENTAL TAKE STATEMENT

2.1. Analytical Framework

This biological opinion includes both a jeopardy analysis and an adverse modification analysis. The jeopardy analysis relies upon the regulatory definition of “to jeopardize the continued existence of a listed species,” which is “to engage in an action that would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species” (50 CFR 402.02). Therefore, the jeopardy analysis considers both survival and recovery of the species.

The adverse modification analysis considers the impacts on the conservation value of designated critical habitat. This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 C.F.R. 402.02, which was invalidated by *Gifford Pinchot Task Force v. USFWS*, 378 F.3d 1059 (9th Cir. 2004), amended by 387 F.3d 968 (9th Cir. 2004). Instead, we have relied upon the statutory provisions of the ESA to complete the following analysis with respect to critical habitat.

2.1.1. Jeopardy Analysis

In accordance with policy and regulation, the jeopardy analysis in this biological opinion has four components: (1) the Status of the Species, which evaluates the range-wide conditions, the factors responsible for that condition, and the species’ likelihood of both survival and recovery for the California Central Coast (CCC) steelhead distinct population segment (DPS), Central Valley (CV) steelhead DPS, CV spring-run Chinook salmon evolutionarily significant unit (ESU), Sacramento River winter-run Chinook salmon ESU, and southern DPS of North American green sturgeon; (2) the Environmental Baseline, which evaluates the condition of these

listed species in the action area, the factors responsible for that condition, and the relationship of the action area to the likelihood of both survival and recovery of these listed species; (3) the Effects of the Action, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on these species in the action area; and (4) Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on these species.

The jeopardy determination is made by adding the effects of the proposed Federal action and any Cumulative Effects to the Environmental Baseline and then determining if the resulting changes in species status in the action area are likely to cause an appreciable reduction in the likelihood of both the survival and recovery of this listed species in the wild.

The jeopardy analysis in this biological opinion places an emphasis on the range-wide likelihood of both survival and recovery of this listed species and the role of the action area in the survival and recovery of these listed species. The significance of the effects of the proposed Federal action is considered in this context, taken together with cumulative effects, for purposes of making the jeopardy determination. We use a hierarchical approach that focuses first on whether or not the effects on listed fish in the action area will impact their respective population. If the population will be impacted, we assess whether this impact is likely to affect the ability of the population to support the survival and recovery of the DPS or ESU.

2.1.2. Adverse Modification Analysis

The adverse modification analysis in this biological opinion relies on four components: (1) the Status of Critical Habitat, which evaluates the range-wide and watershed-wide condition of critical habitat for the CCC steelhead DPS, Sacramento River winter-run Chinook salmon ESU, and southern DPS of North American green sturgeon in terms of primary constituent elements (PCEs – sites for spawning, rearing, and migration) or physical and biological features, the factors responsible for that condition, and the resulting conservation value of the critical habitat overall; (2) the Environmental Baseline, which evaluates the condition of critical habitat in the action area, the factors responsible for that condition, and the conservation value of critical habitat in the action area; (3) the Effects of the Action, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the PCEs and physical and biological features in the action area and how that will influence the conservation value of affected critical habitat units; and (4) Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on the PCEs and physical and biological features, and how that will influence the conservation value of affected critical habitat units.

For purposes of the adverse modification determination, we add the effects of the proposed Federal action on CCC steelhead, Sacramento River winter-run Chinook salmon, and North American green sturgeon critical habitat in the action area, and any Cumulative Effects, to the Environmental Baseline and then determine if the resulting changes to the conservation value of critical habitat in the action area are likely to cause an appreciable reduction in the conservation value of critical habitat range-wide. If the proposed action will negatively affect PCEs of critical

habitat in the action area, we then assess whether or not this reduction will impact the value of the DPS or ESU critical habitat designation as a whole.

2.1.3. Use of Best Available Scientific and Commercial Information

To conduct the assessment, NMFS examined an extensive amount of information from a variety of sources. Detailed background information on the biology and status of the listed species and critical habitat has been published in a number of documents including peer reviewed scientific journals, primary reference materials, and governmental and non-governmental reports. Additional information regarding the effects of the Project's actions on the listed species in question, their anticipated response to these actions, and the environmental consequences of the actions as a whole was formulated from the aforementioned resources, and the following:

- Biological Assessment- Downtown San Francisco Ferry Terminal Expansion Project, Prepared by URS Corporation, and dated April 2013;

- Draft Environmental Impact Statement (EIS)/Draft EIR for the Downtown San Francisco Ferry Terminal Expansion Project, prepared by URS, and dated June 2013;

- A Strategy to Improve Public Transit with and Environmentally Friendly Ferry System, the Final Implementation & Operations Plan, prepared by the San Francisco Bay Area Water Transit Authority, and dated July 2003; and

- Final Program EIR for the Expansion of Ferry Transit Service in the San Francisco Bay Area, prepared by URS Corporation, and dated June 2003.

Information was also provided in emails messages and telephone conversations between December 2011 and February 2014. For information that has been taken directly from published, citable documents, those citations have been referenced in the text and listed at the end of this document. A complete administrative record of this consultation is on file at the NMFS North-Central Coast Office (Administrative Record Number 151422SWR2013SR000132).

2.2. Status of the Species and Critical Habitat

This biological opinion analyzes the effects of the proposed Downtown San Francisco Ferry Terminal Expansion project on the following Federally-listed species (DPS or ESU) and designated critical habitats:

Central California Coast steelhead (*Oncorhynchus mykiss*) DPS
Threatened (71 FR 834; January 5, 2006)
Critical habitat (70 FR 52488; September 2, 2005);
Central Valley steelhead (*O. mykiss*) DPS
Threatened (71 FR 834; January 5, 2006);

Central Valley Spring-run Chinook salmon (*O. tshawytscha*) ESU
Threatened (70 FR 37160; June 28, 2005);
Sacramento River Winter-run Chinook salmon (*O. tshawytscha*) ESU
Endangered (70 FR 37160; June 28, 2005;)
Critical habitat (58 FR 33212; June 16, 1993); and
North American Green Sturgeon (*Acipenser medirostris*) southern DPS
Threatened (71 FR 17757; April 7, 2006)
Critical habitat (74 FR 52300; September 8, 2008).

Critical habitat for CV steelhead and CV spring-run Chinook salmon is not present in the action area.

2.2.1. Species Description, Life History, and Status

In this opinion, NMFS assesses four population viability parameters to help us understand the status of CCC steelhead, CV steelhead, CV spring-run Chinook salmon, Sacramento River winter-run Chinook salmon, and southern DPS green sturgeon and their populations' ability to survive and recover. These population viability parameters are: abundance, population growth rate, spatial structure, and diversity (McElhany *et al.* 2000). NMFS has used existing information to determine the general condition of each population and factors responsible for the current status of each DPS or ESU.

We use these population viability parameters as surrogates for numbers, reproduction, and distribution, the criteria found within the regulatory definition of jeopardy (50 CFR 402.02). For example, the first three parameters are used as surrogates for numbers, reproduction, and distribution. We relate the fourth parameter, diversity, to all three regulatory criteria. Numbers, reproduction, and distribution are all affected when genetic or life history variability is lost or constrained. This results in reduced population resilience to environmental variation at local or landscape-level scales.

2.2.1.1. CV and CCC Steelhead General Life History

Steelhead are anadromous forms of *O. mykiss*, spending some time in both freshwater and saltwater. Unlike Pacific salmon, steelhead are iteroparous, or capable of spawning more than once before death (Busby *et al.* 1996). Although one-time spawners are the great majority, Shapovalov and Taft (1954) reported that repeat spawners are relatively numerous (17.2 percent) in California streams. Steelhead young usually rear in freshwater for 1 to 3 years before migrating to the ocean as smolts, but rearing periods of up to 7 years have been reported. Migration to the ocean usually occurs in the spring. Steelhead may remain in the ocean for 1 to 5 years (2 to 3 years is most common) before returning to their natal streams to spawn (Busby *et al.* 1996). The distribution of steelhead in the ocean is not well known. Interannual variations in climate, abundance of key prey items (e.g. squid), and density dependent interactions with other salmonid species are key drivers of steelhead distribution and productivity in the marine environment (Atcheson *et al.* 2012a and 2012 b). Recent information indicates that steelhead originating from Central California use a cool, stable, thermal habitat window (ranging between

8-14 degrees Celcius [°C] in the marine environment characteristic of conditions in northern waters above the 40th parallel to the southern boundary of the Bering Sea (Hayes *et al.*, 2012). Adult steelhead typically migrate from the ocean to freshwater between December and April, peaking in January and February (Fukushima and Lesh 1998).

Juvenile steelhead migrate as smolts to the ocean from January through May, with peak migration occurring in February through April, and steelhead smolts in California typically range in size from 140 to 210 millimeter (mm) (fork length). Steelhead of this size can withstand higher salinities than smaller fish (McCormick 1994), and are more likely to occur for longer periods in tidally influenced estuaries, such as San Francisco Bay. Smolts primarily use estuaries for rearing prior to seawater entry. Smaller steelhead juveniles are likely to avoid salt water and brackish environments, and while they can be acclimated to brackish water, their growth is likely hindered.

2.2.1.2. Status of CCC Steelhead DPS and Critical Habitat

Historically, approximately 70 populations[2] of steelhead existed in the CCC steelhead DPS (Spence *et al.* 2008, Spence *et al.* 2012). Many of these populations (about 37) were independent, or potentially independent, meaning they had a high likelihood of surviving for 100 years absent anthropogenic impacts (Bjorkstedt *et al.* 2005). The remaining populations were dependent upon immigration from nearby CCC steelhead DPS populations to ensure their viability (McElhaney *et al.* 2000, Bjorkstedt *et al.* 2005).

While historical and present data on abundance are limited, CCC steelhead numbers are substantially reduced from historical levels. A total of 94,000 adult steelhead were estimated to spawn in the rivers of this DPS in the mid-1960s, including 50,000 fish in the Russian River - the largest population within the DPS (Busby *et al.* 1996). Near the end of the 20th century the population of wild CCC steelhead was estimated to be between 1,700- 7,000 fish (McEwan 2001). Recent estimates for the Russian River population are unavailable since monitoring data is limited. Abundance estimates for smaller coastal streams in the DPS indicate low population levels that are slowly declining, with recent estimates (2011/2012) for several streams (Redwood [Marin County], Waddell, San Vicente, Soquel, and Aptos creeks) of individual run sizes of 50 fish or less (Nature Conservancy 2013). Some loss of genetic diversity has been documented and attributed to previous among-basin transfers of stock and local hatchery production in interior populations in the Russian River (Bjorkstedt *et al.* 2005). Similar losses in genetic diversity in the Napa River may have resulted from out-of-basin and out-of-DPS releases of steelhead in the Napa River basin in the 1970s and 80s. These transfers included fish from the South Fork Eel River, San Lorenzo River, Mad River, Russian River, and the Sacramento River. In San Francisco Bay streams, reduced population sizes and fragmentation of habitat has likely

[2] Population as defined by Bjorkstedt *et al.* 2005 and McElhaney *et al.* 2000 as, in brief summary, a group of fish of the same species that spawns in a particular locality at a particular season and does not interbreed substantially with fish from any other group. Such fish groups may include more than one stream. These authors use this definition as a starting point from which they define four types of populations (not all of which are mentioned here).

also led to loss of genetic diversity in these populations. For more detailed information on trends in CCC steelhead abundance, see: Busby *et al.* 1996, NMFS 1997a, Good *et al.* 2005, Spence *et al.* 2008.

CCC steelhead have experienced serious declines in abundance and long-term population trends suggest a negative growth rate. This indicates the DPS may not be viable in the long term. DPS populations that historically provided enough steelhead immigrants to support dependent populations may no longer be able to do so, placing dependent populations at increased risk of extirpation. However, because CCC steelhead remain present in most streams throughout the DPS, roughly approximating the known historical range, CCC steelhead likely possess a resilience that is likely to slow their decline relative to other salmonid DPSs or ESUs in worse condition. In 2005, a status review concluded that steelhead in the CCC steelhead DPS remain "likely to become endangered in the foreseeable future" (Good *et al.* 2005). On January 5, 2006, NMFS issued a final determination that the CCC steelhead DPS is a threatened species, as previously listed (71 FR 834).

A more recent viability assessment of CCC steelhead concluded that populations in watersheds that drain to San Francisco Bay are highly unlikely to be viable, and that the limited information available did not indicate that any other CCC steelhead populations could be demonstrated to be viable[3] (Spence *et al.* 2008). Monitoring data from the last ten years of adult CCC steelhead returns in Lagunitas and Scott creeks show steep declines in adults in 2008/2009. In 2011/2012 population levels began to increase, but still remained lower than levels observed over the past ten years (Nature Conservancy 2013). The most recent status update found that the status of the CCC steelhead DPS remains "likely to become endangered in the foreseeable future" (Williams *et al.* 2011), as new and additional information available since Good *et al.* (2005), does not appear to suggest a change in extinction risk. On December 7, 2011, NMFS chose to maintain the threatened status of the CCC steelhead (76 FR 76386).

Critical habitat was designated for CCC steelhead on September 2, 2005 (70 FR 52488) and includes PCEs essential for the conservation of CCC steelhead. These PCEs include estuarine areas free of obstruction and excessive predation with the following essential features: (1) water quality, water quantity and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater; (2) natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and (3) juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation (70 FR 52488).

The condition of CCC steelhead critical habitat, specifically its ability to provide for their conservation, has been degraded from conditions known to support viable salmonid populations. NMFS has determined that present depressed population conditions are, in part, the result of the

[3] Viable populations have a high probability of long-term persistence (> 100 years).

following human-induced factors affecting critical habitat[4]: logging, agricultural and mining activities, urbanization, stream channelization, dams, wetland loss, and water withdrawals, including unscreened diversions for irrigation. Impacts of concern include alteration of streambank and channel morphology, alteration of water temperatures, loss of spawning and rearing habitat, fragmentation of habitat, loss of downstream recruitment of spawning gravels and large woody debris, degradation of water quality, removal of riparian vegetation resulting in increased streambank erosion, loss of shade (higher water temperatures) and loss of nutrient inputs (Busby *et al.* 1996, 70 FR 52488). Water development has drastically altered natural hydrologic cycles in many of the streams in the DPS. Alteration of flows results in migration delays, loss of suitable habitat due to dewatering and blockage; stranding of fish from rapid flow fluctuations; entrainment of juveniles into poorly screened or unscreened diversions, and increased water temperatures harmful to salmonids. Overall, current condition of CCC steelhead critical habitat is degraded, and does not provide the full extent of conservation value necessary for the recovery of the species.

2.2.1.3. Status of the CV Steelhead DPS

Central Valley steelhead historically were well-distributed throughout the Sacramento and San Joaquin rivers (Busby *et al.* 1996). Although it appears Central Valley steelhead remain widely distributed in Sacramento River tributaries, the vast majority of historical spawning areas are currently above impassable dams. At present, all Central Valley steelhead are considered winter-run steelhead (McEwan and Jackson 1996), although there are indications that summer steelhead were present in the Sacramento River system prior to the commencement of large-scale dam construction in the 1940s (IEP Steelhead Project Work Team 1999). McEwan and Jackson (1996) reported that wild steelhead stocks appear to be mostly confined to upper Sacramento River tributaries such as Antelope, Deer, and Mill creeks and the Yuba River. However, naturally spawning populations are also known to occur in Butte Creek, and the upper Sacramento mainstem, Feather, American, Mokelumne, and Stanislaus rivers (CALFED 2000). It is possible that other small populations of naturally spawning steelhead exist in Central Valley streams, but are undetected due to lack of sufficient monitoring and research programs; increases in fisheries monitoring efforts led to the discovery of steelhead populations in streams such as Auburn Ravine and Dry Creek (IEP Steelhead Project Work Team 1999).

Small self-sustaining populations of CV steelhead exist in the Stanislaus, Mokelumne, Calaveras, and other tributaries of the San Joaqiun River (McEwan 2001). On the Stanislaus River, steelhead smolts have been captured in rotary screw traps at Caswell State Park and Oakdale each year since 1995 (Demko *et al.* 2000). Incidental catches and observations of steelhead juveniles also have occurred on the Tuolumne and Merced Rivers during fall-run Chinook salmon monitoring activities, indicating that steelhead are widespread, if not abundant, throughout accessible streams and rivers in the Central Valley (Good *et al.* 2005).

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[4] Other factors, such as over fishing and artificial propagation have also contributed to the current population status of steelhead. All these human induced factors have exacerbated the adverse effects of natural factors such as drought and poor ocean conditions.

Steelhead counts at the Red Bluff Diversion Dam (RBDD) have declined from an average annual count of 11,187 adults for the ten-year period beginning in 1967, to an average annual count 2,202 adults in the 1990's (McEwan and Jackson 1996). Estimates of the adult steelhead population composition in the Sacramento River (natural origin versus hatchery origin) have also changed over this time period; through most of the 1950's, Hallock *et al.* (1961) estimated that 88 percent of returning adults were of natural origin, and this estimate declined to 10-30 percent in the 1990's (McEwan and Jackson 1996). Furthermore, the California Fish and Wildlife Plan estimated a total run size of about 40,000 adults for the entire Central Valley, including San Francisco Bay, in the early 1960s (CDFG 1965). In 1991-92, this run was probably less than 10,000 fish based on dam counts, hatchery returns and past spawning surveys (McEwan and Jackson 1996).

The status of Central Valley steelhead appears to have worsened since the 2005 status review (Good *et al.* 2005), when the Biological Review Team (BRT) concluded that the DPS was in danger of extinction. New information available since Good *et al.* (2005) indicates an increased extinction risk (Williams *et al.* 2011). Steelhead have been extirpated from most of their historical range in this region. Habitat concerns in this DPS focus on the widespread degradation, destruction, and blockage of freshwater habitat within the region, and water allocation problems. Widespread hatchery production of introduced steelhead within this DPS also raises concerns about the potential ecological interactions between introduced and native stocks. Because the Central Valley steelhead population has been fragmented into smaller isolated tributaries without any large source population, and the remaining habitat continues to be degraded by water diversions, the population remains at an elevated risk for future population declines. Based on this information, NMFS chose to maintain the threatened listing for this species (76 FR 50447), but recommends reviewing Central Valley steelhead status again in 2-3 years, (instead of the normal 5 years) if species numbers do not improve (NMFS 2011).

2.2.1.4. CV Spring-run and Sacramento River Winter-run Chinook Salmon General Life History

Chinook salmon return to freshwater to spawn when they are 3 to 8 years old (Healy 1991). Runs are designated on the basis of adult migration timing; however, distinct runs also differ in the degree of maturation at the time of river entry, thermal regime and flow characteristics of their spawning site, and actual time of spawning (Myers *et al.* 1998). Both winter-run and spring-run Chinook salmon tend to enter freshwater as immature fish, migrate far upriver, and delay spawning for weeks or months. For comparison, fall-run Chinook salmon enter freshwater at an advanced stage of maturity, move rapidly to their spawning areas on the mainstem or lower tributaries of rivers, and spawn within a few days or weeks of freshwater entry (Healey 1991). Adult endangered Sacramento River winter-run Chinook salmon enter San Francisco Bay from November through June (Hallock and Fisher 1985), and delay spawning until spring or early summer. Adult threatened Central Valley spring-run Chinook salmon enter the Sacramento-San Joaquin Delta (Delta) beginning in January and enter natal streams from March to July (Myers *et al.* 1998). Central Valley spring-run Chinook salmon adults hold in freshwater over summer and spawn in the fall. Central Valley spring-run Chinook salmon juveniles typically spend a year or more in freshwater before migrating toward the ocean. Adequate instream flows and cool water temperatures are more critical for the survival of Central Valley spring-run Chinook salmon due

to over summering by adults and/or juveniles.

Sacramento River winter-run Chinook salmon spawn primarily from mid-April to mid-August, peaking in May and June, in the Sacramento River reach between Keswick Dam and the Red Bluff Diversion Dam. Central Valley spring-run Chinook salmon typically spawn between September and October depending on water temperatures. Chinook salmon generally spawn in waters with moderate gradient and gravel and cobble substrates. Eggs are deposited within the gravel where incubation, hatching, and subsequent emergence take place. The upper preferred water temperature for spawning adult Chinook salmon is 13°C (Chambers 1956) to 14 ^{o}C (Reiser and Bjornn 1979). The length of time required for eggs to develop and hatch is dependent on water temperature, and quite variable.

Sacramento River winter-run Chinook salmon fry begin to emerge from the gravel in late June to early July and continue through October (Fisher 1994). Juvenile winter-run Chinook salmon spend 4 to 7 months in freshwater prior to migrating to the ocean as smolts. Central Valley spring-run Chinook salmon fry emerge from November to March and spend about 3 to 15 months in freshwater prior to migrating towards the ocean (Keljson *et al.* 1981). Post-emergent fry seek out shallow, nearshore areas with slow current and good cover, and begin feeding on small terrestrial and aquatic insects and crustaceans. Chinook fry and parr may spend time rearing within riverine and/or estuarine habitats including natal tributaries, the Sacramento River, non-natal tributaries to the Sacramento River, and the Delta.

Within estuarine habitat, juvenile rearing Chinook salmon movements are generally dictated by tidal cycles, following the rising tide into shallow water habitats from the deeper main channels, and returning to the main channels when the tide recedes (Levy and Northcote 1982; Levings 1982; Healey 1991). Juvenile Chinook salmon forage in shallow areas with protective cover, such as intertidal and subtidal mudflats, marshes, channels and sloughs (McDonald 1960, Dunford 1975). As juvenile Chinook salmon increase in length, they tend to school in the surface waters of the main and secondary channels and sloughs, following the tides into shallow water habitats to feed (Allen and Hassler 1986). Keljson *et al*. (1981) reported that juvenile Chinook salmon demonstrated a diel migration pattern, orienting themselves to nearshore cover and structure during the day, but moving into more open, offshore waters at night. The fish also distributed themselves vertically in relation to ambient light. Juvenile Sacramento River winter-run Chinook salmon migrate to the sea after only rearing in freshwater for 4 to 7 months, and occur in the Delta from October through early May (CDFG 1998). Most Central Valley spring-run Chinook salmon smolts are present in the Delta from mid-March through mid-May depending on flow conditions (CDFG 2000).

2.2.1.5. Status of the CV Spring-run Chinook Salmon

Historically, the predominant salmon run in the Central Valley was the spring-run Chinook salmon. Extensive construction of dams throughout the Sacramento-San Joaquin basin has reduced the Central Valley spring-run Chinook salmon run to only a small portion of its historical distribution. The Central Valley drainage as a whole is estimated to have supported Central Valley spring-run Chinook salmon runs as large as 600,000 fish between the late 1880s

and 1940s (CDFG 1998). The ESU has been reduced to only three naturally-spawning populations that are free of hatchery influence from an estimated 17 historic populations.[5] These three populations (spawning in three tributaries to the Sacramento River - Deer, Mill, and Butte creeks), are in close geographic proximity, increasing the ESU's vulnerability to disease or catastrophic events.

Central Valley spring-run Chinook salmon from the Feather River Hatchery (FRH) were included in the ESU because they are believed by NMFS to be the only population in the ESU that displays early run timing. This early run timing is considered by NMFS to represent an important evolutionary legacy of the spring-run populations that once spawned above Oroville Dam (70 FR 37160). The FRH population is closely related genetically to the natural Feather River population. The FRH's goal is to release five million spring-run Chinook salmon per year. Recent releases have ranged from about one-and-a-half to five million fish, with most releases below five million fish (Good *et al.* 2005).

Several actions have been taken to improve habitat conditions for Central Valley spring-run Chinook salmon, including: habitat restoration efforts in the Central Valley; and changes in freshwater harvest management measures. Although protective measures likely have contributed to recent increases in Central Valley spring-run Chinook salmon abundance, the ESU is still well below levels observed from the 1960s. Threats from climatic variation, high temperatures, predation, and water diversions still persist. Hatchery production can also pose a threat to salmonids. Potential adverse effects from hatchery production include competition for food between naturally-spawned and hatchery fish, run hybridization and genomic homogenization. Despite these potential impacts from hatchery production, NMFS ultimately concluded the FRH stock should be included in the Central Valley spring-run Chinook ESU because it still exhibited a spring-run migration timing and was the best opportunity for restoring a more natural spring-run population in the Feather River. In the most recent status review of this ESU, NMFS concluded that the FRH stock should be considered part of the Central Valley spring-run Chinook ESU (Williams *et al.* 2011). Because wild Central Valley spring-run Chinook salmon ESU populations are confined to relatively few remaining watersheds and continue to display broad fluctuations in abundance, the BRT concluded that the ESU is likely to become endangered within the foreseeable future. The most recent status review concludes the status of Central Valley spring-run Chinook salmon ESU has probably deteriorated since the 2005 status review (Williams *et al.* 2011). New information available since Good *et al.* (2005) indicates an increased extinction risk. Based on this information, NMFS has chosen to maintain the threatened listing for this species (76 FR 50447), but recommends reviewing Central Valley spring-run Chinook status again in 2-3 years, (instead of the normal 5 years) if species numbers do not improve (NMFS 2011).

2.2.1.6. Status of the Sacramento River Winter-Run Chinook Salmon and Critical Habitat

The Sacramento River winter-run Chinook salmon ESU has been completely displaced from its

[5] There has also been a small run in Big Chico Creek in recent years (Good *et al.* 2005).

historical spawning habitat by the construction of Shasta and Keswick dams. Approximately, 300 miles of tributary spawning habitat in the upper Sacramento River is now inaccessible to the ESU. Most components of the Sacramento River winter-run Chinook salmon life history (e.g., spawning, incubation, freshwater rearing) have been compromised by the habitat blockage in the upper Sacramento River. The only remaining spawning habitat in the upper Sacramento River is between Keswick Dam and Red Bluff Diversion Dam (RBDD). This habitat is artificially maintained by cool water releases from Shasta and Keswick Dams, and the spatial distribution of spawners in the upper Sacramento River is largely governed by the water year type and the ability of the Central Valley Project to manage water temperatures in this area.

Sacramento River winter-run Chinook salmon were first listed as threatened in 1989 under an emergency rule. In 1994, NMFS reclassified the ESU as an endangered species due to several factors, including: (1) the continued decline and increased variability of run sizes since its listing as a threatened species in 1989; (2) the expectation of weak returns in coming years as the result of two small year classes (1991 and 1993); and (3) continuing threats to the species. NMFS issued a final listing determination on June 28, 2005. Between the time Shasta Dam was built and the Sacramento River winter-run Chinook salmon were listed in 1989, major impacts to the population occurred from warm water releases from Shasta Dam, juvenile and adult passage constraints at the RBDD, water exports in the southern Delta, and entrainment at a large number of unscreened or poorly-screened water diversions. However, the naturally spawning component of this ESU has exhibited marked improvements in abundance and productivity in the 2000s (CDFG 2008). These increases in abundance are encouraging, relative to the years of critically low abundance of the 1980s and early 1990s; however, returns of several West Coast Chinook salmon and coho salmon stocks were lower than expected in 2007 (NMFS 2008), and stocks remained low through 2009.

A captive broodstock artificial propagation program for Sacramento River winter-run Chinook salmon has operated since the early 1990s as part of recovery actions for this ESU. As many as 150,000 juvenile salmon have been released by this program, but in most cases the number of fish released was in the tens of thousands (Good *et al.* 2005). NMFS reviewed this hatchery program in 2004 and concluded that as much as 10 percent of the natural spawners may be attributable to the program's support of the population (69 FR 33102). The artificial propagation program has contributed to maintaining diversity through careful use of methods that ensure genetic diversity. If improvements in natural production continue, the artificial propagation program may be discontinued (69 FR 33102).

Critical habitat was designated for the Sacramento River winter-run Chinook salmon on June 16, 1993. Physical and biological features that are essential for the conservation of Sacramento winter-run Chinook salmon, based on the best available information, include: (1) access from the Pacific Ocean to appropriate spawning areas in the upper Sacramento River; (2) the availability of clean gravel for spawning substrate; (3) adequate river flows for successful spawning, incubation of eggs, fry development and emergence, and downstream transport of juveniles; (4) water temperatures between 6 and 14˚C for successful spawning, egg incubation, and fry development; (5) habitat areas and adequate prey that are not contaminated; (6) riparian

areas that provides for successful juvenile development and survival; and (7) access downstream so that juveniles can migrate from the spawning grounds to San Francisco Bay and the Pacific Ocean (58 FR 33212).

Designated critical habitat for Sacramento River winter-run Chinook salmon has been degraded from conditions known to support viable salmonid populations. It does not provide the full extent of conservation values necessary for the recovery of the species. In particular, adequate river flows and water temperatures have been impacted by human actions, substantially altering the historical river characteristics in which the Sacramento River winter-run Chinook salmon evolved. Depletion and storage of stream flows behind large dams on the Sacramento River and other tributary streams have drastically altered the natural hydrologic cycles of the Sacramento River and Delta. Alteration of flows results in migration delays, loss of suitable habitat due to dewatering and blockage; stranding of fish from rapid flow fluctuations; entrainment of juveniles into poorly screened or unscreened diversions, and increased water temperatures harmful to salmonids. Other impacts of concern include alteration of stream bank and channel morphology, loss of riparian vegetation, loss of spawning and rearing habitat, fragmentation of habitat, loss of downstream recruitment of spawning gravels, degradation of water quality, and loss of nutrient input.

Several actions have been taken to improve habitat conditions for Sacramento River winter-run Chinook salmon, including: changes in ocean and inland fishing harvest that to increase ocean survival and adult escapement, and implementation of habitat restoration efforts throughout the Central Valley. However, this population remains below established recovery goals and the naturally-spawned component of the ESU is dependent on one extant population in the Sacramento River. There is particular concern about risks to the ESU's genetic diversity (genetic diversity is probably limited because there is only one remaining population) life-history variability, local adaptation, and spatial structure (Good *et al.* 2005, 70 FR 37160). The status of Sacramento River winter-run Chinook salmon is little changed since the last status review, and new information available since Good *et al.* (2005) does not appear to suggest a change in extinction risk (Williams *et al.* 2011). On August 15, 2011, NMFS reaffirmed no change to the listing of endangered for the Sacramento River winter-run Chinook salmon ESU (76 FR 50447).

2.2.1.7. Green Sturgeon General Life History

Green sturgeon is an anadromous, long-lived, and bottom-oriented fish species in the family Acipenseridae. Sturgeon have skeletons composed mostly of cartilage and lack scales, instead possessing five rows of characteristic bony plates on their body called "scutes." On the underside of their flattened snouts are sensory barbels and a siphon-shaped, protrusible, toothless mouth. Large adults may exceed 2 meters in length and 100 kilograms in weight (Moyle 1976). Based on genetic analyses and spawning site fidelity, NMFS determined that North American green sturgeon are comprised of at least two DPSs: a northern DPS consisting of populations originating from coastal watersheds northward of and including the Eel River ("northern DPS green sturgeon"), with spawning confirmed in the Klamath and Rogue river systems; and a southern DPS consisting of populations originating from coastal watersheds south of the Eel River ("southern DPS green sturgeon"), with spawning confirmed in the Sacramento River

system (Adams *et al.* 2002).

Green sturgeon is the most marine-oriented species of sturgeon (Moyle 2002). Along the West Coast of North America, they range in nearshore waters from Mexico to the Bering Sea (Adams *et al.* 2002), with a general tendency to head north after their out-migration from freshwater (Lindley *et al.* 2011). While in the ocean, archival tagging indicates that green sturgeon occur in waters between 0 and 200 meters depth, but spend most of their time in waters between 20–80 meters and temperatures of 9.5–16.0°C (Nelson *et al.* 2010, Huff *et al.* 2011). Subadult and adult green sturgeon move between coastal waters and estuaries (Lindley *et al.* 2008, Lindley *et al.* 2011), but relatively little is known about how green sturgeon use these habitats. Lindley *et al.* (2011) report multiple rivers and estuaries are visited by aggregations of green sturgeon in summer months, and larger estuaries (e.g., San Francisco Bay) appear to be particularly important habitat. During the winter months, green sturgeon generally reside in the coastal ocean. Areas north of Vancouver Island are favored overwintering areas, with Queen Charlotte Sound and Hecate Strait likely destinations based on detections of acoustically-tagged green sturgeon (Lindley *et al.* 2008, Nelson *et al.* 2010).

Based on genetic analysis, Israel *et al.* (2009) reported that almost all green sturgeon collected in the San Francisco Bay system were southern DPS. This is corroborated by tagging and tracking studies which found that no green sturgeon tagged in the Klamath or Rogue rivers (i.e., Northern DPS) have yet been detected in San Francisco Bay (Lindley *et al.* 2011). However, green sturgeon inhabiting coastal waters adjacent to San Francisco Bay include northern DPS green sturgeon.

Adult southern DPS green sturgeon spawn in the Sacramento River watershed during the spring and early summer months (Moyle *et al.* 1995). Eggs are laid in turbulent areas on the river bottom and settle into the interstitial spaces between cobble and gravel (Adams *et al.* 2007). Like salmonids, green sturgeon require cool water temperatures for egg and larval development, with optimal temperatures ranging from 11 to 17˚C (Van Eenennaam *et al.* 2005). Eggs hatch after 6–8 days, and larval feeding begins 10–15 days post-hatch. Metamorphosis of larvae into juveniles typically occurs after a minimum of 45 days (post-hatch) when fish have reached 60–80 mm total length (TL). After hatching larvae migrate downstream and metamorphose into juveniles. Juveniles spend their first few years in the Sacramento-San Joaquin Delta (Delta) and San Francisco estuary before entering the marine environment as subadults. Juvenile green sturgeon salvaged at the State and Federal water export facilities in the southern Delta are generally between 200 mm and 400 mm TL (Adams *et al.* 2002) which suggests southern DPS green sturgeon spend several months to a year rearing in freshwater before entering the Delta and San Francisco estuary. Laboratory studies conducted by Allen and Cech (2007) indicated juveniles approximately 6-month old were tolerant of saltwater, but approximately 1.5-year old green sturgeon appeared more capable of successful osmoregulation in salt water.

Subadult green sturgeon spend several years at sea before reaching reproductive maturity and returning to freshwater to spawn for the first time (Nakamoto *et al.* 1995). Little data are available regarding the size and age-at-maturity for the southern DPS green sturgeon, but it is

likely similar to that of the northern DPS. Male and female green sturgeon differ in age-at-maturity. Males can mature as young as 14 years and female green sturgeon mature as early as age 16 (Van Eenennaam *et al.* 2006). Adult green sturgeon are believed to spawn every two to five years. Recent telemetry studies by Heublein *et al.* (2009) indicate adults typically enter San Francisco Bay from the ocean and begin their upstream spawning migration between late February and early May. These adults on their way to spawning areas in the upper Sacramento River typically migrate rapidly through the estuary toward their upstream spawning sites. Preliminary results from tagged adult sturgeon suggest travel time from the Golden Gate to Rio Vista in the Delta is generally 1-2 weeks. Post-spawning, Heublein *et al.* (2009) reported tagged southern DPS green sturgeon displayed two outmigration strategies; outmigration from Sacramento River prior to September 1 and outmigration during the onset of fall/winter stream flow increases. The transit time for post-spawning adults through the San Francisco estuary appears to be very similar to their upstream migration (i.e., 1-2 weeks).

During the summer and fall, an unknown proportion of the population of non-spawning adults and subadults enter the San Francisco estuary from the ocean for periods ranging from a few days to 6 months (Lindley *et al.* 2011). Some fish are detected only near the Golden Gate, while others move as far inland as Rio Vista in the Delta. The remainder of the population appear to enter bays and estuaries farther north from Humboldt Bay, California to Grays Harbor, Washington (Lindley *et al.* 2011).

Green sturgeon feed on benthic invertebrates and fish (Adams *et al.* 2002). Radtke (1966) analyzed stomach contents of juvenile green sturgeon captured in the Sacramento-San Joaquin Delta and found the majority of their diet was benthic invertebrates, such as mysid shrimp and amphipods (Corophium *spp*). Manual tracking of acoustically-tagged green sturgeon in the San Francisco Bay estuary indicates they are generally bottom-oriented, but make occasional forays to surface waters, perhaps to assist their movement (Kelly *et al.* 2007). Dumbauld *et al.* (2008) report that immature green sturgeon found in Willapa Bay, Grays Harbor, and the Columbia River Estuary, fed on a diet consisting primarily of bethic prey and fish common to these estuaries (ghost shrimp, crab, and crangonid shrimp), with burrowing thalassinid shrimp representing a significant proportion of the sturgeon diet. Dumbauld *et al.* (2008) observed feeding pits (depressions in the substrate believed to be formed when green sturgeon feed) in soft-bottom intertidal areas where green sturgeon are believed to spend a substantial amount foraging.

2.2.1.8. Status of Southern DPS Green Sturgeon and Critical Habitat

To date, little population-level data have been collected for green sturgeon. In particular, there are no published abundance estimates for either northern DPS or southern DPS green sturgeon in any of the natal rivers based on survey data. As a result, efforts to estimate green sturgeon population size have had to rely on sub-optimal data with known potential biases. Available abundance information comes mainly from four sources: 1) incidental captures in the California Department of Fish and Wildlife (CDFW) white sturgeon monitoring program; 2) fish monitoring efforts associated with two diversion facilities on the upper Sacramento River; 3) fish salvage operations at the water export facilities on the Sacramento-San Joaquin Delta; and 4)

dual frequency sonar identification in spawning areas of the upper Sacramento River. These data are insufficient in a variety ways (short time series, non-target species, etc.) and do not support more than a qualitative evaluation of changes in green sturgeon abundance.

CDFW's white sturgeon monitoring program incidentally captures southern DPS green sturgeon. Trammel nets are used to capture white sturgeon and CDFW (CDFG 2002) utilizes a multiple-census or Peterson mark-recapture method to estimate the size of subadult and adult sturgeon population. By comparing ratios of white sturgeon to green sturgeon captures, estimates of southern DPS green sturgeon abundance can be calculated. Estimated abundance of green sturgeon between 1954 and 2001 ranged from 175 fish to more than 8,000 per year and averaged 1,509 fish per year. Unfortunately, there are many biases and errors associated with these data, and CDFG does not consider these estimates reliable. For larval and juvenile green sturgeon in the upper Sacramento River, information is available from salmon monitoring efforts at the RBDD and the Glenn-Colusa Irrigation District (GCID). Incidental capture of larval and juvenile green sturgeon at the RBDD and GCID have ranged between 0 and 2,068 green sturgeon per year (Adams *et al.* 2002). Genetic data collected from these larval green sturgeon suggest that the number of adult green sturgeon spawning in the upper Sacramento River remained roughly constant between 2002 and 2006 in river reaches above Red Bluff (Israel and May 2010). In 2011, rotary screw traps operating in the Upper Sacramento River at RBDD captured 3,700 larval green sturgeon which represents the highest catch on record in 16 years of sampling (Poytress *et al.* 2011).

Juvenile green sturgeon are collected at water export facilities operated by the California Department of Water Resources (DWR) and the Federal Bureau of Reclamation (BOR) in the Sacramento-San Joaquin Delta. Fish collection records have been maintained by DWR from 1968 to present and by BOR from 1980 to present. The average number of southern DPS green sturgeon taken per year at the DWR facility prior to 1986 was 732; from 1986 to 2001, the average per year was 47 (70 FR 17386). For the BOR facility, the average number prior to 1986 was 889; from 1986 to 2001 the average was 32 (70 FR 17386). Direct capture in the salvage operations at these facilities is a small component of the overall effect of water export facilities on southern DPS green sturgeon; entrained juvenile green sturgeon are exposed to potential high levels of predation by non-native predators, disruption in migratory behavior, and poor habitat quality. Delta water exports have increased substantially since the 1970s and it is likely that this has contributed to negative trends in the abundance of migratory fish that utilize the Delta, including the southern DPS green sturgeon.

During the spring and summer spawning period, researchers with University of California Davis have utilized dual-frequency identification sonar (i.e., DIDSON) to enumerate adult green sturgeon in the upper Sacramento River. These surveys estimated 175 to 250 sturgeon (±50) in the mainstem Sacramento River during the 2010 and 2011 spawning seasons (E. Mora, personal communication, January 2012). However, it is important to note that this estimate may include some white sturgeon, and movements of individuals in and out of the survey area confound these estimates. Given these uncertainties, caution must be taken in using these estimates to infer the spawning run size for the Sacramento River, until further analyses are completed.

The most recent status review update concluded the southern DPS green sturgeon is likely to become endangered in the foreseeable future due to the substantial loss of spawning habitat, the concentration of a single spawning population in one section of the Sacramento River, and multiple other risks to the species such as stream flow management, degraded water quality, and introduced species (NMFS 2005). Based on this information, the southern DPS green sturgeon was listed as threatened on April 7, 2006 (71 FR 17757).

Critical habitat was designated for the southern DPS of green sturgeon on October 9, 2009 (74 FR 52300) and includes coastal marine waters within 60 fathoms depth from Monterey Bay, California to Cape Flattery, Washington, including the Strait of Juan de Fuca to its United States boundary. Designated critical habitat also includes the Sacramento River, lower Feather River, lower Yuba River, Sacramento-San Joaquin Delta, Suisun Bay, San Pablo Bay, and San Francisco Bay in California. PCEs of designated critical habitat in estuarine areas are food resources, water flow, water quality, mitigation corridor, depth, and sediment quality. In freshwater riverine systems, PCEs of green sturgeon critical habitat are food resources, substrate type or size, water flow, water quality, migratory corridor, depth, and sediment quality. In nearshore coastal marine areas, PCEs are migratory corridor, water quality, and food resources.

The current condition of critical habitat for the southern DPS of green sturgeon is degraded over its historical conditions. It does not provide the full extent of conservation values necessary for the recovery of the species, particularly in the upstream riverine habitat of the Sacramento River. In the Sacramento River, migration corridor and water flow PCEs have been impacted by human actions, substantially altering the historical river characteristics in which the southern DPS of green sturgeon evolved. In addition, the alterations to the Sacramento-San Joaquin River Delta may have a particularly strong impact on the survival and recruitment of juvenile green sturgeon due to their protracted rearing time in brackish and estuarine waters.

2.2.2. Factors Responsible for Steelhead, Chinook Salmon, and Green Sturgeon Stock Declines

NMFS cites many reasons (primarily anthropogenic) for the decline of steelhead (Busby *et al*. 1996), Chinook salmon (Myers *et al.* 1998), and southern DPS of green sturgeon (Adams *et al.* 2002, NMFS 2005). The foremost reason for the decline in these anadromous populations is the degradation and/or destruction of freshwater and estuarine habitat. Additional factors contributing to the decline of these populations include: commercial and recreational harvest, artificial propagation, natural stochastic events, marine mammal predation, reduced marine-derived nutrient transport, and ocean conditions.

2.2.2.1. Habitat Degradation and Destruction

The best scientific information presently available demonstrates a multitude of factors, past and present, have contributed to the decline of west coast salmonids and green sturgeon by reducing and degrading habitat by adversely affecting essential habitat features. Most of this habitat loss and degradation has resulted from anthropogenic watershed disturbances caused by urban development, agriculture, poor water quality, water resource development, dams, gravel mining,

forestry (Busby *et al.* 1996, Adams *et al.* 2002, Good *et al.* 2005), and lagoon management (Smith 1990, Bond 2006).

2.2.2.2. Commercial and Recreational Harvest

Until recently, commercial and recreational harvest of southern DPS green sturgeon was allowed under State and Federal law. The majority of these fisheries have been closed (NMFS 2005). Ocean salmon fisheries off California are managed to meet the conservation objectives for certain stocks of salmon listed in the Pacific Coast Salmon Fishery Management Plan, including any stock that is listed as threatened or endangered under the ESA. Early records did not contain quantitative data by species until the early 1950's. In addition, the confounding effects of habitat deterioration, drought, and poor ocean conditions on salmonids make it difficult to assess the degree to which recreational and commercial harvest have contributed to the overall decline of salmonids and green sturgeon in West Coast rivers.

2.2.2.3. Artificial Propagation

Releasing large numbers of hatchery fish can pose a threat to wild salmon and steelhead stocks through genetic impacts, competition for food and other resources, predation of hatchery fish on wild fish, and increased fishing pressure on wild stocks as a result of hatchery production (Waples 1991).

2.2.2.4. Natural Stochastic Events

Natural events such as droughts, landslides, floods, and other catastrophes have adversely affected salmonid and sturgeon populations throughout their evolutionary history. The effects of these events are exacerbated by anthropogenic changes to watersheds such as logging, roads, and water diversions. These anthropogenic changes have limited the ability of salmonid and sturgeon to rebound from natural stochastic events and depressed populations to critically low levels.

2.2.2.5. Marine Mammal Predation

Predation is not known to be a major factor contributing to the decline of West Coast salmon and steelhead and green sturgeon populations relative to the effects of fishing, habitat degradation, and hatchery practices. Predation may have substantial impacts in localized areas. Harbor seal (*Phoca vitulina*) and California sea lion (*Zalophus californianus*) numbers have increased along the Pacific Coast (NMFS 1997b).

In a peer reviewed study of harbor seal predation in the Alsea River Estuary of Oregon, the combined results of multiple methodologies led researchers to infer that seals consumed 21 percent (range = 3–63 percent) of the estimated prespawning population of coho salmon. The majority of the predation occurred upriver, at night, and was done by a relatively small proportion of the local seal population (Wright *et al.* 2007). However, at the mouth of the Russian River, Hanson (1993) reported that the foraging behavior of California sea lions and

harbor seals with respect to anadromous salmonids was minimal, and predation on salmonids appeared to be coincidental with the salmonid migrations rather than dependent upon them.

The Corps has observed Steller sea lion (*Eumetopias jubatus*) predating on white sturgeon at the Bonneville Dam tailrace (Tackley *et al.* 2008). This suggests that predation of green sturgeon by sea lions may also occur in confined areas like dam tailraces when both species are present.

2.2.2.6. Avian Predation

Avian predation on juvenile salmonids is an important source of mortality in freshwater and estuarine habitats when birds and salmonids overlap spatially and temporally. Frechette *et al.* (2013) estimate that the population of kingfishers foraging in the Scott Creek estuary have the potential to remove 3–17 percent of annual production, whereas mergansers had the potential to remove 5–54 percent of annual steelhead production in this Central California coast watershed. Observed predation rates by cormorants and terns on Columbia River subyearling Chinook ranges between 2-22 percent, in which more than 8 million lower Columbia River (tule) fall-run Chinook Salmon subyearlings released from hatcheries are estimated to be consumed by double-crested cormorants and terns annually (Sebring *et al.* 2013).

2.2.2.7. Reduced Marine-Derived Nutrient Transport

Marine-derived nutrients from adult salmon carcasses have been shown to be vital for the growth of juvenile salmonids and the surrounding terrestrial and riverine ecosystems (Bilby *et al.* 1996, Bilby *et al.* 1998, Gresh *et al.* 2000). Declining salmon and steelhead populations have resulted in decreased marine-derived nutrient transport to many watersheds. Nutrient loss may be contributing to the further decline of ESA-listed salmonid populations (Gresh *et al.* 2000).

2.2.2.8. Ocean Conditions

Recent evidence suggests poor ocean conditions played a significant role in the low number of returning adult fall run Chinook salmon to the Sacramento River in 2007 and 2008 (Lindley *et al.* 2009). Changes in ocean conditions likely affect ocean survival of all west coast salmonid populations (Good *et al.* 2005, Spence *et al.* 2008).

2.2.2.9. Global Climate Change

Modeling of climate change impacts in California suggests average summer air temperatures are expected to increase (Lindley *et al.* 2007). Heat waves are expected to occur more often, and heat wave temperatures are likely to be higher (Hayhoe *et al.* 2004). Total precipitation in California may decline; critically dry years may increase (Lindley *et al.* 2007, Schneider 2007). The Sierra Nevada snow pack is likely to decrease by as much as 70 to 90 percent by the end of this century under the highest emission scenarios modeled (Luers *et al.* 2006). Wildfires are expected to increase in frequency and magnitude, by as much as 55 percent under the medium emissions scenarios modeled (Luers *et al.* 2006). Vegetative cover may also change, with decreases in evergreen conifer forest and increases in grasslands and mixed evergreen forests.

The likely change in amount of rainfall in Northern and Central Coastal California streams under various warming scenarios is less certain, although as noted above, total rainfall across the state is expected to decline.

For the California North Coast, some models show large increases (75 to 200 percent) while other models show decreases of 15 to 30 percent (Hayhoe *et al.* 2004). Many of these changes are likely to further degrade salmonid habitat by, for example, reducing stream flows during the summer and raising summer water temperatures. Estuaries may also experience changes detrimental to salmonids and green sturgeon. Estuarine productivity is likely to change based on changes in freshwater flows, nutrient cycling, and sediment amounts (Scavia *et al.* 2002). In marine environments, ecosystems and habitats important to sub adult and adult green sturgeon and salmonids are likely to experience changes in temperatures, circulation and chemistry, and food supplies (Feely *et al.* 2004, Brewer 2008, Osgood 2008, Turley 2008). The projections described above are for the mid to late 21st Century. In shorter time frames, climate conditions not caused by the human addition of carbon dioxide to the atmosphere are more likely to predominate (Cox and Stephenson 2007; Smith *et al.* 2007).

2.3. Environmental Baseline

The Environmental Baseline is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the species, its habitat (including designated critical habitat), and ecosystem in the action area. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impacts of State or private actions which are contemporaneous with the consultation in process (50 CFR §402.02).

2.3.1. Action Area Overview

The action area is located within Central San Francisco Bay and the San Francisco Deep Ocean Disposal Site (SF-DODS). San Francisco Bay is the largest estuary on the west coast of North America. Located about halfway up the California coast from the Mexican border, it is the natural discharge point of 40 percent of California's freshwater outflow. The climate is Mediterranean; most precipitation falls in winter and spring as rain throughout the Central Valley and as snow in the Sierra Nevada and Cascades. The freshwater outflow pattern is seasonal; highest outflow occurs in winter and spring. Current and wave patterns in the action area are largely generated by the tides interacting with the bottom and shoreline configurations. It also receives inputs from stormwater runoff, and wastewater from municipal and industrial sources that vary in volume depending on the location and seasonal weather patterns.

Within San Francisco Bay, the action area consists of densely developed San Francisco waterfront areas, and nearshore and open water estuarine areas. Proposed in-water construction activities occur in waters along and adjacent to the San Francisco waterfront from Pier 1 to Pier 14. The estimated water depth at the construction site is generally about 10 feet at MLLW. Water depths at the dredge sites range from -7 feet to -10 feet at MLLW.

The action area also includes areas where refueling and servicing of WETA vessels will occur. Refueling and servicing facilities include: 1) the Vallejo-Baylink Ferry Maintenance Facility located approximately half a mile downstream from the existing maintenance facility, adjacent to the intersection of Waterfront Avenue and Ferry Street in the City of Vallejo; and 2) the Central Bay Operations and Maintenance Facility located within the Alameda Naval Air Station Base Realignment and Closure area (now referred to as Alameda Point) in the City of Alameda. The portion of the action area at the Vallejo facility consists of shoreline and open water areas in the Mare Island Strait. Open water areas are influenced from freshwater discharge from the Napa River, surface wave energy, and tide-generated current. Water depth at the facility ranges between -15 and -40 feet at MLLW. Benthic habitat is primarily composed of fine-grain silt and clay. The shoreline of the Mare Island Strait at the facility has been entirely modified by the construction of piers, wharves, bulkheads, and landfill. The portion of the action area at the Central Bay facility consist of densely developed Alameda waterfront areas and nearshore estuarine areas adjacent to former Alameda Naval Air Station. Water depths range from less than 5 feet to 40 feet at MLLW. The transition zone between the upland areas to the subtidal zone primarily consists of rock rip rap, concrete rubble, and an existing deteriorated seawall. The majority of benthic aquatic habitats within the project area are soft mud and/or clay sediments. Some hard bottom habitat is present along the shoreline and seawall. Review of Merkel & Associates (2009) indicates eelgrass is not present in the project area nor is there suitable habitat for eelgrass.

SF-DODs is a 9 square mile area is located in the open ocean in water depths of approximately 9,000 ft approximately 50 miles offshore from the City of San Francisco in the Pacific Ocean. . The site is exposed to strong ocean currents. The majority of benthic aquatic habitats within the project area are soft mud and/or sand sediments. Sediment at SF-DODS is dominated by silt and clay (70-98 percent), with higher portions of sand following large dredged material disposals (Germano & Associates, Inc. 2008).

2.3.2. Status of Species and Critical Habitat in Action Area

2.3.2.1. CCC Steelhead, CV Steelhead, CV Spring-Run Chinook Salmon, and Sacramento River Winter-Run Chinook Salmon

San Francisco Bay is used as a migration corridor by listed CCC steelhead, CV steelhead, CV spring-run Chinook salmon and Sacramento River winter-run Chinook salmon. Adult salmonids migrate from the Pacific Ocean through the San Francisco Bay estuary as they seek the upstream spawning grounds of their natal streams. CCC steelhead are the only population of listed salmonids that migrate to and from southern and eastern San Francisco Bay tributaries, and therefore, of all of the listed salmonids passing through the Bay, CCC steelhead individuals are the most likely to occur in the action area. However, Central Valley salmonids do occasionally stray into areas near the action area during their migrations. CCC steelhead migration through San Francisco Bay to San Francisco Bay tributaries primarily occurs from December through March. Ocean maturing CV steelhead (winter steelhead) migration through the Bay typically

begins in fall and winter and spawn within a few weeks to a few months from the time they enter fresh water (McEwan and Jackson 1996).

CV spring-run Chinook salmon and Sacramento River winter-run Chinook migrate through San Francisco Bay between December and May. Adult winter-run Chinook salmon return to their natal streams in the Central Valley during the winter but delay spawning until the spring and summer. They typically enter San Francisco Bay from November through May. Based on time of entry to natal tributaries in the Central Valley, adult Sacramento River spring-run Chinook salmon enter the Bay from the ocean for their upstream migration in late January to early February.

Juvenile (smolt) salmonids migrate from their natal streams through San Francisco Bay estuary to the ocean. Emigration timing is highly variable among Sacramento River winter-run Chinook, CV spring-run Chinook, CCC steelhead and CV steelhead smolts, but peak migrations downstream typically occur through the Bay during the late winter and spring months. Smolt movements in the Bay are heavily influenced by the tides, making repeated upstream and downstream movements until eventually migrating successfully to the ocean (Chapman *et al.* 2009). During the course of their downstream migration, juvenile salmon and steelhead utilize the estuary for seasonal rearing, and as a migration corridor to the sea. Historically, the tidal marshes of San Francisco Bay provided a highly productive estuarine environment for juvenile anadromous salmonids. However, loss of habitat, changes in prey communities, and water-flow alterations and reductions have degraded habitat and limit the ability of the Bay to support juvenile rearing. MacFarlane and Norton (2002) found that fall-run Chinook experienced little growth, depleted condition, and no accumulation of lipid energy reserves during the relatively limited time the fish spent transiting the 40-mile length of the estuary. Sandstrom *et al.* (2013) found that CCC steelhead smolt movement rates were significantly greater in San Francisco and San Pablo Bays than in the Napa River and the coastal ocean.

Recent studies conducted by the California Fish Tracking Consortium (CFTC) provide information regarding the length of residence time in San Francisco Bay by Central Valley salmonid smolts. Thousands of Central Valley late fall-run Chinook salmon and Central Valley steelhead smolts were tagged with acoustic transmitters and released in the Sacramento River from 2006 through 2010. Most of these fish migrate downstream relatively quickly having a mean transit time of 2.6 days for salmon and steelhead smolts to travel over 25 miles from the Carquinez Strait to the Golden Gate (California Fish Tracking Consortium, unpublished data 2009). Fall-run hatchery Chinook smolts emigrated between the Benicia Bridge and the Golden Gate in 2 to 4 days, yet were also observed making repeated upstream movements that coincided with incoming tidal flows. Most Chinook smolts were detected by acoustic receivers located over deep, channelized portions of the Bay (Hearn *et al.* 2013). The majority of smolts transited the Bay without straying up tributaries or into marinas. The few smolts that were detected at nearshore, shallow sites such as marinas, or up tributaries generally returned to the main channel fairly quickly to finish their migration (Hearn *et al.* 2013).

2.3.2.2. CCC Steelhead and Sacramento River Winter-Run Chinook Salmon Critical Habitat

The portion of the Project's action area north of the San Francisco-Oakland Bay Bridge is designated critical habitat for Sacramento winter-run Chinook salmon and CCC steelhead. Features of designated critical habitat for winter-run Chinook salmon in the action area essential for their conservation are habitat areas and adequate prey that are uncontaminated. These physical and biological features of designated critical habitat within the action area are partially degraded and limited. The action area is located in a very urban area where natural cover is limited, high levels of contaminants are present in the sediment, and human caused disturbance of the benthos and water column is frequent. As such, quality forage and rearing habitat at the site is limited for salmonids, and NMFS expects their use of the action area for foraging or rearing would be very limited. Habitat degradation in the action area is primarily due to altered and diminished freshwater inflow, shoreline development, shoreline stabilization, non-native invasive species, discharge and accumulation of contaminants, vessel traffic, and periodic maintenance dredging for navigation.

Designated critical habitat for CCC steelhead includes all aquatic habitat within the Project's action area. Within the action area, essential features of critical habitat include the estuarine water column, foraging habitat, and food resources used by steelhead as part of their juvenile downstream migration and adult upstream migration. These essential features of estuarine PCEs of designated critical habitat within the action area are partially degraded and limited due to altered and diminished freshwater inflow, shoreline development, shoreline stabilization, non-native invasive species, discharge and accumulation of contaminants, and periodic dredging for navigation.

2.3.2.3. Green Sturgeon

Green sturgeon are iteroparous[6], and adults pass through the San Francisco Bay estuary during spawning, and post-spawning migrations. Pre-spawn green sturgeon enter the Bay between late February and early May, as they migrate to spawning grounds in the Sacramento River (Heublein *et al.* 2009). Post-spawning adults may be present in the bay after spawning in the Sacramento River in the spring and early summer for months prior to emigrating into the ocean. Juvenile green sturgeon move into the Delta and San Francisco estuary early in their juvenile life history, where they may remain for 2-3 years before migrating to the ocean (Allen and Cech, Jr. 2007; Kelly *et al.* 2007). Sub-adult and non-spawning adult green sturgeon utilize both ocean and estuarine environments for rearing and foraging. Due to these life-history characteristics, juvenile, sub-adult and adult green sturgeon may be present in the action area year-round.

Little is known about green sturgeon distribution and abundance in the Bay, and what influences their movements (Kelly *et al.* 2007). Tracking of green sturgeon movements in the Bay indicate that sub-adults typically remain in shallower depths (less than 30 feet) and show no preference for temperature, salinity, dissolved oxygen, or light levels (Kelly *et al.* 2007). Observations also

[6] They have multiple reproductive cycles over their lifetime.

suggest that there are two main types of movements of sub-adult green sturgeon: directional and non-directional (Kelly *et al.* 2007). Tracking data suggests that directional movements typically occur near the surface of the water, while non-directional movements were associated with the bottom at depths up to 42 feet, indicating foraging behavior (Kelly *et al.* 2007) since green sturgeon are known to feed on benthic invertebrates and fish (Adams *et al.* 2002). Within the San Francisco estuary, green sturgeon are encountered by recreational anglers and during sampling by CDFG in the shallow waters of San Pablo and Suisun bays. These fish are likely foraging on benthic prey and fish commonly found in soft-bottom habitats (ghost shrimp, crab, crangonid shrimp, and thalassinid shrimp) (Dumbauld *et al.* 2008).

Sampling efforts are concentrated in Suisun and San Pablo bays, with very little sampling occurring in Central Bay near the action area. Furthermore, there is no recreational fishing within the action area. As a result, there is a paucity of data related to subadult green sturgeon abundance within the action area. As described above, the action area is located in a very urban area where natural cover is limited, high levels of contaminants are present in the sediment, and human caused disturbance of the benthos and water column is frequent. As such, quality forage and rearing sites for sub-adult green sturgeon are likely limited. NMFS assumes that the degraded state of the action area discourages green sturgeon from spending long periods of time (greater than one day) in the action area.

Due to their larger size, adult green sturgeon can be tagged and their movements tracked. This has enabled researchers to gather some information on adult green sturgeon distributions in the Bay. During fourteen months of tracking 47 tagged adult green sturgeon, 2 fish were observed at the nearest tag detection site below the Bay Bridge, approximately 0.5 miles from the action area. Fish were not generally detected at marina tag detection sites, with the exception of the Martinez Marina in Suisun Channel, where 33 fish were detected. Those fish that were detected at marina sites, were typically only present for less than a couple of hours, with the exception of one individual which remained within range of the Vallejo Marina receiver for two days. This information suggests that a low proportion of adult green sturgeon occur in the action area, and those that do occur, likely only reside in the action area for minutes to a couple of days.

2.3.2.4. Green Sturgeon Critical Habitat

The action area is located within designated critical habitat for the southern DPS of green sturgeon. PCEs for green sturgeon in estuarine areas are: food resources, water flow, water quality, migratory corridor, water depth, and sediment quality. These PCEs for green sturgeon critical habitat in the area are partially degraded. As such, quality forage and rearing habitat at the site is limited for green sturgeon, and they are expected to utilize the action area to a lesser extent than other areas throughout the Bay. Habitat degradation in the action area is primarily due to altered and diminished freshwater inflow, shoreline development, shoreline stabilization, non-native invasive species, discharge and accumulation of contaminants, and periodic dredging for navigation.

2.3.3. Factors Affecting the Species Environment in the Action Area

Profound alterations to the environment of the San Francisco Bay estuary began with the discovery of gold in the middle of the 19th century. Dam construction, water diversion, hydraulic mining, and the diking and filling of tidal marshes soon followed, launching the San Francisco Bay area into an era of rapid urban development and coincident habitat degradation. There are efforts currently underway to restore the habitat in the Bay, if not directly within the action area, at least within surrounding tributaries and the estuary itself. There have also been alterations to the biological community as a result of human activities, including hatchery practices and the introduction of non-native species.

The land bordering the action area has been highly modified by urban development along the Embarcadero, including commercial and high density residential development and high use streets. The hydrology of the action area is highly modified as a result. The terrestrial portions of the action area receive water from rain, which flows into storm drains and into a combined stormwater and sewage treatment system. Water and sediment quality within the action area is affected by stormwater runoff, industrial activities, and other urban influences. Results from testing of sediments within the action area show that sediments in the North and South Terminals had concentrations of PAHs typical of industrial concentrations, while sediments along Pier 1 and near the shoreline showed very severe PAH contamination. The sediments at these two sites also contained high levels of sulfides and ammonia typically associated with heavy petroleum contamination. The ongoing use of the action area as a ferry terminal and its close proximity to vessel traffic in the greater Bay has rendered it highly susceptible to PAH contamination from oil spills. A recent example is the Cosco Busan Oil Spill in November 2007 in Central San Francisco Bay. Other sources of PAHs in the action area are stormwater runoff from adjacent urban areas, creosote-treated wood piles used in the construction of the piers that border the San Francisco waterfront, and occasional oil and hazardous substance releases at the Ferry Terminal. Legacy contaminants, such as PCBs and DDT are still persistent in the action area, even though their sources have been eliminated or reduced significantly. These contaminants are present in Bay sediment and are periodically re-suspended by various activities (e.g., dredging and pile removal). Furthermore, the introduction and spread of non-native species throughout the San Francisco Bay-Delta estuary has affected many native species (Cohen and Carlton 1995) and presumably listed salmonids and green sturgeon through competition for food and habitat. Maintenance dredging is also performed within the action area, yet at very infrequent intervals. There has been no dredging within the action area over the last decade.

2.3.4. Previous Section 7 Consultations and Section 10 Permits in the Action Area

Vallejo-Baylink Ferry Maintenance Facility (NMFS ARN: 151422SWR2011SR00147): NMFS conducted a formal consultation with the Corps for the construction and operation of the Vallejo-Baylink Ferry Maintenance Facility. Consultation was completed on April 10, 2012. The Vallejo facility is scheduled to be constructed in 2014 and the Central Bay facility is proposed to be constructed in 2014-2015. The Vallejo facility will be located approximately half a mile downstream from the existing maintenance facility, adjacent to the intersection of Waterfront Avenue and Ferry Street in the City of Vallejo, Solano County, California. NMFS

concluded that the construction and future operation of this facility is not likely to jeopardize the continued existence of threatened CV steelhead, threatened CV spring-run Chinook salmon, endangered Sacramento River winter-run Chinook salmon, threatened CCC steelhead, or threatened southern DPS green sturgeon; or adversely modify or destroy critical habitat for winter-run Chinook salmon, CCC steelhead, or southern DPS green sturgeon.

Central Bay Operations and Maintenance Facility (NMFS ARN: 151422SWR2011SR00553): NMFS conducted a formal consultation with the Corps for the construction and operation of the Central Bay Operations and Maintenance Facility. Consultation was completed on October 31, 2012. The Central Bay facility will be located southeast of the intersection of West Hornet Avenue and Ferry Point Road near Pier 3 along the Alameda waterfront in Central San Francisco Bay. NMFS concluded that the construction and future operation of this facility is not likely to jeopardize the continued existence of threatened CV steelhead, threatened CV spring-run Chinook salmon, endangered Sacramento River winter-run Chinook salmon, threatened CCC steelhead, or threatened southern DPS green sturgeon; or adversely modify or destroy critical habitat for winter-run Chinook salmon, CCC steelhead, or southern DPS green sturgeon.

Long Term Management Strategy (LTMS) of Disposal of Dredged Materials in the San Francisco Bay Region: NMFS conducted a programmatic consultation with the Corps on the LTMS which concluded upon the issuance of a biological opinion on September 18, 1998, to the Corps and the U.S. EPA. The consultation and biological opinion included the disposal of dredged material at SF-DODS and dredging within the Ferry Terminal footprint by the Port. The September 18, 1998, biological opinion concluded the LTMS program was not likely to jeopardize the continued existence of listed fish species under the jurisdiction of NMFS, or adversely modify or destroy designated critical habitat.

In addition to these consultations, from 2000 through 2014, pursuant to section 7 of the ESA, NMFS has conducted several interagency consultations within the action area of this project. These consultations were primarily related to maintenance of existing infrastructure along the shoreline of Central San Francisco Bay (i.e. shoreline protection; repair of wharves, docks and piers; replacement of storm water outfalls; and repair of boat ramps). A small number of consultations have been conducted for dredging of navigation channels, fireworks displays, and clean-up of contaminated sediments. For most of these projects NMFS concurred with the Federal agencies proposing them that they were not likely to adversely affect listed salmonids or green sturgeon or their critical habitat. For those projects with adverse effects on listed salmonids and green sturgeon and/or critical habitat, NMFS determined that they were not likely to jeopardize the continued existence of listed salmonids or adversely modify critical habitat.

Research and enhancement projects resulting from NMFS' Section 10(a)(1)(A) research and enhancement permits and section 4(d) limits or exceptions could potentially occur in the Central San Francisco Bay watershed. Salmonid and sturgeon monitoring approved under these programs includes juvenile and adult net surveys and tagging studies. In general, these activities are closely monitored and require measures to minimize take during the research activities.

Through early summer 2014, no research or enhancement activities have occurred in the Central San Francisco Bay.

2.4. Effects of the Action

The purpose of this section is to identify the direct and indirect effects of the proposed action, and any interrelated or interdependent activities, on threatened CCC steelhead, threatened CV steelhead, threatened CV spring-run Chinook salmon, endangered Sacramento River winter-run Chinook salmon, and threatened southern DPS green sturgeon; and designated critical habitat for Sacramento River winter-run Chinook salmon, CCC steelhead, and southern DPS green sturgeon. Our approach was based on knowledge and review of the ecological literature and other relevant materials. We used this information to gauge the likely effects of the proposed project via an exposure and response framework that focuses on what stressors (physical, chemical, or biotic), directly or indirectly caused by the proposed action, that salmonids and green sturgeon are likely to be exposed to. Next, we evaluate the likely response of salmonids and green sturgeon to these stressors in terms of changes to survival, growth, and reproduction, and changes to the ability of PCEs or physical and biological features to support the value of critical habitat in the action area. PCEs, and physical and biological features, include sites essential to support one or more life stages of the species. These sites for migration, spawning, and rearing in turn contain physical and biological features that are essential to the conservation of the species. Where data to quantitatively determine the effects of the proposed action on salmonids, sturgeon, and their critical habitat, were limited or not available, our assessment of effects focused mostly on qualitative identification of likely stressors and responses.

Listed salmonids and green sturgeon are anticipated to be in the action area during in-water construction activities and during Ferry Terminal and vessel operations. Listed salmonids are not expected to be present in the action area during the pile driving and dredging work-window of June 1 to November 30 because adult and juvenile migrants do not use San Francisco Bay during this time period. Juvenile, sub-adult, and adult green sturgeon are found in San Francisco Bay year-round and could be present during pile driving and dredging for the Proposed Action. The potential effects of the action are presented in detail below.

2.4.1. Effects of Construction Activities on Listed Species and Critical Habitat

The Project's construction activities are expected to be completed within 38 months, occurring intermittently between June 2014 and winter 2020. The improvements in the North Basin will be constructed within 14 months and construction in the South Basin will be constructed within 24 months. Improvements in the North Basin could be constructed simultaneously with the improvements in the South Basin, and many of the construction activities in the North and South basins will overlap. In-water pile driving and dredging will be conducted between June 1 and November 30. Maintenance dredging at Gates F and G will occur every 3-4 years. The potential effects of in-water construction on listed salmonids and green sturgeon are presented below.

2.4.1.1. Sound Pressure Impacts on Fish from Pile Driving

Overview of Pile Driving Impacts. Pile driving activities can affect salmonids and green sturgeon through exposure to high underwater sound levels and degradation of water quality. The underwater sound pressure waves that have the potential to adversely affect listed salmonids and green sturgeon originate with the contact of the hammer with the top of the pile. The impact of the hammer on the top of the pile causes a wave to travel down the pile and causes the pile to resonate radially and longitudinally like a gigantic bell. The pile resonates sending out a succession of waves even as it is pushed several inches deeper into the bay bottom. Piles can be composed of wood, steel, or concrete. Different types of piles result in different levels of underwater noise. The timing, duration, and location of pile driving also influences the level of potential impact on fish. Some species of fish occur seasonally in Central San Francisco Bay and in-water construction activities can be scheduled to avoid periods when the target fish species is mostly likely to be present. If pile driving extends continuously for hours or days, the chance of encounters with fish in the vicinity increases, accordingly. If pile driving is occurring near shore at low tide, fewer large fish are likely to be present due to shallow water depths. Water depths at the pile driving site can also influence the level of impact. Within shallow water, much of the acoustic energy is absorbed by the bottom and reflected off the surface back down to the bottom and even backwards towards the pile. As a result, the rate of attenuation is much higher in shallower water reducing the expected area of adverse effects as compared to deeper water. For those fish present during pile driving that are not immediately impacted by sound pressure waves, their residence time within the zone of increased sound levels often correlates to the extent in which they would be impacted by pile driving sound.

Available information indicates that fish may be injured or killed when exposed to elevated underwater sound pressure waves generated by pile driving with impact hammers. Sound pressure waves resulting from the impact driving of piles hit with an impact hammer exhibit drastic changes in overpressure and underpressure in the sound waveform. These extremes in pressure changes are what produce the harmful sound waveforms exhibited during impact driving of piles. There are two ways in which sound produced by piles can affect fish: exposure to drastic changes in pressure from very high (peak) sound levels and through continuous exposure to sound pressure waves for long periods of time. Injuries that may result include hemorrhage and rupture of internal organs, and hearing damage to fish (Enger 1981; Hastings *et al.* 1995, 1996). Potentially lethal behavioral impacts that may also result include "stunning" and stress of fish that reduces predator avoidance capability and interferes with communication necessary for navigation and reproduction (Scholik and Yan 2001; Shin 1995; Popper 1997). Sound could also startle fish and cause them to leave areas where high sound levels exist.

Both salmonids and sturgeon are hearing generalists[7] (ICF Jones and Stokes, and Illingworth and Rodkin, Inc., 2009; Popper 2005) with swimbladders, which, because of reverberation of the

[7] Hearing generalists sense sound directly through their inner ear but also sense sound energy from the swim bladder. Hearing specialists are more complex and have evolved different mechanisms to couple the swim bladder (or other gas-filled structure) to the ear.

swim bladder, make them susceptible to injury and behavioral responses from sound (Keevin and Hempen 1997). A study in Puget Sound, Washington suggests that pile driving operations disrupt juvenile pink and chum salmon (*Oncorhynchus spp.*) behavior (Feist *et al.* 1992). Based on these observations, pile-driving operations may disrupt normal foraging, schooling, and migratory behaviors of juvenile anadromous salmonids. However, pile driving will only occur from June 1 to November 30, when salmonids are not present in the action area. Therefore, sound levels produced from pile driving are not expected to have any effects on listed salmonids.

Currently, there is very little data available regarding effects of pile driving on green sturgeon. However, green sturgeon use estuarine environments for foraging and migration in a manner similar to anadromous salmonids. Thus, it is reasonable to assume that green sturgeon could experience similar disruption of behavioral patterns, as discussed above for salmonids, during pile driving operations. Additionally, there is evidence of high sound pressure levels generated by pile driving resulting in the mortality of sturgeon. During construction of the Benicia-Martinez Bridge in May 2002, 98-inch diameter piles were driven by a large impact hammer in water 40 to 50 feet deep. Without the benefit of a sound attenuation device, such as an air bubble curtain, peak underwater sound pressure levels during a single strike ranged from 227 dB (re 1 µPa) at approximately 16 feet from the pile to 178 dB at approximately 3,600 feet from the pile (Illingworth and Rodkin 2007). Fish killed and collected at the Benicia-Martinez Bridge during pile driving in May 2002 included a 24-inch juvenile white sturgeon (Caltrans, unpublished data 2002).

In order to assess the potential impacts of sound produced from impact pile driving of piles, NMFS considers the sound levels that will likely be produced by the Project's impact pile driving activities. This information is derived through a comparison of the Project's pile driving methods, materials, and site conditions to reference information found in literature. For projects within the San Francisco Bay region, NMFS primarily relies on information contained in the *Compendium of Pile Driving Sound Data*, Illingworth and Rodkin (2007, updated in 2012) because several of the case studies presented in the Compendium were derived from projects conducted within the San Francisco Bay region. These case studies provide estimates for the sound levels that will be produced from impact pile driving a single pile, which is then put into NMFS's pile driving sound calculation worksheet to produce estimates of the single strike peak and 24 hour cumulative sound levels that will be produced by the Project. These estimates are then compared to established sound criteria for salmonids and sturgeon (Fisheries Hydroacoustic Working Group 2008). These criteria are as follows: 1) a 206 dB referenced to one micropascal (re: 1µPa) peak sound pressure level (SPL) for any single strike may result in physical injury or mortality of fish greater than 2 grams; 2) an accumulated SEL of 187 dB re: 1µPa^2-s, may result in physical injury or mortality of fish greater than 2 grams; and 3) a 150 dB root- RMS may result in behavioral responses of fish. As distance from the pile increases, sound attenuation reduces sound pressure levels and the potential harmful effects to fish also decrease.

Applicants can minimize sound impacts by implementing sound attenuation devices such as cofferdams and bubble curtains, or by using vibratory hammers instead of impact hammers. Cofferdams can be expensive and create additional impacts to fish during construction and

dewatering, so bubble curtains are generally the preferred method of attenuation. Encapsulating the piles with an air bubble curtain does not require dewatering of the site. Bubble curtains reduce the radiation of sound from the pile into the water by making the sound pass through a "curtain" of low-density air bubbles. Hydroacoustic monitoring has shown that air bubble curtains can decrease the overall level of SPLs in the adjacent water column and decrease the extent to which the adverse sound-related impacts occur. In general, sound attenuation rates increase with more bubbles and (to a point) a thicker curtain (ICF Jones and Stokes, and Illingworth and Rodkin Inc. 2009). ICF Jones and Stokes, and Illingworth and Rodkin, Inc. (2009) report the use of a bubble curtain is capable of providing up to 20 dB of attenuation during impact hammer driving depending on the size of the pile; yet, as a general rule, sound reductions of greater than 10 dB with attenuation systems cannot be reliably predicted (ICF Jones and Stokes, and Illingworth and Rodkin, Inc., 2009). The bubble curtain equipment also reduces the potential for fish to be exposed to high levels of sound by physically restricting fish from occupying 5-10 feet of the radial distance immediately outward from the pile. Secondly, activation of the air bubble curtain immediately prior to the initiation of pile driving is expected to startle fish adjacent to the pile and likely result in fish moving away from the pile driving area. Additional noise will be created by the air compressors operating the bubble curtain. Vibratory hammers can be used in lieu of impact hammers to reduce sound impacts since vibratory hammers produce SPLs which are considerably lower than impact hammers. Hydroacoustic data collected from projects using vibratory hammers and similar piles (Illingworth and Rodkin Inc. 2007, updated in 2012) indicates that sound pressure levels created during installation of these piles should not present a risk of physical injury or mortality to listed fish. Finally, because driving concrete and wood piles generate less noise from individual pile strikes than steel, using either of these pile types in lieu of steel would reduce the sound produced from pile driving activities.

Project Specific Analysis. For the Proposed Action, the Applicant proposes to use an impact and/or vibratory hammer to install wood, concrete, and steel piles in water depths ranging from 4 to 15 feet deep at MLLW (Table 2). Installation of piles will occur over a period of 104 to 146 days. The Applicants propose to use a bubble curtain to attenuate underwater sound levels during installation of the Project's 24-, 36-, and 42-inch steel piles. Based on the type of bubble curtain and pile sizes proposed by the Applicant, the assessment of acoustic impacts presented in this biological opinion assumes an estimated reduction of 10 dB in sound pressure.

As presented above, steel piles struck with an impact hammer are the most likely to produce high sound pressure waves that can injure or kill fish. Therefore, NMFS' impact analysis focuses on the sound levels produced from installing 24-, 36-, and 42-inch steel piles with an impact hammer. The Applicants may install concrete piles in lieu of steel piles (see Table 2), but for the sake of this analysis NMFS assessed the worst case scenario for sound impacts, i.e., they would install steel piles in those situations. Wood piles will be installed by an impact hammer at Pier 1 and the East Bayside Promenade. Injuries or mortalities of fish from impact driving wood piles have never been observed. Based on measured SPLs during the installation of wood piles by impact hammers (ICF Jones and Stokes, and Illingworth and Rodkin, Inc., 2009), installation of the 66 wood piles (14-inch diameter) at Pier 1 and the East Bayside Promenade with an impact

hammer is not expected to produce sound that would result in injury or mortality of green sturgeon.

Assessment of Pile Driving Effects from Pile Driving Steel Piles. Sound monitoring data collected from recent pile driving projects (Illingworth and Rodkin Inc. 2007, updated in 2012) indicates the Project's use of an impact hammer will, at times, exceed the dual metric criteria and therefore potentially injure listed fish in the project's action area (Table 6; Figure 3). For the purposes of this analysis, we have used the maximum distances peak SPLs and accumulated SELs could travel as a reasonable worst case scenario because the project description does not indicate the days (i.e., duration) on which the largest piles will be driven. Therefore, this effects analysis assumes that all steel piles will have the maximum 206 dB peak, 187 dB accumulated SEL ranges listed in Table 6 below for the 42-inch piles for the maximum duration of all pile driving activities. In sum, NMFS estimates that green sturgeon will experience injury or mortality if at any time during the 146 days piles are being driven they are present within a radial distance of 612 feet from active pile driving locations; and, similarly, they may exhibit behavioral responses if they are present within a radial distance of 3779 feet of active pile driving activities (Table 6).

Table 4. Sound levels associated with impact hammer pile driving of steel piles (peak and RMS sound levels are referenced to one micropascal and SEL levels are referenced to one micropascal squared-second). Sound levels account for attenuation with a bubble curtain or similar device.

	Source sound at 33 ft (10 m)								
Pile Type	peak sound, DB	SEL, single strike	RMS, dB	Number of Strikes per pile	Number of Piles per day	SEL, accumul-ated	Distance to 206 dB peak (feet)	Distance to 187dB SEL (feet)	Distance to 150 dB RMS (feet)
24-inch steel	193	168	180	1800	3	205	6	378	1920
36-inch steel	198	170	183	1800	2	206	11	408	2882
42-inch steel	200	173	185	1800	2	209	15	612	3779

In general, the effects of SPLs generated by this project's pile driving are expected to be less severe to green sturgeon than for the smaller 2-gram size fish protected by the NMFS dual-metric criteria. However, due to their smaller size, juvenile and sub-adult green sturgeon are, in comparison to adult green sturgeon, more vulnerable to barotramas. Juvenile green sturgeon are typically around 18 inches in length at the time they enter the estuary. Larger fish are, presumably, more tolerant of high levels of sound pressure and would be less affected by pile driving activities. Yelverton *et al.* (1975) reported injury and mortality rates differed significantly depending on fish size in response to an underwater blast. Mortality rates decreased as fish size increased when exposed to the impulse of an underwater blast (Yelverton *et al.* 1975). Since adult sturgeon can be very large (up to 7 feet in length), they are likely to be more resilient to injury and capable of recovering more quickly from temporary disturbances associated with pile driving. The vulnerability of smaller fish to injury or death from pile driving (especially if within close proximity), was demonstrated by high SPLs at the construction site of the Benicia-Martinez Bridge that resulted in the death of a juvenile white sturgeon, approximately 24-inches in length.

Although green sturgeon could be in the vicinity of the pile driving sites during pile driving of

24-, 36-, and 42-inch diameter steel piles, the likelihood of injury or mortality is proportionate to the low likelihood of presence. Few green sturgeon are anticipated to be injured or killed by elevated sound levels because the duration of impact hammer driving by the project is limited to approximately 146 days, and the area of physical injury associated with increased SPLs during pile driving is relatively small in comparison to the size of Central San Francisco Bay. Furthermore, to experience injuries or mortality from high SPLs, exposed green sturgeon would need to remain within the zone of high SPLs shown in Figure 3. Tagging studies on green sturgeon in the Bay suggest that green sturgeon are uncommon in the action area and do not typically occur in areas along the waterfront for more than minutes to hours at a time. This is likely due to the action area lacking quality forage and cover that would attract or support listed green sturgeon. Furthermore, boats and barges containing the pile driving equipment and crew will be operating immediately overhead. This noise will likely startle fish from the immediate area, so sturgeon are not expected to remain in the area directly adjacent to a pile during driving. If green sturgeon are present within the immediate pile driving areas, they are likely to disperse from the immediate vicinity of pile driving (Feist *et al.* 1992). Adjacent portions of San Francisco Bay exist outside the action area to support green sturgeon leaving the portion of the action area affected by pile driving. These portions of the Bay provide fish sufficient area with habitat of similar or higher quality to avoid harm from increased sound levels in the action area and provide adequate carrying capacity to support individual sturgeon that are temporarily displaced during pile driving. NMFS believes that, for the reasons stated herein the potential risk of injury and mortality to the few green sturgeon that may be present is low.

The Project's pile driving activities will also generate elevated sound levels with potential behavioral effects. NMFS estimates fish may demonstrate temporary abnormal behavior indicative of stress or exhibit a startle response extending out to the 150 dB RMS distance (see Table 6). As described previously, a fish that exhibits a startle response may not be injured, but may exhibit behavior (e.g., agitation or alarm) that suggests it perceives a stimulus indicating potential danger in its immediate environment (Shin 1995; Fewtrell 2003). Startle responses are likely to diminish after a few pile strikes, or as fish leave the area. Given the water conditions experienced at a pile driving site and in light of their anticipated behavioral action (to leave the area of higher sound pressures for an area with lower sound pressures) green sturgeon are expected to react to the sound produced by pile driving by swimming away from pile driving site. Adequate water depths and the open water area of Central San Francisco Bay adjacent to the action area will provide startled fish sufficient area to escape and elevated sound levels should not result in significant effects on these individuals. Areas adjacent to pile driving sites provide habitat of similar or higher quality and provide adequate carrying capacity to support individual green sturgeon that are temporarily displaced during the pile driving.

2.4.1.2. Impacts to Water Quality

Water quality in the action area may be degraded during pile driving and removal, installation, and repair of Ferry Terminal facilities. Disturbance of soft bottom sediments during these activities are likely to result in temporary increases in turbidity and release of contaminants from sediments in the substrate.

Turbidity. High levels of turbidity may affect fish by disrupting normal feeding behavior, reducing growth rates, increasing stress levels, and reducing respiratory functions (Benfield and Minello 1996; Nightingale and Simenstad 2001). As structures are installed and removed from the Bay floor, fine-grain sediments such as the clay and silt material found in and along the San Francisco waterfront will be disturbed and generate increased levels of turbidity in the adjacent water column. The extent of turbidity plumes resulting from project pile driving and Ferry Terminal work will depend on the tide, currents, and wind conditions during these activities. NMFS expects that the elevated levels of turbidity related to these activities will be minor and localized. This is because the project's construction and demolition activities will for the most part not disturb the bottom substrate. Substrate may be disturbed intermittently for various amounts of time over a 13 hour work day during these activities. Turbidity resulting from these activities is expected to be similar to levels of turbidity experienced by fish during natural disturbances, such as large tidal shifts and storms. Furthermore, areas of turbidity resulting from the project's construction activities are expected to rapidly disperse from the project area with tidal circulation, as strong currents are present within Central San Francisco Bay.

There is little direct information available to assess the effects of turbidity in San Francisco Bay estuary on listed salmonids and green sturgeon. However, threatened green sturgeon and listed anadromous salmonids in the estuary commonly encounter areas of increased turbidity due to storm flow runoff events, wind and wave action, and benthic foraging activities of other aquatic organisms. Fish generally react by avoiding areas of high turbidity and return when concentrations of suspended solids are lower. The minor and localized areas of turbidity associated with this project's in-water construction is not expected to result in harm or injury, or behavioral responses that impair migration, foraging, or make listed fish more susceptible to predation. If sturgeon or salmonids temporarily relocate from areas of increased turbidity, areas of similar value are available in Central San Francisco Bay adjacent to the work sites which offer habitat of equal or better value for displaced individuals. Adjacent habitat areas also provide adequate carrying capacity to support individual sturgeon and salmonids that are temporarily displaced during the Project's construction activities.

Contaminants. If contaminants are present in sediments, they may be mobilized along with sediments to the benthic surface and water column and become biologically available to listed fish and their prey organisms. As described above in the *Environmental Baseline*, water and sediment quality within the action area is affected by stormwater runoff, industrial activities, and other urban influences. Results from testing of sediments within the vicinity of the action area show that sediments within the action area contain high concentration of chemicals characteristic of petroleum hydrocarbon contamination (e.g. PAHs and Total Petroleum Hydrocarbons) (San Francisco Planning Department *et al.* 1997).

During construction activities, bottom sediments will be suspended and sediment-associated contaminants may be released to the water column. As described above in the discussion related to the effects of turbidity on water quality, suspended sediments (i.e., turbidity) resuspended during project construction will be short-term and localized. Since contaminants are bound to sediment particles, the amount of contaminants released during these activities is expected to be

minor. Any minor and localized elevations in contaminants which might result from those suspended plumes should be quickly diluted by tidal circulation to levels that are unlikely to adversely affect listed salmonids and green sturgeon.

2.4.2. Effects of Dredging on Listed Species and Critical Habitat

The Project proposes an initial, one-time dredging episode to remove accumulated sediments adjacent to Gates A, F, and G to accommodate vessels arriving and departing from these gates. A clamshell dredge with a 5-10 cy bucket will be used to remove a total of approximately 33,000 cy of material at Gates A, F, and G at initial construction. All dredged materials will be transported by barge for disposal at SF-DODS, an upland facility, or a permitted beneficial reuse site, depending upon the chemical constituents contained in dredged material. SF-DODS is located approximately 50 miles outside the Golden Gate in water depths of approximately 10,000 feet. At this time, permitted beneficial reuse sites in the Bay include the Cullinan Ranch Tidal Restoration Project and the Montezuma Wetlands Restoration Project. Beneficial reuse sites that are in the planning stages and may be permitted for use in the future include Bel Marin Keys (Unit V), the South Bay Salt Ponds Restoration Project, and Alameda Point. Placement of dredged material at beneficial reuse sites could involve placement of sediment in shallow water or on land. The potential effects of dredging on listed salmonids and green sturgeon are presented below.

2.4.2.1. Impacts to Water Quality

Turbidity. As discussed above for construction activities, high levels of turbidity may affect fish by disrupting normal feeding behavior, reducing growth rates, increasing stress levels, and reducing respiratory functions. The extent of turbidity plumes resulting from dredging operations will depend on the tide, currents, and wind conditions during these activities.

During clamshell dredging, sediments may become suspended in the water column by the bucket's impact to the bottom, material washing from the top and side of the bucket as it passes through the water column, sediment spillage as it breaks the water surface, spillage of material during barge loading, and intentional overflow in an attempt to increase the barge's effective load (Nightingale & Simenstead 2001). Clamshell dredges remove bottom sediment through the direct application of mechanical force to dislodge and excavate the material with little loss of sediment. With this technique, the dredged material ascends rapidly through the water column. However, if not properly maintained or operated, clamshell dredges may generate significant concentrations of suspended sediment throughout the water column. Also, dredging in areas with fine sediments are likely to have greater turbidity impacts than dredging in areas with coarse sediments (Sabol *et al.* 2005). This is because finer grain sediments (silts and clays) are more readily suspended and settle out slower than course sediments, such as sand and gravel.

A study characterizing the spatial extent of turbidity plumes during dredging operations in Oakland Harbor found that a mechanical dredge (closed bucket) generated elevated concentrations of suspended sediments. Ambient Total Suspended Sediment (TSS) concentrations were typically less than 50 mg/l. While exact plume trajectories were dynamic,

turbidity levels above ambient were detected up to 1,200 feet both up- and down-current from the source. In general, significantly elevated TSS concentrations greater than 225 mg/l were detected up to 750 feet from the source (MEC Analytical Instruments, Inc. 2004).

Elevated levels of turbidity from the Project's dredging activities are expected to result in similar levels as those described above for the Oakland Harbor. The durations of such turbidity plumes will largely depend upon the currents at dredge sites. Central San Francisco Bay is the deepest sub-embayment in the San Francisco Bay estuary, and has the strongest tidal currents within the estuary (Chin *et al.* 2010). Tidal currents are strongest over the west-central part of the Central Bay (Chin *et al.* 2010), near the Ferry Terminal. Due to the location of the Ferry Terminal portion of the action area, currents are expected to be strong and dissipate turbidity plumes created at work sites adjacent to the Ferry Terminal within hours, if not faster. Thus, NMFS anticipates green sturgeon to be exposed to turbidity plumes within approximately 750 radial feet from dredge sites at the Ferry Terminal for short durations. Listed anadromous salmonids will not be present in the Ferry Terminal portion of the action area during the June 1 to November 30 dredge period; thus, impacts from dredging related turbidity in the Ferry Terminal portion of the action area on salmonids will be discountable. Elevated levels of turbidity and sediment associated contaminants will be short-term and localized, resulting in no more than discountable impacts on green sturgeon and salmonid critical habitat in the Ferry Terminal portion of the action area.

The Project's disposal of dredged sediments at SF-DODS may result in elevated levels of turbidity and sediment associated contaminants at the disposal site. However, listed anadromous salmonids and green sturgeon are not expected to be present within the SF-DODS portion of the action area because these species are typically found on the continental shelf in ocean waters less than 500 feet deep; and SF-DODS is located approximately 50 miles offshore from the Golden Gate in the Pacific Ocean with water depths of approximately 10,000 feet. In addition, NMFS anticipates that contaminated dredge material disposed of at the site will be diluted to levels which significantly reduce the potential for bioaccumulation of contaminants in marine organisms. For these reasons, impacts associated with disposal of dredged materials at SF-DODs are expected to discountable.

Threatened green sturgeon in the San Francisco Bay estuary commonly encounter areas of increased turbidity due to storm flow runoff events, wind and wave action, and benthic foraging activities of other aquatic organisms. Fish generally react by avoiding areas of high turbidity and return when concentrations of suspended solids are lower. The areas of turbidity associated with this Project's dredging is not expected to result in harm or injury, or behavioral responses that impair migration, foraging, or make green sturgeon more susceptible to predation. If sturgeon temporarily relocate from areas of increased turbidity, habitat of similar value is available in Central San Francisco Bay adjacent to work sites, and other areas in San Francisco Bay offer equal or better habitat value for displaced individuals. Adjacent habitat areas also provide adequate carrying capacity to support individual sturgeon that are temporarily displaced during in-water construction activities that may cause increases in turbidity.

Contaminants. As discussed above for construction activities, Central San Francisco Bay in the action area has been subject to loading by anthropogenic contaminants from both point and non-point sources. Dredging can cause contaminated sediments to be suspended in the water column and re-deposited to areas where they become bio-available to listed fish after dredging is completed. Contaminated sediments re-suspended during dredging are expected to follow the same patterns as those described above for turbidity and extend approximately 750 feet from the proposed dredge sites at Gates A, F, and G. Contaminated sediment released during dredging and deposited in areas outside the dredge footprint will be diluted as they travel through the water column. Following dredging episodes, the surface layer on the Bay floor will be exposed at a depth of -12 feet MLLW with and over-dredge depth of -2 feet at Gates A, F, and G. This surface, which was previously buried in sediment, may contain high levels of contaminants from historical pollution sources which become available for uptake by aquatic organisms. Therefore, by removing surface sediments that contain much lower levels of contaminants than buried sediments, dredging may expose listed species to harmful levels of contaminants.

In order to better understand the potential contaminant concentrations exposed on the Bay floor following dredging, NMFS utilized sediment data collected at the San Francisco Ferry Terminal in 1995 for Phase 1 of the San Francisco Ferry Terminal Improvements. Based on this information, Total PAHs are the most likely contaminants of concern to be exposed at high concentrations after dredging at the project site. Unfortunately, the data available was very limited. PAH data was only reported for the South Basin. However, the Environmental Assessment (EA) for Phase 1 of the Ferry Terminal Improvements (San Francisco Planning Department *et al.* 1997) characterized the contaminant concentrations at Pier 1, near the shoreline, as "severely toxic" and the concentrations at the North Basin as "not toxic". The PAH concentrations measured at the South Basin were 3.3 milligrams per kilogram (mg/kg). The San Francisco Estuary Institute (SFEI) has a regional monitoring station approximately 2,000 feet south of the Ferry Building and north of the Bay Bridge. Sediment sampled at this location regularly tests positive for PAHs. This is likely due to occasional oil and other hazardous material spills at the Ferry Terminal since 1987 (URS 2013). The concentrations of PAHs at the Ferry Terminal are notably higher than the average total PAH concentrations observed throughout the San Francisco Bay. Monitoring by the SFEI Regional Monitoring Program has established a Bay-wide average concentration for the seven year period from 2002 to 2008 of total PAHs at 2.3 mg/kg.

PAHs are known to cause cancer, reproductive anomalies, immune dysfunction growth and development impairments and other impairments in fish exposed to sufficiently high concentrations over periods of time (Johnson *et al.* 1999, Karrow *et al.* 1999, Johnson 2000, Stehr *et al.* 2000, Collier *et al.* 2002, Johnson *et al.* 2002, Sherry *et al.* 2005). Research by scientists at the NMFS Northwest Fisheries Science Center (Johnson *et al.* 2002) indicates that a sediment threshold level for total PAH of 1 mg/kg dry weight would protect estuarine, bottom dwelling fish (such as the English sole examined in the study), from detrimental effects such as liver lesions, spawning inhibition and reduced egg viability. Based on the results presented in the Phase 1 San Francisco Ferry Terminal EA that are described above, PAHs at dredge sites are very likely present at concentrations known to cause harmful effects on listed fish.

The main exposure scenario of concern for PAHs occurs as this chemical accumulates in sediments and is assimilated into the food web (i.e., bioaccumulation). For example, a recent study found concentrations of PAHs in stomach contents of wild juvenile salmon sampled over a four year period generally paralleled PAH concentrations in sediment (Johnson *et al.* 2009). It is the chronic and dietary exposures, particularly to the higher weight PAHs remaining in sediments, that cause many of the effects listed above. PAHs bioaccumulate in many invertebrate species (Varanasi *et al.* 1989, 1992; Meador *et al.* 1995), but are metabolized by many vertebrates (including fishes) where they are converted to water-soluble forms and excreted (Varanasi *et al.* 1989). Some of the intermediate metabolites in this process exhibit carcinogenic, mutagenic and cytotoxic properties.

The extent in which listed salmonids or green sturgeon would be adversely affected by contaminated sediment would depend on the duration in which listed salmonids and green sturgeon would be exposed to potentially elevated contaminant concentrations (directly or via trophic transfers) in the post-dredge surface layer. The time in which newly exposed contaminants would be available to listed species is dependent upon the deposition and accretion rates of sediments entering the dredge sites from other locations, which is dependent on tides, currents, and winds in the area. If the sediment deposition rates are high, new sediment settles in the dredge areas and covers the existing sediments quickly. Considering that the overall average level of PAHs in San Francisco Bay are likely lower than the dredge sites, NMFS believes it is reasonable to assume newly deposited sediments will have lower concentrations of PAHs and the potential for trophic transfer of harmful contaminants from benthic organisms to green sturgeon or listed salmonids would be reduced quickly. Deposition rates and the chemical constituents of sediments that would settle at the dredge sites are unknown, but rates in similar locations in San Francisco Bay are estimated to range from 0.5 to 2 inches per month. At these rates, the biologically available surface layer (the top 3 inches of sediment) at dredge sites will be replaced by surrounding sediments within 2-6 months. These newly deposited sediments will likely consist of contaminant concentrations near Bay ambient conditions and thus, pose less of a contaminant risk to listed species than high levels of contaminants that may become exposed immediately following dredging.

NMFS does not expect listed salmonids or green sturgeon occur within post-dredge sites frequently enough within this 2-6 month period to experience bioaccumulation. As described in the *Environmental Baseline*, salmonids and green strurgeon are expected to spend very little, if any, time in the action area for foraging or rearing due to the degradation of critical habitat in the area. Therefore, the risks associated with bioaccumulation of contaminants in the salmonids and green sturgeon discussed herein are insignificant.

The risk of contaminant exposure at disposal sites will be minimized through the DMMO testing and review process. If testing shows that the dredged sediment contains contaminants at concentrations above standard thresholds, the dredge material will not be allowed to be disposed of in the Bay; rather, it would be disposed at an upland facility (out-of-water) or SF-DODS. Listed anadromous salmonids and green sturgeon are unlikely to be found in the vicinity of SF-DODs, because these species are typically found on the continental shelf in ocean waters less

than 500 feet deep. For these reasons, contaminant and turbidity related impacts associated with disposal of dredged materials are expected to be discountable.

2.4.2.2. Impacts on Fish from Entrainment during Dredging

Dredging has the potential to entrain fish and other aquatic organisms in the clamshell dredge. Entrainment occurs when organisms are trapped during the uptake of sediments and water by mechanical dredging machinery. Benthic infauna are particularly vulnerable to being entrained by dredging uptake, but mobile epibenthic and demersal organisms such as burrowing shrimp, crabs, and fish may also be susceptible to entrainment under some conditions. There is little information available to quantify the level of benthic infauna entrainment during dredging, although it is known to occur. Dredging will likely result in a reduction in benthic infauna at the dredge sites, which may lead to an overall reduction in the quality of fish habitat (forage) at these sites. However, the use of the action area for foraging by green sturgeon and salmonids is very limited and the impacts of dredging on forage for green sturgeon and salmonids will be temporary. Benthic fauna are expected to recolonize the sites and the benthic community at the sites is expected to fully recover within a year of each dredging episode. Due to the minor extent in which fish use this areas for foraging, the small size of the dredge sites, and the large amount of alternative forage sites that are located nearby, the temporary reduction in forage species at these sites are not expected to result in the reduced fitness of individual salmonids or sturgeon.

Listed anadromous salmonids will not be present in the action area during the June 1 to November 30 dredge period; thus, the potential for entrainment and disturbance of salmonids are discountable. It is possible that green sturgeon could come in contact with the clamshell bucket of the mechanical dredge. However, due to the short duration that mechanical dredging equipment is in contact with the bottom, and the relatively small footprint of substrate affected by each dredge bucket (5-10 cy), the likelihood of a green sturgeon being entrained is extremely low. Furthermore, because of the shallow depths at dredge sites (-10 ft MLLW), any green sturgeon present at dredge sites will likely be startled and disperse from the immediate vicinity once the dredge head hits the surface of the water. Sturgeon that react behaviorally to dredging operations will have areas of adequate water depths and the open water in Central San Francisco Bay adjacent to work sites. Thus, startled fish will have sufficient area to escape and disturbance by dredging should not result in more than an insignificant effect on them.

2.4.2.3. Maintenance Dredging

Once the project is constructed, WETA will need to maintain depths at Gates F and G for their vessels by conducting regular maintenance dredging. WETA estimates that maintenance dredging will need to be conducted at Gates F and G to remove up to 10,000 cy (cumulative) every 3-4 years, for the life of the Ferry Terminal. Future maintenance dredging at the site would be carried out by the Port of San Francisco or its contractors in accordance with the Port's 10-year maintenance dredging Department of the Army Permit.

All dredged materials from maintenance dredging episodes will be dredged, transported, and disposed of the same as the initial dredging episode. Therefore, NMFS does not expect

additional impacts related to maintenance dredging that were not already discussed in relation to initial construction dredging (section 2.4.2.1. and 2.4.2.2. of this Biological Opinion). Primary effects on fish from maintenance dredging will be the potential to expose high level of contaminants at the z-layer for up to six months following maintenance dredging episodes. Because habitat conditions (benthic organisms and contaminant levels) are expected to return to current conditions in-between dredging episodes, NMFS does not expect additive impacts from maintenance dredging.

2.4.3. Effects of Shading and New Solid Structure on Listed Species and Critical Habitat

Overwater structures, such as docks and piers, result in shading of water column and benthic habitats. Shading is known to have the potential to reduce growth of submerged aquatic vegetation, decrease primary productivity, alter predator-prey interactions, change invertebrate assemblages, and reduce the density of benthic invertebrates (Helfman 1981; Glasby 1999; Struck *et al.* 2004; Stutes *et al.* 2006), all of which may lead to an overall reduction in the quality of fish habitat.

For expansion of the San Francisco Ferry Terminal, the Project will remove approximately 20,500 square feet of shaded area and 1,135 square feet of solid structure (shaded area and solid structure are generally referred to as "fill"). The new structures will include 60,090 square feet of new shaded area and 1,480 square feet of solid structure. Thus, upon completion, the Proposed Action will result in the net increase of approximately 39,935 square feet of fill in the action area (Table 1). While habitat in the action area is currently degraded, NMFS considers many of the human-caused impacts responsible for these impacts somewhat reversible. For instance, environmental regulations (*e.g.*, Clean Water Act) have curtailed most point- and non-point sources of pollutants delivered to the site. However, even though NMFS considers the site restorable to some degree, the action area is located in an essential transportation hub for the largest metropolitan city on the West Coast of the US, which restricts the Applicant's ability to modify the facility beyond its principle function. Therefore, the Applicant proposes to remove an equal or greater amount of fill from elsewhere in Central San Francisco Bay where similar benthic habitat exists to compensate for the effects of fill by the new San Francisco Ferry Terminal structures. This is expected to increase the amount of forage available to listed salmonids and green sturgeon in Central San Francisco Bay and compensate for any losses of forage resulting from the new Ferry Terminal structures. Overall, the shading or direct covering of benthic areas from the Project are expected to have negligible effects on listed fish, their prey items, and critical habitat in the action area.

2.4.4. Effects of Ferry Terminal Operations on Listed Species and Critical Habitat

2.4.4.1. Impacts from Increased Vessel Traffic.

The proposed project improvements would allow for vessel traffic to increase at the Ferry Terminal. Vessels traveling to and from the berths are not expected to disturb bottom sediments to the extent that increases in turbidity result. This is primarily because of the low amount of sediment deposition at the site due to low sedimentation rates and frequent vessel traffic in the

area. In addition, vessels operate at low speeds in the project area to limit wake impacts to the berthing facilities and to ensure passenger safety. Therefore, NMFS anticipates any increases in turbidity from vessel traffic to be insignificant.

Noise associated with vessel traffic may startle fish. Although there is no water quality or sound data to quantify these levels, observations by WETA from similar ferry operations at WETA's other ferry terminal facilities in Vallejo, Larkspur, Sausalito and other, similar locations around the San Francisco Bay indicate these impacts will be minor, localized, and limited to short periods of time during the arrival and departure of the vessels. Therefore, NMFS anticipates any increases in noise associated with vessel traffic to be negligible

2.4.4.2. Spread of Invasive Species.

Increased ferry traffic from the Project could facilitate the spread of the non-native Asian kelp *Undaria pinnatifida*. The invasive kelp is a native of the Western Pacific (e.g., Japan, Korea), is quick-growing and opportunistic, and can quickly become established on artificial and natural hard substrate (e.g., boulders, rip rap, pilings, ship hulls, moorings, ropes, docks). Invasive kelp negatively impacts native species by outcompeting native vegetation for space and light. *Undaria* has been documented in California since 2000. In 2009, it was documented in the San Francisco Marina and at several locations along the City of San Francisco waterfront. In 2010, *Undaria* was observed at Pier 1.5, approximately 0.1 miles from the action area (SERC 2014).

If *Undaria* was to become established within the Ferry Terminal and foul ferry vessels, vessel traffic associated with this Project may increase the potential spread of *Undaria* to other ferry terminals, and elsewhere in the Bay. The impact of *Undaria* on native communities in San Francisco Bay is not well understood since its introduction is so recent. Nonetheless, one can approximate the impacts of *Undaria* introductions by looking at other locations where it has become established in recent years. In both New Zealand and Catalina Island, California, *Undaria* has outcompeted native macroalgal species in intertidal and subtidal habitats. Similar impacts from *Undaria* invasions in San Francisco Bay could occur if *Undaria* becomes established throughout the Bay. The impacts of such an invasion could alter the current ecosystem of the Bay, which has already been heavily impacted by invasive species. The predominate effects of such alterations on listed salmonids and green sturgeon and their critical habitat would be an alteration of prey assemblages and vegetative cover characteristics where *Undaria* becomes established. These impacts, depending upon their magnitude, could have a significant impact on listed species and critical habitat in the Bay.

Hard substrate that would accommodate *Undaria* exists at the Ferry Terminal. Currently the site does not support macroalgae or other submerged aquatic vegetation, so *Undaria*—if established—would not displace existing vegetation. However, the additional vessel traffic expected as a result of the new Ferry Terminal could increase the potential for it to be transported around the Bay via ferry vessels. To reduce the spread of *Undaria* and other invasive hull fouling organisms via ferry vessels, WETA currently implements a number of proactive measures. These measures include avoiding the use of ballast water in their vessels and annual dry-docking to clean and refinishing their vessels with anti-fouling finishes. These

measures currently exceed the requirements of the USCG and California State Lands Commission's Marine Invasive Species Program and are consistent with the recommendations of the Smithsonian Environmental Research Center's recommendations for boaters (http://undaria.nisbase.org/ page/ boaterinfo). WETA's practices are also consistent with the California State Lands Commission's Marine Invasive Species Program's proposed regulations on vessel bio-fouling. NMFS anticipates with the implementation of these measures, the potential for invasive hull fouling species such as *Undaria* to be spread via ferry vessels is discountable.

2.4.4.3. Oil and Other Hazardous Materials.

Operation of vessels introduces the potential for oil and other hazardous material to spill into the surrounding Bay waters. Because the vessels will be fueled and serviced off-site, the potential for these substances to be released into waterways is significantly reduced. A review of environmental records from local, state, and Federal sources provided by Environmental Resources, Inc. (as summarized in the Draft EIS/EIR for the project), document 10 reported instances of oil or other hazardous material spills at or adjacent to the Ferry Terminal since 1987. Of these, only 2-3 of these instances were likely attributable to WETA's Ferry Terminal operations. These spills were minor spills that did not extend beyond the Ferry Terminal. WETA proposes to continue to implement several measures aimed at preventing and managing spills. These measures are expected to prevent spills to the greatest extent possible and sufficiently contain spills so that hazardous materials do not spread beyond localized spill zones. Given these measures, any minor and localized elevations in oil and other hazardous materials released to surrounding waters from operation of the Ferry Terminal are unlikely to adversely affect listed salmonids and green sturgeon.

2.4.5. Effects of Mitigation Actions

WETA proposes to offset the new shaded area and solid structure (i.e., fill) in San Francisco Bay created by the proposed project improvements by removing up to 79,870 square feet of fill elsewhere in San Francisco Bay. Sites that would be considered for fill removal include dilapidated piers, wharfs, and remnant pilings that were constructed with creosote treated wood and have no current maritime uses. For listed salmonids and threatened green sturgeon, implementation of the mitigation activities may have effects on water quality. As demolition activities occur, disturbance of the substrate will likely result in temporary increases in turbidity and resuspension of contaminated sediment, if present. The impacts of turbidity and sediment-associated contaminants resuspended during these activities are expected to be similar to the effects discussed for the construction and demolition activities proposed at the Ferry Terminal (see Section 2.4.1.2. of this Biological Opinion). To minimize impacts associated with turbidity and sediment-associated contaminants, the Applicant will implement measures to contain material and reduce distribution into the water column (*e.g.*, silt curtains, carefully time excavation and backfill to periods of low tide, cut piles at the mudline if they break off during extraction). With these measures, NMFS anticipates listed salmonids and green sturgeon will not be exposed to turbidity or sediment-associated contaminants at levels commonly cited as the cause of these possible behavioral and physical impacts. Additionally, given high current

velocities in the Bay, minor levels of suspended materials are expected to quickly disperse from project areas with tidal circulation. For these reasons, the potential effects of minor and localized areas of elevated turbidity and sediment-associated contaminants associated with implementation of the mitigation actions are expected to be insignificant to listed salmonids and green sturgeon.

2.5. Cumulative Effects

Cumulative effects are defined in 50 CFR § 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation". Any future federal actions will be reviewed through separate section 7 consultation processes and not considered here.

NMFS does not anticipate any cumulative effects in the action area other than those ongoing actions already described in the Environmental Baseline above, and resulting from climate change. Given current baseline conditions and trends, NMFS does not expect to see significant improvement in habitat conditions in the near future due to existing land and water development in the watershed adjacent to the action area. In the long term, climate change may produce temperature and precipitation changes that may adversely affect listed anadromous salmonids and green sturgeon habitat in the action area. Freshwater rearing and migratory habitat are most at risk to climate change. However, productivity in the San Francisco Bay is likely to change based on changes in freshwater flows, nutrient cycling, and sediment amounts (Scavia *et al.* 2002). This may result in altered trophic level interactions, introduction or survival of invasive species, emergence of harmful algal blooms, changes in timing of ecological events, all of which may cause decreases (or increases) in abundance of green sturgeon and salmonids as well as of their predators and competitors.

2.6. Integration and Synthesis

CCC and CV steelhead, CV spring-run Chinook salmon, Sacramento River winter-run Chinook salmon, and southern DPS green sturgeon have experienced serious declines in abundance and long-term population trends suggest a negative growth rate. Human-induced factors have reduced populations and degraded habitat, which in turn has reduced the population's resilience to natural events, such as droughts, floods, and variable ocean conditions. Global climate change presents another real threat to the long-term persistence of the population, especially when combined with the current depressed population status and human caused impacts. Within the Project's action area in Central San Francisco Bay, the effects of shoreline development, industrialization, and urbanization are evident. These activities have eliminated tidal marsh habitats, introduced non-native species, degraded water quality, contaminated sediment, and altered the hydrology and fish habitat of the action area. As a result, forage species that listed salmonids and green sturgeon depend on have been reduced, contaminants have polluted their habitat; and natural shoreline habitat areas have been eliminated.

Since some construction activities for the proposed project could occur at any time of year, CCC and CV steelhead, CV spring-run Chinook salmon, Sacramento River winter-run Chinook

salmon, and Southern DPS green sturgeon may be present in or near work site during construction activities. However, due to the proposed dredging and pile driving work-window of June 1 through November 30, only green sturgeon are expected to occur in the action area during pile driving and dredging.

During construction of the Project and implementation of mitigation actions (i.e., removal of fill from the Bay), water quality in the action area may be degraded through the disturbance of bottom sediments. Turbidity effects associated with construction activities will likely result in minor and temporary changes to fish behavior, and are not expected to adversely affect green sturgeon or salmonids. Since contaminants are bound to sediment particles, the amount of contaminants released during these activities is expected to be minor and not result in adverse effects on green sturgeon or salmonids.

The initial dredging episode and maintenance dredging may result in higher levels of turbidity for longer periods of time than other in-water activities. Dredging will be conducted using a mechanical (clamshell) dredge between June 1 and November 30. This period avoids the migration periods of listed anadromous salmonids in San Francisco Bay and few green sturgeon are expected to be present at or in close proximity to dredge sites during dredging activities. Anticipated turbidity levels are not expected to result in harm or injury, or behavioral responses that impair migration, foraging, or make green sturgeon more susceptible to predation.

Post-dredging, the newly exposed Bay floor surface may contain high levels of contaminants. Sediment analysis conducted at the site by the San Francisco Planning Department (1997) shows the potential for the newly exposed surface on the Bay floor to contain high levels of contaminants, specifically PAHs, which become available for uptake by aquatic organisms post-dredging. Since harmful levels of contaminants may remain uncovered or inadequately covered for a period of up to six months after dredging is completed, adult and juvenile listed salmonids, and green sturgeon have the potential to encounter harmful high levels of sediment-laden contaminants in the action area. Salmonids and green strurgeon are expected to spend very little, if any, time in the action area for foraging or rearing due to the degradation of critical habitat in the area. Therefore, the risks associated with bioaccumulation of contaminants in the salmonids and green sturgeon are insignificant.

Listed green sturgeon may be adversely affected by elevated underwater sound levels during the driving of steel piles with an impact hammer. Peak SPLs above 206 dB from a single strike will occur in areas up to 15 feet from the pile. It is unlikely individual fish will occur within this close a proximately during construction activities since construction equipment will likely startle fish away from the pile driving sites before pile driving initiates. However, accumulated SELs may result in injury or death to green sturgeon if individuals remain within 612 feet of active pile driving. NMFS expects the number of green sturgeon exposed to this effect to be small because the duration of pile driving steel piles is short (no longer than 146 days), the area of effect is relatively small, and the abundance of green sturgeon in the action area is low. In addition, due to behavioral movements, NMFS believes it is highly unlikely that exposed sturgeon would remain in the same location to experience the full duration of the pile driving over a 24 hour

period (the duration which accumulated SELs are calculated). Behavioral effects during pile driving may extend up to 3,779 feet. This noise may discourage green sturgeon from utilizing the action area during active pile driving, but this area represents a small portion of the Central San Francisco Bay, and these habitat areas will become available again once pile driving is completed.

New facilities proposed by the Project will shade approximately 39,590 square feet and fill with solid structure approximately 345 square feet of benthic areas. Areas subject to shading are anticipated to experience an overall reduction in critical habitat quality and forage for listed species because of reduced growth of submerged aquatic vegetation, decreased primary productivity, altered predator-prey interactions, changed invertebrate assemblages and a reduction in the density of benthic. Areas that will be filled with solid structure will similarly experience a decrease in critical habitat quality and forage for listed species because the habitat will no longer support benthic prey items. The Applicants propose to mitigate for these impacts by enhancing (e.g., remove existing fill) up to twice as much habitat (79,870 square feet 1.82 acres) within Central San Francisco Bay to compensate for the overwater and solid fill installed by the Proposed Action. This is expected to increase the amount of forage available to listed salmonids and green sturgeon in Central San Francisco Bay. Since forage in the action area is degraded, enhancements elsewhere in the Bay are expected to fully compensate for any loss at the project site.

Upon completion, expansion of the Ferry Terminal will result in increased vessel traffic at the Ferry Terminal. With 90-181 ferries transiting the terminal a day, water quality may be degraded by turbidity and fish startled by this disturbance. Increased levels of turbidity and fish disturbance associated with vessel traffic are expected to be discountable. Given the low number of oil and other hazardous material spills occurring at the site and the proposed minimization measures, and our previous analysis of the maintenance facilities[8], NMFS does not expect oil or other hazardous materials related to operation of WETA's Ferry Terminal vessels or maintenance facilities to result in adverse effects on listed species or critical habitat.

The Ferry Terminal contains hard substrate that is suitable for *Undaria*, which has been documented near the Ferry Terminal. Since the Ferry Terminal does not currently support macroalgae or other submerged aquatic vegetation, *Undaria*—if established—would not displace existing vegetation. without preventative measures, increased ferry traffic from the Project could facilitate the spread of *Undaria* throughout the Bay, which could result in significant impacts to listed species and critical habitat. However, WETA implements sufficient measures to reduce the potential for hull fouling invasive species to be transported via ferry vessels. NMFS anticipates with the implementation of these measures, the potential for invasive hull fouling species, such as *Undaria*, to be spread via ferry vessels is discountable.

Based on the above, a very small number of juvenile, sub-adult, and adult green sturgeon are

[8] Vallejo-Baylink Ferry Maintenance Facility (NMFS ARN: 151422SWR2011SR00147, 2012) and Central Bay Operations and Maintenance Facility (NMFS ARN: 151422SWR2011SR00553, 2012)

expected to be adversely affected by the Project's proposed pile driving. Therefore, it is unlikely that the potential loss of a very small number of individuals as a result of the project will impact future adult returns, due to the large number of individual salmonids and green sturgeon unaffected by the project compared to the small number of salmonids and green sturgeon likely affected by the project. NMFS does not anticipate the project to cause impacts that will further limit the distribution or appreciably affect the spatial structure of salmonids and green sturgeon in the action area, or the genetic diversity of salmonids and green sturgeon that is supported by current habitat conditions in the action area. Because the spatial structure and genetic diversity of salmonids and green sturgeon will not be appreciably reduced, NMFS does not expect appreciable reduction in the spatial structure or genetic diversity of the salmonid and green sturgeon DPS/ESUs from the proposed action.

Regarding future climate change effects in the action area, California could be subject to higher average summer air temperatures and lower total precipitation levels. The Sierra Nevada snow pack is likely to decrease by as much as 70 to 90 percent by the end of this century under the highest emission scenarios modeled. Reductions in the amount of snowfall and rainfall would reduce stream flow levels in Northern and Central Coastal rivers. Estuaries may also experience changes in productivity due to changes in freshwater flows, nutrient cycling, and sediment amounts. For this project, construction would be completed no later than winter 2020 and the above effects of climate change will not be detected within that time frame. The short-term effects of project construction will have completely elapsed prior to initiation of climate change effects. Since the effects to listed fish associated with the future operation of the Ferry Terminal are discountable, future climate change effects will not add to the anticipated effects of this project.

2.7. Conclusion

After reviewing the best available scientific and commercial data, the current status of threatened CCC steelhead, threatened CV steelhead, threatened CV spring-run Chinook salmon, endangered Sacramento River winter-run Chinook salmon, and threatened southern DPS green sturgeon, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is NMFS' biological opinion that the Downtown San Francisco Ferry Terminal Expansion Project in Central San Francisco Bay is not likely to jeopardize the continued existence of threatened CCC steelhead, threatened CV steelhead, threatened CV spring-run Chinook salmon, endangered Sacramento River winter-run Chinook salmon, and threatened southern DPS green sturgeon.

After reviewing the best available scientific and commercial data, the current status of the critical habitat, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is NMFS' opinion that the Downtown San Francisco Ferry Terminal Expansion Project in Central San Francisco Bay is not likely to adversely modify or destroy critical habitat for CCC steelhead, Sacramento River winter-run Chinook salmon, and southern DPS green sturgeon.

2.8. Incidental Take Statement

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by NMFS as an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary, and must be undertaken by the FTA, USCG, and Corps for the exemption in section 7(o)(2) to apply. The FTA, USCG, and Corps have a continuing duty to regulate the activity covered by this incidental take statement. If the FTA, USCG and Corps (1) fails to assume and implement the terms and conditions, or (2) fails to require its designees to adhere to the terms and conditions of the incidental take statement, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the FTA, USCG, and Corps must report the progress of the actions and its impact on the species to NMFS as specified in the incidental take statement (50 CFR §402.14(I)(3)).

2.8.1. Amount or Extent of Take

NMFS anticipates that take of threatened southern DPS green sturgeon associated with the Downtown San Francisco Ferry Terminal Expansion project will be in the form of mortality and/or injury from sound produced by pile driving. The number of listed green sturgeon that may be incidentally taken during activities at the Downtown San Francisco Ferry Terminal Expansion project is expected to be very small.

Finding dead or injured fish will be difficult due to their small size in relation to the size of the action area, the difficulty in observing dead or injured fish in the waters of Central San Francisco Bay due to depth, lack of water clarity, and the presence of predators and scavengers such as birds. Therefore, NMFS will use the area of sound pressure wave impact extending into the water column from each pile, and the time period for pile driving as a surrogate for number of fish. For listed green sturgeon, those fish located within 612 feet of the action area during the installation of the project's steel piles may be injured or killed. If project hydroacoustic monitoring indicates that sound pressure levels greater than 187 dB SEL (re: 1 μPa^2-s) extend beyond 612 feet during the installation of any of the piles, the amount of incidental take may be exceeded.

2.8.2. Effect of the Take

In the accompanying biological opinion, NMFS has determined that the anticipated take is not likely to result in jeopardy to southern DPS green sturgeon.

2.8.3. Reasonable and Prudent Measures

NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize take of southern DPS green sturgeon:

1. Ensure construction methods, minimization measures, and monitoring are properly implemented and assist in the evaluation of project effects on listed salmonids and green sturgeon.

2. Submit plans and reports regarding the construction of the proposed project and the results of the fisheries and hydroacoustic monitoring.

2.8.4. Terms and Conditions

The FTA, USCG, and Corps, and its permitees must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and define the reporting and monitoring requirements.

In order to be exempt from the prohibitions of section 9 of the ESA, FTA, USCG, Corps, its permittees, and their designees must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and present reporting/monitoring requirements. These terms and conditions are nondiscretionary.

1. The following terms and conditions implement reasonable and prudent measure 1:

    a. Prior to the initiation of construction, FTA or WETA shall develop and submit to NMFS for review a hydroacoustic monitoring plan that includes underwater sound measurements at various distances and depths from pile driving operations;

    b. WETA shall make available to NMFS data from the hydroacoustic monitoring program on a real-time basis (i.e., daily monitoring data should be accessible to NMFS upon request).

    c. WETA shall allow any NMFS employee(s) or any other person(s) designated by NMFS, to accompany field personnel to visit the project sites during construction activities described in this opinion.

    d. If any sturgeon or salmonids are found dead or injured during visual observations, the biologist shall contact the NMFS North-Central Coast Office at (707) 575-6050, or 777 Sonoma Avenue, Room 325, Santa Rosa, California, 95404-6528.

All sturgeon mortalities shall be retained, placed in an appropriately-sized sealable plastic bag, labeled with the date and location of collection, fork length, and be frozen as soon as possible. Frozen samples shall be retained by the biologist until specific instructions are provided by NMFS. The biologist may not transfer biological samples to anyone other than the NMFS North-Central Coast Office without obtaining prior written approval from the NMFS North-Central Coast Office, Supervisor. Any such transfer will be subject to such conditions as NMFS deems appropriate.

2. The following terms and conditions implements reasonable and prudent measure 2:

   a. The FTA or WETA shall provide a written report to NMFS by January 15 of the year following construction of the Project. The report shall be submitted to NMFS North Central Coast Office, Attention: Gary Stern, 777 Sonoma Avenue, Room 325, Santa Rosa, California, 95404-6528. The report shall contain, at a minimum, the following information:

      i. **Construction related activities** -- The report shall include the dates construction began and was completed; a description of any and all measures taken to minimize effects on ESA-listed fish; and the number of fish killed or injured during the project action.

      ii. **Hydroacoustic monitoring --** The report shall include the a description of the methods used to monitor sound, the dates that hydroacoustic monitoring was conducted; the locations (depths and distance from point of impact) where monitoring was conducted; the total number of pile strikes per pile, total number of strikes per day, the interval between strikes, the peak/SPL, RMS and SEL per strike, and accumulated SEL per day for each hydroacoustic monitor deployed; and the number of fish killed or injured during the pile driving.

2.9. Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, or to develop information. NMFS has the following conservation recommendation:

a. The FTA and WETA should provide support and funding for salmonid and sturgeon habitat restoration in the San Francisco Bay.

b. The FTA and WETA should provide support and funding to SERC, or another entity, for monitoring and eradication of invasive species, such as *Undaria*, within San Francisco Bay.

2.10. Reinitiation Notice

This concludes formal consultation for the Downtown San Francisco Ferry Terminal Expansion Project in Central San Francisco Bay. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the identified action. In instances where the amount or extent of incidental take is exceeded, formal consultation shall be reinitiated immediately.

3. MAGNUSON STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT ESSENTIAL FISH HABITAT CONSULTATION

3.1. Statutory and Regulatory Information

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996, establishes a national program to manage and conserve the fisheries of the United States through the development of federal Fishery Management Plans (FMPs), and federal regulation of domestic fisheries under those FMPs, within the 200-mile U.S. Exclusive Economic Zone ("EEZ") (16 U.S.C. §1801 *et seq.*). To ensure habitat considerations receive increased attention for the conservation and management of fishery resources, the amended MSA required each existing, and any new, FMP to "describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 1855(b)(1)(A) of this title, minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat." (16 U.S.C. §1853[a][7]). Essential Fish Habitat (EFH) is defined in the MSA as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S.C. §1802[10]). The components of this definition are interpreted at 50 C.F.R. §600.10 as follows: "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle.

Pursuant to the MSA, each federal agency is mandated to consult with NMFS (as delegated by the Secretary of Commerce) with respect to any action authorized, funded, or undertaken, or proposed to be, by such agency that may adversely affect any EFH under this Act (16 U.S.C. §1855[b][2]). The MSA further mandates that where NMFS receives information from a Fishery Management Council or federal or state agency or determines from other sources that an action authorized, funded, or undertaken, or proposed to be, by any federal or state agency would

adversely affect any EFH identified under this Act, NMFS has an obligation to recommend to such agency measures that can be taken by such agency to conserve EFH (16 U.S.C. §1855[4][A]). The term "adverse effect" is interpreted at 50 C.F.R. §600.810(a) as any impact that reduces quality and/or quantity of EFH and may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce quantity and/or quality of EFH. In addition, adverse effects to EFH may result from actions occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

If NMFS determines that an action would adversely affect EFH and subsequently recommends measures to conserve such habitat, the MSA proscribes that the Federal action agency that receives the conservation recommendation must provide a detailed response in writing to NMFS within 30 days after receiving EFH conservation recommendations. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with NMFS EFH conservation recommendations, the Federal agency must explain its reasons for not following the recommendations (16 U.S.C. §1855[b][4][B]).

3.2. Essential Fish Habitat Affected by the Project

The Project occurs within EFH for various federally managed fish species within the Pacific Groundfish, Pacific Salmon, and Coastal Pelagic Fishery Management Plans (FMPs). In addition, the project occurs within areas designated as Habitat Areas of Particular Concern (HAPC) for various federally managed fish species within the Pacific Groundfish FMP. HAPC are described in the regulations as subsets of EFH which are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under MSA; however, federal projects with potential adverse impacts to HAPC will be more carefully scrutinized during the consultation process. As defined in the Pacific Groundfish FMP, the Ferry Terminal Project area contains the following type of HAPC: coastal estuary HAPC.

3.3. Adverse Effects on Essential Fish Habitat

Based on information provided in the EFH assessment and developed during consultation, NMFS concludes that proposed action would adversely affect EFH for various federally managed species within the Pacific Groundfish, Pacific Salmon, and Coastal Pelagic FMPs through (1) increased noise in the water column, (2) increased turbidity in the water column, (3) exposure of contaminated sediments at the sediment surface and within the water column, (4) disturbance of benthic habitats, and (5) increase in shading of water column and loss of benthic habitat, and (6) potential establishment of invasive species.

3.3.1. Noise

Sound pressure waves generated in the water column during pile driving and dredging activities adversely affect the function of water column habitat in such a way that can result in physical or behavioral effects to fish. As described above in Section 2.4.1.1., sound monitoring data collected from recent pile driving projects indicate that SPLs resulting from the Project's installation of 24-, 36-, and 42-inch steel piles with an impact hammer will, at times, exceed sound thresholds known to result in potential injury to fish. Potential injury and mortality of fish could occur within a radial distance up to 378 feet of 24-inch diameter steel piles, 408 feet of 36-inch diameter steel piles, and 612 feet of 42-inch diameter steel piles (Table 6). Since the proposed project is located adjacent to a seawall, sound will mainly travel outwards into Central San Francisco Bay. Elevated sound levels from pile driving will be temporary, occurring over approximately 104 to 146 days.

Beyond the range of physical injury, NMFS estimates fish may demonstrate temporary abnormal behavior indicative of stress or exhibit a startle response. NMFS anticipates the zone of potential abnormal behavior would extend up to a radial distance of approximately 1,920 feet of 24-inch steel piles, 2,882 feet of 36-inch steel piles, and 3,779 feet of 42-inch steel piles at Gates A, F and G (Table 6). Adequate water depths and the open water area of Central San Francisco Bay adjacent to the action area will provide startled fish sufficient area to escape and elevated sound levels should not result in significant effects on these individuals. Areas adjacent to the project's action area provide habitat of similar or higher quality and provide adequate carrying capacity to support fish that are temporarily displaced during the pile driving. It is expected that once pile driving is completed noise levels will return to ambient conditions.

3.3.2. Turbidity

Short-term increases in turbidity would occur during dredging, pile removal and installation, and placement and removal of Ferry Terminal facilities. While fish in San Francisco Bay are exposed to naturally elevated concentrations of suspended sediments resulting from storm flow runoff events, wind and wave action, and benthic foraging activities of other aquatic organisms (Schoellhammer 1996), dredging induced concentrations of suspended sediments may be significantly elevated and have direct effects on fish behavior. If suspended sediment loads remain high for an extended period of time, fish may suffer increased larval mortality (Wilber & Clarke 2001), reduced feeding ability (Benfield & Minello 1996) and be prone to fish gill injury (Nightingale & Simenstad 2001). Additionally, the contents of the suspended material may react with the dissolved oxygen in the water and result in short-term oxygen depletion to aquatic resources (Nightingale & Simenstad 2001). Although increased turbidity is expected to occur from this project, it is expected to dissipate within one tidal cycle due to high tidal flushing and water exchange present in the waters adjacent to the Project area, and therefore, turbidity impacts to EFH are expected to be minimal.

3.3.3. Contaminants

Dredging and in-water construction activities may cause contaminated sediments to be suspended in the water column and re-deposited in the action area where contaminants may continue to be exposed to the aquatic community after the project is complete. Dredging also has the potential to expose buried contaminants by removing upper layers of sediment and exposing a new surface layer of bottom material that is then in direct contact with biota and the water column. This newly exposed surface layer, referred to as the "z-layer", may have greater concentrations of contaminants than existed before dredging. Exposure time of the newly exposed surface layer is dependent upon the deposition rate of new sediment from nearby areas, which is dependent on tides, currents, and winds in the area. Exposed contaminants in sediments and/or suspended in the water column degrade EFH, and fish that utilize this habitat may, in turn, suffer reduced fitness as described above in Section 2.4.2.1.

As described above in Section 2.4.1.1, deposition rates at the dredge sites have not been measured but rates at similar locations in San Francisco Bay can be used to estimate that biologically available surface layer at dredge sites will be replaced by surrounding sediments within 2-6 months of each dredge episode. Z-layer sediment testing will be conducted through the DMMO process, described in Section 1.2.4. of this Biological Opinion.

EFH conservation recommendations for residual contaminants due to maintenance dredging were developed by the Corps in coordination with NMFS for the Operations and Maintenance Dredging Programmatic EFH consultation in 2010 (NMFS 2010). These recommendations specify in the event that z-layer testing indicates the newly exposed surface layer has a greater concentration of contaminants than what currently exists, the area must be managed to prevent exposure to the contamination and further degradation of EFH through follow-up testing, over-dredging and/or subsequent backfill. Through the implementation of these conservation recommendations, any impacts to EFH due to exposed contaminants are expected to be avoided and/or minimized.

3.3.4. Benthic Disturbance

Dredging would result in benthic disturbance and removal of invertebrate prey within 3.9 acres of soft substrate habitat. Many EFH species forage on infaunal and bottom-dwelling organisms, such as polychaete worms, crustacean, and other EFH prey types. Dredging may adversely affect these prey species at the site by directly removing or burying these organisms (Newell *et al.* 1998, Van der Veer *et al.* 1985) and providing substrate for invasive species. Recolonization studies suggest that recovery (generally meaning the later phase of benthic community development after disturbance when species that inhabited the area prior to disturbance begin to re-establish) may not be quite as straightforward, and can be regulated by physical factors including particle size distribution, currents, and compaction/stabilization processes following disturbance. Rates of recovery listed in the literature range from several months to several years for estuarine muds (McCauley *et al.* 1976, Oliver *et al.* 1977, Currie & Parry 1996, Tuck *et al.*1998, Watling *et al.* 2001) to up to 2 to 3 years for sands and gravels (Reish 1961, Thrush *et al.* 1995, Watling *et al.* 2001, Gilkinson *et al.* 2005). Recolonization can also take up to 1 to 3

years in areas of strong current but up to 5 to 10 years in areas of low current (Oliver *et al.* 1977). Thus, forage resources for fish that feed on the benthos may be substantially reduced before recovery is achieved. Based on available literature, NMFS will assume recovery of prey resources to EFH species will occur within one year. Foraging area for EFH species will be reduced after each dredging event, however NMFS expects re-colonization of forage species over the long term and ample forage area is available nearby in the interim.

3.3.5. Shading and Loss of Benthic Habitat from Solid Structures

The underwater light environment is a naturally light-reduced ecosystem. Light is attenuated with depth as a result of refraction at the water's surface and through scatter and absorption of light by phytoplankton, detritus and dissolved organic matter in the water column. Depending on the biological, physical, and chemical properties of the water, the light available at depth may be dramatically reduced from that available at the surface. Because light energy drives the photosynthetic process controlling plant growth and survival, it is one of the principal limiting factors of primary productivity (Govindjee and Govindjee 1975, Underwood and Kromkamp 1999, Maclntyre *et al*. 1996).

In the already reduced light environment of San Francisco Bay, the addition of overwater structures further reduces underwater light penetration through shading. Under-structure light levels can fall below the threshold for the photosynthesis of diatoms, algae, and eelgrass (Kenworthy and Haunert 1991). Thus, shading by such structures may adversely affect vegetation, habitat complexity, and overall net primary production (Haas *et al.* 2002, Struck *et al*. 2004). Reductions in benthic primary productivity may in turn adversely affect invertebrate distribution patterns. For example, Struck *et al*. (2004) observed invertebrate densities under bridges at 25-52 percent of those observed at adjacent unshaded sites. These results were found to be correlated with diminished macrophyte biomass, a direct result of increased shading.

Fishes rely on visual cues for spatial orientation, prey capture, schooling, predator avoidance, and migration. The shadow cast by an overwater structure may increase predation on federally managed species by creating a light/dark interface that allows ambush predators to remain in a darkened area barely visible to prey and watch for prey to swim by against a bright background high visibility (Helfman 1981). Prey species moving around the structure are unable to see predators in the dark area under the structure and are more susceptible to predation.

The placement of floating docks and piles adjacent to existing piers and wharfs is expected to result in 0.91 acre of additional shading or direct cover of open water and benthic habitat (Table 1). The waters completely filled in by the new piles will no longer exist as EFH. WETA proposes to mitigate for the new shade and fill in San Francisco Bay created by the proposed project improvements by removing shading elsewhere in San Francisco Bay. Sites that would be considered for fill removal include dilapidated piers, wharfs, and remnant pilings that were constructed with creosote treated wood and have no current maritime uses. Specific locations of creosote treated wood have been identified by the San Francisco Bay Subtidal Habitat Goals Report (2010). Details and approval of the specific mitigation site and proposal will be coordinated between the WETA, NMFS, and other concerned agencies.

3.3.6. Invasive Species

The introduction of invasive species into estuarine and marine habitats has been well documented
(Rosecchi *et al*. 1993, Kohler & Courtenay 1986, Spence *et al*. 1996). Invasive fish, shellfish, pathogens, and plants can enter the environment from industrial shipping (e.g., as ballast), recreational boating, aquaculture, biotechnology, and aquariums. The transportation of nonindigenous organisms to new environments can have many severe impacts on habitat (Omori *et al.* 1994). Long-term impacts of the introduction of nonindigenous and reared species can change the natural community structure and dynamics, lower the overall fitness and genetic diversity of natural stocks, and pass and/or introduce exotic lethal disease. Overall, exotic species introductions create five types of negative impacts: 1) habitat alteration, 2) trophic alteration, 3) gene pool alteration, 4) spatial alteration, and 5) introduction of diseases. Habitat alteration includes the excessive colonization of exotic species which preclude the growth of endemic organisms.

As described in Section 2.4.4 above, the spread of the invasive species, *Undaria*, is a concern in San Francisco Bay. WETA currently implements a program to prevent the spread of invasive species, including *Undaria* which includes the ongoing maintenance and inspection of vessels. NMFS expects these measures to prevent the spread of invasive species, especially hull-fouling organisms such as *Undaria*, via ferry vessels transiting the Ferry Terminal.

3.3.7. Effects of Oil and Other Hazardous Materials Spilled During Operations

Upon completion, expansion of the Ferry Terminal will result in increased vessel traffic at the Ferry Terminal. Increased vessel traffic and facility operations at the Ferry Terminal introduce more opportunities for oil and other hazardous materials to enter the surrounding waters. As described in section 2.4.4.3 of this Biological Opinion, there have been few spills at the Ferry Terminal that can be attributed to WETA operations in the past 27 years. WETA currently implements several measures to prevent spills and respond to spills if they occur, which they propose to implement during future operations at the Ferry Terminal. Given the low number of oil and other hazardous material spills occurring at the site and the proposed minimization measures, NMFS expects the potential effects of oil or other hazardous material spills on EFH to be avoided and/or minimized.

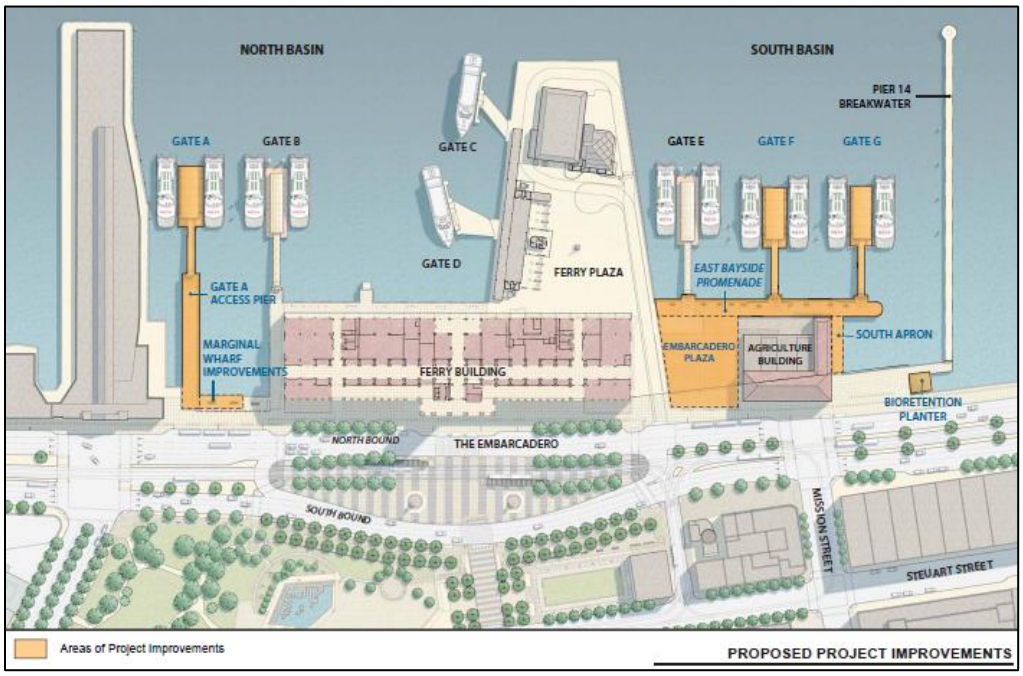
3.4. Supplemental Consultation

Pursuant to 50 CFR 600.920(l), the USCG must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations.

4. FIGURES

Source: Draft EIS/EIR for the San Francisco Ferry Terminal project (URS 2013)

Figure 1. Existing structures at the San Francisco Ferry Terminal.



Source: Draft EIS/EIR for the San Francisco Ferry Terminal project (URS 2013)

Figure 2. Future structures proposed by the Project.

Figure 3. Areas where sound levels could result in the injury or mortality of listed fish.

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Personal Communication

Mora, Ethan. PhD candidate, UC Davis, Davis, CA. January 10, 2012. Personal communication, via phone call with Susan Wang (NMFS), regarding estimates of green sturgeon abundance in Southern DPS rivers in 2010 and 2011.

APPENDIX E

PROGRAM EIR ANALYSIS INCORPORATED BY REFERENCE

APPENDIX E
PROGRAM EIR ANALYSIS INCORPORATED BY REFERENCE

INTRODUCTION

California Environmental Quality Act (CEQA) Guidelines Section 15150 states that an Environmental Impact Report (EIR) may incorporate by reference all or portions of another document. Where an EIR uses incorporation by reference, the incorporated part of the referenced document shall be briefly summarized, and the relationship between the incorporated part of the referenced document and the EIR should be described. CEQA also requires that the incorporated document be a matter of public record and/or generally available. For the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] Sections 1500.4, 1502.21) state that agencies may incorporate material by reference when the effect will be to reduce bulk without impeding agency and public review of the project alternatives. The CEQ NEPA regulations also require federal agencies to cooperate with state and local agencies "to the fullest extent possible to reduce duplication between NEPA and State and local requirements" (40 CFR § 1506.2[b]; see also, *Laguna Greenbelt, Inc. v. U.S. Department of Transportation* [9th Cir. 1994] 42 F.3d 517, 524 [holding that Federal Highway Administration may use evaluation in prior EIR to narrow evaluation of alternatives in subsequent Environmental Impact Statement (EIS)]).

The purpose of the Downtown San Francisco Ferry Terminal Expansion Project is to support the existing and future planned water transit services operated by Water Emergency Transportation Authority (WETA) on San Francisco Bay, as established by WETA in its Implementation and Operations Plan (IOP), adopted in 2003. The IOP is a comprehensive Plan for the development and expansion of water transit service in San Francisco Bay. It includes plans for the development of new routes and facility improvements to support the expansion of the regional system. A Program EIR, certified in 2003, was prepared for the IOP. The "Proposed Project" in the Program EIR was adopted by WETA as its IOP.

The Program EIR is available on WETA's website (http://watertransit.org/newsInformation/eir.aspx), in 19 local libraries (as listed on the website), and can also be accessed at WETA's Office, Pier 9, Suite 111, The Embarcadero, San Francisco.

The Program EIR assumes that WETA would prepare subsequent site-specific environmental evaluations for activities that implement the IOP. All of the new routes envisioned in the IOP would provide service to San Francisco (destination terminal); therefore, the proposed project that is the subject of this EIS/EIR, the Downtown San Francisco Ferry Terminal Expansion Project, is a facility improvement project—the facility improvements that would be required at the Ferry Building to accommodate the level of service described in WETA's IOP.

Portions of the Program EIR analysis that are relevant to the Downtown San Francisco Ferry Terminal Expansion Project are incorporated by reference and summarized here. The relevant portions of the Program EIR incorporated by reference include the alternatives considered, and a summary of impacts and mitigation identified for the Program. The relationship of the Program impacts to this project is indicated in Table E-1.

ALTERNATIVES

The primary purpose of the Program EIR and WETA's IOP is to increase regional mobility and transportation options by providing new and expanded water transit services and ground transportation terminal access in the San Francisco Bay Area (Bay Area).[1]

The Draft Program EIR fully evaluated four program alternatives (i.e., the No Project Alternative, Alternative 1, Alternative 2, and Alternative 3), representing a range of service expansion options. Partly as a result of public comment and review, the Program Draft EIR was revised and recirculated to include another alternative (a reduced version of Alternative 2). The Final Program EIR for WETA's IOP analyzed three alternatives in detail: the Proposed Project (formerly the reduced version of Alternative 2), Alternative 3, and the No Project Alternative. Based on public comment and technical information, Alternative 1 and the original Alternative 2 were deemed not feasible.

In addition, the Program EIR describes six other alternatives that were considered but eliminated from further consideration, based on considerations that included cost, feasibility, and environmental effects.

A summary of each alternative considered is provided below.

ALTERNATIVES ANALYZED IN THE PROGRAM EIR

Proposed Project. The Proposed Project provides expanded ferry service and associated land-side improvements to be implemented in phases over an approximately 10-year period. Although the IOP does not represent a precisely fixed set of routes and terminal sites, the Proposed Project is based on the anticipated routes and terminals that would result from implementation of the IOP, including expansion of existing services and development of seven new routes. The Proposed Project included improvements to the existing services between San Francisco and Oakland, Alameda, Harbor Bay, Vallejo, Larkspur, Sausalito, and Tiburon, as well as development of new routes between San Francisco and Berkeley, Richmond, Treasure Island, Antioch/Pittsburg, Martinez, Hercules/Rodeo, South San Francisco, and Redwood City. Additional details of the Proposed Project, including descriptions of how the new routes would be selected, terminal design considerations, system navigation, and safety are described in WETA's IOP (WETA, 2003).

Alternative 3 (Enhanced Existing Service Alternative). Alternative 3 would focus on limited expansion of the six water transit routes in the existing system. This alternative would increase and improve service along these routes by adding or substituting new vessels to increase the number of trips and decrease the time (headways) between trips. Existing single routes with more than one destination (e.g., San Francisco to Jack London Square and Alameda) may be divided into two separate routes to improve travel time and performance. Improvements may also be made to existing passenger terminal facilities. This alternative represents the lowest investment of new capital and operating costs, other than the No Project Alternative.

No Program Alternative. This alternative consists of existing ferry service with minimal improvements. Ferry service would continue to operate on existing routes at about the same frequency, as determined by each service provider. Funding for changes or improvements to service would continue to be allocated through the Metropolitan Transportation Commission (MTC).

[1] Through the enabling legislation that created WETA, the Legislature directed the Authority to increase regional mobility through the development and operation of a comprehensive water transit system and its associated landside facilities and adjunct services (California Government Code Section 66540.24).

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

Alternative 1 (Augmented Blue Ribbon System [Comprehensive] Alternative). This alternative represents the potential buildout system, as developed by the Bay Area Council. This alternative comprises the largest conceptual improvement of the Bay Area's ferry system. It includes the routes recommended by the Blue Ribbon Task Force, which developed the Bay Area Water Transit Initiative Action Plan, plus additional routes identified by local entities and early project scoping. This alternative would not reduce or avoid significant project impacts; would require more extensive systems than the Proposed Project; and would have more severe impacts than the Proposed Project. Therefore, this alternative was not carried forward for further consideration.

Alternative 2 (Expanded System Alternative). This alternative includes potentially feasible routes that emerged from the Water Transit Initiative and the MTC ferry studies that could be implemented within a 10-year horizon. It also includes expansion of service on existing routes, and a wide range of ferry service corridors throughout the Bay Area. These corridors would serve a number of passenger service markets, including commuter transit, recreation, Bay Area special events, and regional airport connections. The goal for service frequencies would be designed to provide convenient and dependable service for passengers. This alternative would not reduce or avoid significant project impacts; would require more extensive systems than the Proposed Project; and would have more severe impacts than the Proposed Project. Therefore, this alternative was not carried forward for further consideration.

Express Bus Alternative. This alternative would provide express and/or additional bus service for origin and destination points similar to those ferry routes planned under the IOP. This Alternative would offer similar mass transit opportunities to catchment areas served by the Proposed Project, but in the mode of bus, rather than ferry trips. The Express Bus Alternative would result in approximately one-third of the transit ridership associated with the Proposed Project, and would provide less benefit in terms of total daily vehicle-miles-traveled reduction. This alternative does provide a similar cost effectiveness to ferry expansion; however, this alternative would not meet the basic project objectives. Therefore, the Express Bus Alternative was not carried forward for further evaluation.

Express Bus, High-Occupancy Vehicle, and Operational Improvements Alternative. This alternative includes the implementation of expanded express bus service, carpool lane extensions, and operational improvements in the Bay Bridge, San Mateo Bridge, and Dumbarton Bridge corridors. Similar to the Express Bus alternative, this alternative would attempt to provide travel opportunities comparable to the Proposed Project, but in modes other than ferry service. This alternative includes 16 operational improvements related to express bus, high-occupancy vehicle, and to the existing transbay corridors (Interstate 80, State Route 92, and State Route 84) and their approach facilities. In addition, this alternative involves the purchase and use of three-door Bay Area Rapid Transit (BART) cars and the addition of three additional trains per hour on the transbay routes. The Express Bus, High-Occupancy Vehicle, and Operational Improvements Alternative would result in less than one-half the transit riders provided by the Proposed Project. The cost per rider is estimated to be greater than that of the Proposed Project. In addition, this alternative would not meet the basic project objectives. Therefore, this alternative was not carried forward for additional analysis.

BART Crossing Alternative. The BART Crossing Alternative includes the phased implementation of new BART service in San Francisco, followed by a new transbay BART tunnel connecting the East Bay with San Francisco. This alternative would attempt to provide transit opportunities comparable to the Proposed Project, but through the BART system rather than ferry service. This alternative would provide approximately one-half the ridership of the Proposed Project, and would require a substantial capital investment for implementation. In addition, this alternative does not meet the basic project objectives, and therefore was not carried forward for further evaluation.

Dumbarton Rail Alternative. This alternative includes commuter rail service connecting Union City with San Jose and Millbrae, as well as additional service from Tracy to San Jose and Millbrae, and potentially San Francisco/Milpitas service. This alternative would attempt to provide mass transit opportunities comparable to the Proposed Project, but in the mode of enhanced rail service rather than ferry service. The Dumbarton Rail Alternative would generally serve a different catchment area than that of the Proposed Project. Mobility benefits of the Dumbarton Rail project are expected to be limited to the southern portion of the nine-county Bay Area. This alternative would serve less than one-tenth of the Proposed Project riders, with a greater cost per rider. In addition, this alternative does not meet the basic project objectives, and therefore was not carried forward for additional analysis.

Transportation System Management Alternative. This alternative includes a set of projects intended to address existing corridor mobility issues. This alternative was developed by MTC during preparation of the 2000 Regional Transportation Plan (RTP) and the environmental analysis of the RTP. This alternative emphasizes the application of available funds in ways that would improve the operational efficiency of the existing transportation system. At the time of the Program EIR, the total cost of implementing this alternative was estimated to be $511 million. This alternative involves innovative strategies, some of which are not available for immediate implementation. Full implementation of this alternative would also require further coordination among, and approval by, the various affected jurisdictions and stakeholders in the transportation community. In addition, because this alternative does not meet the basic project objectives, this alternative was not carried forward for further evaluation.

Smart Growth Alternative. This alternative would use a set of public policies and other incentives to encourage compact, mixed-use, and mixed-income development along transit corridors, near public transit stations, and in town centers. Development of the Smart Growth project is led by the Association of Bay Area Governments (ABAG), along with four other regional planning agencies in the Bay Area. These policies and incentives are intended to result in development patterns that would provide some of the traffic congestion relief that is an objective of the Proposed Project. Because this alternative does not involve direct expenditures for transit, cost and ridership comparisons to the other project alternatives are not applicable. Because this alternative does not meet the basic project objectives, and because implementation efforts under the leadership of ABAG are voluntary rather than mandatory (making any determination of their effectiveness speculative), this alternative not carried forward for additional analysis.

SUMMARY OF IMPACTS

RELATIONSHIP OF THE IMPACTS AND MITIGATION MEASURES IN THE PROGRAM EIR TO THE PROPOSED PROJECT

The Program EIR analyzed the collective impacts that could result from the expansion of water transit services on San Francisco Bay. WETA identified measures to mitigate impacts identified in the Program EIR that would be implemented at the Program level (e.g., measures pertaining to vessel navigation, vessel technology, or operations plans), and/or as a part of specific projects that implement the IOP as determined in the project-level analysis (e.g., measures pertaining to resources that could be impacted at the future terminal locations). WETA adopted the mitigation measures identified in the Program EIR, and is implementing the measures as a part of the Mitigation Monitoring and Reporting Program for the Program EIR.

The impact analysis presented in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR is consistent with the Program EIR.

Table E-1 includes the summary of impacts and mitigations identified in the Program EIR, and the relationship of each impact to the Downtown San Francisco Ferry Terminal Project. As shown below and described in this EIS/EIR, the Downtown San Francisco Ferry Terminal Expansion Project is a facility improvement project at an existing facility. The project would not result in new water transit routes or increases in vessel traffic on San Francisco Bay. Therefore, the project would not contribute to some of the impacts identified in the Program EIR. However, because the facility improvements at the Downtown San Francisco Ferry Terminal would accommodate vessels consistent with the IOP, the local impacts from the vessel use at the Ferry Terminal were analyzed in the EIS/EIR. Table E-1 describes whether Downtown San Francisco Ferry Terminal Project would contribute to the impacts identified in the Program EIR. If the project would contribute, the section of the EIS/EIR where the local impacts were analyzed in this EIS/EIR is provided.

Table E-1
Summary of Impacts and Mitigation from the Program EIR
and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project

Impact for the Program		Level of Significance for the Program (after Mitigation)	Mitigation Measures for the Program	Relationship to the Downtown San Francisco Ferry Terminal Expansion Project	Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR
D-1	Dredging of new channels and maintenance dredging would add to the total annual volume of dredged materials in the Bay.	L	No mitigation is required for the Proposed Project.	Project would contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources; and Section 3.11, Hydrology and Water Quality).
D-2	Dredging of new channels could locally reduce water quality by exposing and suspending contaminated sediment.	L	**D-2.1:** Sample potential dredge locations and test for contamination. Minimize dredging. Develop and require specifications and allocation responsibility to the entities implementing new dredging to adopt the techniques and Best Management Practices (BMPs). Comply with DMMO and RWQCB directives.	Project would contribute to the impact. Coordination with the DMMO on dredging activities is part of the project description for the project.	Impacts would be less than significant and not adverse with project-specific mitigation measures (Section 3.9, Biological Resources; and Section 3.11, Hydrology and Water Quality).
D-3	Dredging new channels could remove bottom sediments that could result in a salinity intrusion into groundwater basins.	L	No mitigation is required.	Project would not contribute to the impact due to its scope. No new channel dredging is required at the Downtown San Francisco Ferry Terminal.	n/a
D-4	Dredging could adversely impact threatened, endangered, or protected species.	L	D-4.1: Implement Mitigation D-2.1. Use BMPs (such as silt curtains) and appropriate dredging techniques in accordance with DMMO recommendations. D-4.2: In consultation with resource agencies, identify suitable practices such as use of physical barriers and/or restriction of dredging in shallow waters to certain seasonal periods.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.9, Biological Resources).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
D-5	Dredging for construction of access channels to new ferry terminals could result in loss or disturbance of jurisdictional wetlands.	L	Implement Mitigation Measure B-1.1 and B-1.2.	Project would not contribute to the impact. No new channel dredging is required at the Downtown San Francisco Ferry Terminal and no jurisdictional wetlands are present in the project area.	n/a
NAV-1	With expansion of water transit service there is a potential for an increase in incidents such as collisions, allisions, and groundings.	PS	**NAV-1.1:** Implement ABS (2002) best practices to minimize navigation-related risks.	Project would not contribute to the impact. Project would not add new water transit services. Project is a facility improvement project. Vessel navigation safety was considered in the development of the project description.	n/a
NAV-2	Increased numbers of ferry transits in the Bay may increase the risk of incidents (such as collision and near misses) between windsurfers and ferries.	PS	**NAV-2.1:** Train ferry crew regarding hazards at new terminals near windsurfing launch sites. **NAV-2.2:** Designate specific ferry employees to stand watch on select routes.	Project would not contribute to the impact. Project would not add new water transit services. Project is a facility improvement project. Vessel navigation safety was considered in the development of the project description.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
NAV-3	Increased ferry transits may lead to an increased risk of collision between recreational boaters and ferries.	PS	**NAV-3.1:** Work with Harbor Safety Committees and potentially fund or sponsor new education and advisory training programs regarding boater safety. **NAV-3.2:** Designate ferry employees to stand watch for navigational hazards.	Project would not contribute to the impact. Project would not add new water transit services. Project is a facility improvement project. Vessel navigation safety was considered in the development of the project description.	n/a
WW-1	Increased frequency of ferry trips across the Bay could increase the wake energy at some shorelines, causing increased erosion. Service to new areas of the Bay could lead to shoreline impacts from increased wave heights.	L	**WW-1.1:** 1) Maintain route alignments more than 1,500 m from sensitive shorelines; 2) Operate vessels to maintain maximum wake wave heights at 16 cm; 3) Operate vessels to maintain wake waves at shorelines at 50 percent of average sustained wind wave height. **WW-1.2:** Modify ferry routes to redirect wave energy away from sensitive habitats. **WW-1.3:** Use low-wake vessel technology, such as existing lighter-weight vessels. **WW-1.4:** Implement operational adjustments such as slowing of vessels near sensitive habitat. If speed limits are set, the mitigation shall include monitoring and enforcement to ensure compliance.	Project would not contribute to the impact. Project would not add new water transit services. Project is a facility improvement project. In addition, shorelines sensitive to wake wash are not present in the project area.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
WW-2	Increased ferry service could impact surrounding marinas, potentially damaging moored vessels and interfering with recreational users.	L	**WW-2.1:** Implement Mitigations WW-1.1 through WW-1.4.	Local impacts from interference with recreational users and other vessels in the project area were analyzed in the EIS/EIR.	Impacts would be less than significant and not adverse (Section 3.4, Parklands and Recreation).
WW-3	Wake wash impacts from increased ferry service could have an adverse effect on California clapper rail, a listed species, by inundating nests.	PS	**WW-3.1:** Conduct habitat surveys of shoreline within 50 m of the marshland edge along proposed routes. If habitat is potential nesting habitat, perform site-specific measurements of wake attenuation. For nesting sites or suitable nesting habitat more than 50 m from the edge of a marshland, no significant impacts or need for mitigation are anticipated. **WW-3.2:** Use existing low-wake vessel technology to reduce both the total wake wash energy and height of individual waves. **WW-3.3:** Adjust routes to redirect energy away from sensitive habitat or to reduce or eliminate increased wake energy. **WW-3.4:** Adjust operations (e.g., slow vessel near sensitive areas).	Project would not contribute to the impact because the resource is not present. Clapper rail not present in the project area.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
WW-4	Wake wash impacts from increased ferry service could have an adverse effect on Pacific harbor seals at haul-out sites.	L	**WW-4.1:** Refer to Apply Mitigation B-14.1, which is to avoid marine mammal areas by 100 to 250 m.	Project would not contribute to the impact because the resource is not present. Haul out sites not present in the project area.	n/a
W-1	Construction and operation of terminal facilities, including parking lots, access roads, and buildings, would increase the amount of impervious surface area, causing increased storm water runoff. If runoff contained pollutants or eroded disturbed soil, discharge could impact receiving water quality.	L	**W-1.1:** Adopt measures for construction to prevent, minimize, and clean up spills and leaks. Require containment measures for equipment that could potentially release fuels. **W-1.2:** Design new terminals to control storm water runoff and discharge. Develop and apply BMPs.	Project could contribute to the impact. However, project includes improvements at an existing facility.	Impacts would be less than significant and not adverse (Section 3.11, Hydrology and Water Quality).
W-2	Some areas where terminals may be planned could be within 100-year floodplains. Construction of new terminal facilities within a 100-year floodplain could expose people and terminal facilities to flood hazard.	N	**W-2.1:** Verify base flood elevations in the areas where new terminals are proposed. If 100-year floodplain cannot be avoided, design facilities to minimize flooding hazards, post flood hazard warnings, and develop flood evacuation plans. No mitigation required for the Proposed Project.	Although project includes improvements at an existing facility, project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.11, Hydrology).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
W-3	Increased ferry transits could increase the potential for fuel spills and water quality degradation in the Bay. Although the probability of a spill is low, it still has the potential to occur.	L	**W-3.1:** Incorporate safety issues identified by the Harbor Safety Committee into the annual review of the Harbor Safety Plan. **W-3.2:** Assist or prompt ferry operators to update contingency plans and reviews of emergency response services. Review contingency plans, conduct drill exercises, and review emergency response agreements. Review spill response equipment availability. **W-3.3:** Develop a program for training on fueling methods to minimize spills. **W-3.4:** Require review of new vessels to include technological features to minimize spills. **W-3.5:** Adopt applicable measures recommended by the Ferry Safety Plan (ABS, 2002).	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.11, Hydrology; and Section 3.12, Hazards and Hazardous Materials).
B-1	Loss of jurisdictional wetland habitat could occur as a result of dredging and construction of terminal facilities.	PS	**B-1.1:** Impacts to wetlands shall be avoided if possible. **B-1.2:** In the event that impacts are unavoidable, mitigation measures would be developed for specific projects.	Project would not contribute to the impact because the resource is not present. Wetlands are not present in the project area.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
B-2	Construction of terminals could result in increased potential for the spread of invasive nonnative plant species in disturbed habitats.	L	**B-2.1:** Surveys shall be conducted to identify and map areas of cordgrass, and nonnative species shall be removed.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources).
B-3	Project construction could result in the disturbance of "Special Aquatic Sites," including eelgrass beds, mudflats, and wetlands.	PS	**B-3.1:** Disturbance of eelgrass beds and mudflats shall be avoided in the design of project features and routes. Site-specific sidescan sonar surveys would be required prior to implementation of new routes or construction of new terminals to verify that eelgrass is not present. **B-3.2:** Define specific areas of eelgrass beds and mudflats. If unavoidable, provide enhanced functions and values at equivalent sites. **B-3.3:** Avoid indirect impacts through the use of silt curtains or methods to protect from disturbance.	Project would not contribute to the impact because the resource is not present. Sensitive habitat is not present in the project area.	n/a
B-4	Turbidity caused by dredging would reduce light penetration in the water column and could locally reduce phytoplankton production.	L	No mitigation is required.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources).
B-5	Disturbance of benthic habitat from dredging could result in the loss of benthic (bottom dwelling) organisms.	L	No mitigation is required.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
B-6	Disturbance of habitat from dredging may result in the spread of nonnative benthic invertebrate species.	L	No mitigation is required.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources).
B-7	Dredging could adversely affect fish species near the construction activities.	L	**B-7.1:** Implement Mitigations D-4.1 and D-4.2.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.9, Biological Resources).
B-8	Dredging and associated turbidity could affect spawning by Pacific herring.	L	**B-8.1:** Avoid dredging in known herring spawning grounds during spawning season. If dredging must occur during this period, monitors would be necessary, and activities might be halted. **B-8.2:** Use silt curtains while dredging to reduce turbidity, on a site-by-site basis. No mitigation is required for the Proposed Project.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources).
B-9	Underwater noise from pile driving and other construction activities could affect nearby fish.	L	**B-9.1:** Mitigation will be evaluated on a site-specific basis. Measures to reduce sound pressure levels in surrounding waters could be deployed.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.9, Biological Resources).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
B-10	Construction could result in loss of habitat for waterfowl, shorebirds and other birds.	L	**B-10.1:** Implement Mitigations B-1.1 and B-3.1 through B-3.3.	Project would not contribute to the impact because the resource is not present. Waterfowl habitat is not present in the project area.	n/a
B-11	Ferry traffic could disturb roosting, rafting, and foraging waterfowl in shallow areas.	L	**B-11.1:** Consolidate ferry routes to leave as much undisturbed shallow open water as possible. **B-11.2:** Response of waterfowl to new ferry routes in shallow North and South Bay roosting, rafting, and foraging habitat shall be evaluated. Evaluation could include observations of ferry operations and waterfowl responses by an authority such as the Point Reyes Bird Observatory (PRBO).	Project would not contribute to the impact because the resource is not present. Waterfowl habitat is not present in the project area.	n/a
B-12	Increased turbidity and activity from dredging operations could affect marine mammal foraging.	L	No mitigation is required.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources).
B-13	Underwater pile driving noise could disturb marine mammals.	L	**B-13.1:** Incidental harassment permit may be required from NMFS. As appropriate, conduct preconstruction surveys for presence of mammals, conduct monitoring, and establish safety zones.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.9, Biological Resources).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
B-14	Transiting ferries could disturb marine mammals resting at haul-out sites.	L	**B-14.1:** Avoid marine mammal areas by at least 100 to 250 m, which exceeds recommended NMFS guidelines.	Project would not contribute to the impact because the resource is not present. Haul-out sites not present in the project area.	n/a
B-15	High-speed ferries could potentially strike gray whales.	PS	**B-15.1:** Ferry operators shall be aware of potential for whales and know how to spot whales at the surface. Operators shall receive USCG whale sighting reports and exercise due diligence. WTA shall implement a program of informing ferry operators of sightings, and reminders made during seasonal presence. Dedicated lookouts could be warranted. **B-15.2:** Ferries could be equipped with whale-detection systems.	Project would not contribute to the impact. Project would not add new water transit services. Project is a facility improvement project. Gray whales not present in the project area.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
B-16	Project construction and/or operation could result in the "take" of state or federally listed species or loss or degradation of these species' habitat.	PS	**B-16.1:** Review project construction sites for potential presence of species and institute measures to avoid sites with presence. Consultation with federal and state agencies shall be initiated and recommended measures followed. **B-16.2:** Fully protected species that may be affected by this project include salt marsh harvest mouse, California clapper rail and California black rail. Proposed terminals and routes would be designed or located to avoid take of these species.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.9, Biological Resources).
B-17	Construction and operation of terminal facilities could increase stormwater pollutant discharges and affect receiving water quality, which could in turn, affect local biological resources.	L	**B-17.1:** Implement Mitigations W-1.1 and W-1.2.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources; and Section 3.11, Hydrology and Water Quality).
B-18	Contaminated sediments could potentially become resuspended during construction and dredging operations and could potentially cause toxicity to Bay organisms.	L	**B-18.1:** Implement Mitigation D-2.1.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
B-19	Increased numbers of ferry transits could bring an increased potential for fuel spills and water quality degradation in the Bay.	L	**B-19.1:** Implement Mitigations W-3.1 through W-3.5.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.11, Hydrology; and Section 3.12, Hazards and Hazardous Materials).
B-20	Vessel wakes could potentially cause erosion and loss of wetland habitats, potentially impact special status species such as the clapper rail and salt marsh harvest mouse, and potentially impact marine mammals through disturbance at seal haul-out sites.	PS	**B-20.1:** Refer to potential impacts and mitigations under Section 3.3, Wake Analysis.	Project would not contribute to the impact because the resource is not present. Sensitive habitat is not present in the project area.	n/a
B-21	Wildlife behavior and susceptibility to predation may be adversely influenced by an increase in lighting from terminal facilities and associated vehicle parking areas.	L	**B-21.1:** New lighting shall be directed on intended project areas and avoid surrounding wildlife habitat.	Project could contribute to the impact. Minimizing lighting effects considered in the development of the project description.	Impacts would be less than significant and not adverse (Section 3.9, Biological Resources).
A-1	Regional cumulative emissions of NO_X, PM_{10}, CO, SO_2, CO_2, and ROG could increase as a result of the implementation of the Proposed Project.	S		Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.6, Air Quality and Global Climate Change).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
A-2	Motor vehicles leaving ferry terminals during the evening commute period would produce cold-start emissions that could lead to localized violations of the short-term carbon monoxide standard.	PS	**A-2.1:** Cold-start emissions shall be reduced by encouraging non-drive access at the ferry terminals. Techniques for encouraging non-drive access include fees for parking, provision of preferential parking for carpools and vanpools, comprehensive shuttle access, land use scenarios that encourage non-drive access, and encouraging bicycle and pedestrian access. In addition, feeder shuttle buses could be equipped with zero emission or ultra-low emission engines.	Project would not contribute to the impact due to its scope. No parking would be developed as a part of the project.	n/a
A-3	Ferries would emit toxic pollutants in the exhaust in the form of particulate matter from the combustion of diesel fuel.	L	**A-3.1:** Eliminate routes with low ridership and utilize PM traps and SCRs. No mitigation is required for the Proposed Project.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.6, Air Quality and Global Climate Change).
A-4	Air pollutants would be deposited in the Bay, which could increase the levels of nitrates and sulfates in the water.	PS	**A-4.1:** Use of a fuel technology that lowers SO_2 emissions would reduce sulfate emissions and subsequent deposition.	Project would not add new water transit services. Project is a facility improvement project.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
A-5	Construction of ferry terminals could create emissions of fugitive dust from excavation and grading, and emissions of ROG, NO_X, CO, SO_2, and PM_{10} from construction equipment exhaust.	L	**A-5.1:** Follow BAAQMD Guidelines to control fugitive dust emissions from construction activities. Measures include activities such as watering and covering exposed soil surfaces to minimize dust emissions. **A-5.2:** Measures to reduce emissions from vehicles and heavy equipment could include: 1) Use alternative fueled construction equipment when possible; 2) Minimize idling time; 3) Properly maintain equipment; and 4) Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.6, Air Quality and Global Climate Change).
A-6	Local concentrations of nitrogen dioxide and particulate matter could exceed state and federal standards at the Ferry Building.	L	**A-6.1:** Locate engine exhaust pipes at least 20 feet above the waterline. **A-6.2:** Minimize dockside idling time at the Ferry Building.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.6, Air Quality and Global Climate Change).
A-7	Increased ferry service could result in increases of pollutants from ferry exhaust deposited directly into the Bay.	L	**A-7.1:** Implement Mitigation A-6.1.	Project would not add new water transit services. Project is a facility improvement project.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
A-8	Dredging for increased ferry service would emit criteria air pollutants. These emissions would exceed the significance thresholds of 80 pounds per day for NO_X, ROG, and PM_{10} listed in the BAAQMD CEQA Guidelines. Exceedances would occur for approximately 12 days every 3 to 6 years.	L	**A-8.1:** Minimize required dredging for construction and maintenance, both in terms of dredge volume and maintenance dredging interval. **A-8.2:** Utilize dredging contractors with the best available emission controls on their equipment.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.6, Air Quality and Global Climate Change).
LU-1	Increased ferry service could include terminal locations in developed urban areas that do not currently have ferry terminal facilities. Development of new ferry terminals could result in the displacement of existing land uses.	L	**LU-1.1:** Projects shall consider alternatives to avoid displacement of homes or businesses. Displacement impacts shall be addressed in the site selection process and avoided through design measures. If displacement is unavoidable, project proponents must execute a relocation assistance plan or its equivalent.	Project would not contribute to the impact due to its scope. Project is located at an existing Ferry Terminal.	n/a
LU-2	Installation of new ferry terminals could disrupt or divide established neighborhoods. This impact has the potential to be significantly negative or positive, depending on how much the community supports or opposes the location of the terminal.	L	**LU-2.1:** Local agencies desiring ferry service shall identify parcels along waterfronts for potential ferry terminal planning, considering surrounding land use compatibility. Project design elements that improve accessibility and maintain community cohesion shall be incorporated.	Project would not contribute to the impact due to its scope. Project is located at an existing Ferry Terminal.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
LU-3	Increased ferry service could result in disproportionate adverse impacts to low-income and minority communities. These impacts would occur primarily as a result of the displacement of homes or businesses in low-income and minority communities, or substantial disruption of those neighborhoods.	PS	**LU-3.1:** Site-specific evaluation is necessary to avoid these potential impacts. **LU-3.2:** Implement Mitigations LU-1.1 and LU-2.1.	The project could contribute to this impact.	Impacts would be less than significant and not adverse (Section 3.16, Socioeconomics; and Section 3.17, Environmental Justice).
LU-4	New or modified ferry terminals would be located along the shoreline, and could affect and/or enhance existing public use and access to and along the Bay shoreline.	L	**LU-4.1:** Incorporate public access to and/or along the Bay shoreline in the planning for terminal locations or expansion. This may include trails, parking set aside for shoreline users, viewpoints, disabled access, etc. **LU-4.2:** Incorporate the shoreline access guidelines described in: *Terminal Architecture and Engineering – Terminal Design Guidelines* prepared for the WTA (Parsons Brinckerhoff, 2002). The guidelines include Shoreline Access for pedestrians and bicycles, and viewpoints to provide views of the shore, bay, and the loading/unloading of the ferries.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.3, Land Use and Land Use Planning; and Section 3.4, Parklands and Recreation).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
V-1	The construction and operation of new and enhanced ferry terminals along the Bay shoreline could potentially impact land and water views of San Francisco Bay or degrade the visual character of the Bay.	PS	**V-1.1:** When feasible, the following shall be included in ferry terminal design: • Locate terminal facilities so as not to obstruct or detract from views of the Bay from nearby public thoroughfares; • Design terminals and layout to integrate with the surrounding landscape and historical structures to preserve, and take advantage of, existing views of the Bay and shoreline; • Design terminal facilities to provide new or enhanced point access areas or view areas such as piers, platforms and walkways; • Design and site terminals so as to maintain and enhance the visual quality of the shoreline and visual public access to the Bay; • Vessels shall be standardized to support system-wide operations and to work interchangeably at all terminals. Vessel berthing shall be configured so as to allow maximum feasible visual access to the Bay. • **V-1.2:** WTA-established Intermodal and Architectural Guidelines shall be considered for the planning and design of new and enhanced ferry terminals (WTA, 2002). Design objectives shall focus on use by pedestrians, bicycles, and other transit modes.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.10, Aesthetics and Visual Resources).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
V-2	An increase in the number of ferries operating on the Bay could impact views or degrade the visual character of waterfront areas.	L	**V-2.1:** This impact is partially minimized by the concentration of routes along some common alignments. No mitigation is required for the Proposed Project.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.10, Aesthetics and Visual Resources).
V-3	Increased ferry operations could increase the amount of visible exhaust.	L	No mitigation is required.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.10, Aesthetics and Visual Resources).
V-4	Expanded ferry service, including new terminals and additional ferries, would not impact scenic resources within a State Scenic Highway.	N	No mitigation is required.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.10, Aesthetics and Visual Resources).
V-5	Expanded ferry service, including new terminals and additional ferries, could result in light and glare impacts.	PS	**V-5.1:** Ferry terminal designs will require site-specific lighting plans. Outdoor lighting design and placement shall be directed to the specific location to be shielded.	Shielded lighting was incorporated into the project description of the project. Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.10, Aesthetics and Visual Resources).
CUL-1	Dredging of new channels, maintenance dredging, dredging for pier retrofit or installation, or dredging/related activities for buoy placement could impact submerged and sub-bottom cultural resources in the Bay.	PS	**CUL-1.1:** Site-specific projects would have to be evaluated for presence and significance of resources, and avoidance procedures in compliance with established procedures. Identified resources that cannot be avoided would be subject to further recordation and or data recovery.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.8, Cultural and Paleontological Resources).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
CUL-2	Deposition of dredge spoils for upland reuse or wetland restoration could impact submerged or terrestrial cultural resources.	L	**CUL-2.1:** Implement Mitigation CUL-1.1. **CUL-2.2:** Avoid the disposal site.	Coordination with the DMMO on dredging activities is part of the project description for the project. Under this process, disposal of dredge materials would occur at approved disposal sites for which environmental review has been completed.	n/a
CUL-3	Project actions such as retrofitting, expansion, or improvement of existing facilities, or construction of new facilities, could impact terrestrial historic and prehistoric cultural resources, and historic built environment resources.	L	**CUL-3.1:** Implement Mitigation CUL-1.1.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.8, Cultural and Paleontological Resources).
CUL-4	Project actions such as construction and related activities could impact previously unknown resources.	PS	**CUL-4.1:** Implement Mitigation CUL-1.1.	Project could contribute to the impact.	Impacts would be less than significant and not adverse with the implementation of project-specific mitigation measures (Section 3.8, Cultural and Paleontological Resources).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
G-1	Potential new terminals and facilities could be exposed to surface faulting. There is a potential for substantial damage and risk of injury or loss of life at facilities located on or near active faults.	L	**G-1.1:** Significant risk of exposure to surface faulting for Alternative 1 can be avoided if the Half Moon Bay terminal location is dropped from further consideration. **G-1.2:** Any potential development at Half Moon Bay would have to be carried out in accordance with the regulations detailed in the Alquist-Priolo Act. No mitigation is required for the Proposed Project.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.13, Geology, Soils, and Seismicity).
G-2	Potential new terminals and other facilities could be exposed to strong ground shaking. There is a potential for substantial damage to facilities and risk of injury or loss of life at incorrectly designed or constructed facilities.	L	**G-2.1:** New facilities would be designed and constructed to seismic requirements and code. Site-specific ground motion studies shall be completed for proposed project sites.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.13, Geology, Soils, and Seismicity).
G-3	Potential new terminals are in areas of potentially liquefiable soils. There is a potential risk for destruction of structures.	L	**G-3.1:** Exploratory investigations shall be performed to determine susceptibility to liquefaction, and potential locations removed or engineered to reduce this risk.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.13, Geology, Soils, and Seismicity).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
G-4	Subsidence is ongoing in portions of the Bay Area. The potential geohazard presented by subsidence to potential new terminals is low to moderate.	L	No mitigation is required.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.13, Geology, Soils, and Seismicity).
G-5	Expansive soil behavior is associated with wetting and drying of soils containing mixed-layer clays. Expansive soils can lead to structural damage.	L	No mitigation is required.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.13, Geology, Soils, and Seismicity).
G-6	Slope movements have the potential to cause a range of impacts from minor structural damage (building impacts from rock fall) to major damage and injury/loss of life from building collapse.	L	**G-6.1:** The hazard from mass wasting could be reduced by siting facilities away from steep and unstable slopes. For sites located adjacent to areas of steep topography, site-specific geologic and geotechnical investigations and laboratory testing will determine the stability of slopes and their parent material. Using these data, appropriate slope strengthening and stabilizing designs could be developed. No mitigation is required for the Proposed Project.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.13, Geology, Soils, and Seismicity).
G-7	Erosion due to wind and water action could lead to the deterioration of terminal structures.	L	**G-7.1:** Determine erosion potential at each site through site-specific studies, and adopt recommended measures to reduce or avoid this impact.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.13, Geology, Soils, and Seismicity).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
G-8	Tsunami- and seiche-generated waves have the potential to inundate shoreline sites and damage terminal facilities. This potential impact would range from potentially significant at oceanside terminals (Half Moon Bay) to low or not significant at most of the Bay terminals.	L	**G-8.1:** Potential impacts of tsunamis could be lessened or mitigated by appropriate engineering design. Detailed hydrodynamic modeling could be necessary for coastal locations to determine the potential extent of inundation. No mitigation is required for the Proposed Project.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.11, Hydrology and Water Quality).
G-9	The WTA ferry expansion program could potentially impact the geologic environment, including energy or mineral resources.	L	**G-9.1:** The presence of geologic, energy, or mineral resources would be identified in the course of site investigations for specific projects. Mitigations would be defined at that time. No mitigation is required for the Proposed Project.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.13, Geology, Soils, and Seismicity; and Section 3.14, Energy Consumption).
NOI-1	Passengers and crew would be exposed to shipboard noise from proposed en route ferry operations.	L	No mitigation is required.	Project would not contribute to the impact. Project would not add new water transit services. Project is a facility improvement project.	n/a
NOI-2	Noise-sensitive human receptors could be exposed to significant noise from proposed en route ferry operations**.**	L	No mitigation is required.	Project would not contribute to the impact. Project would not add new water transit services. Project is a facility improvement project.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
NOI-3	Noise-sensitive human receptors could be exposed to significant increases in ambient noise from proposed ferry terminal operations.	L	**NOI-3.1:** Compliance of existing and proposed ferry terminals with zoning ordinances and local requirements.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.7, Noise and Vibration).
NOI-4	Wildlife could be exposed to noise from proposed ferry operations.	PS	**NOI-4.1:** The exact routes from San Francisco to Treasure Island and to Redwood City shall be determined in consultation with federal and state resource agencies. These agencies may require site-specific studies to determine whether impacts to the seals at the nearby haul-outs or to other wildlife (birds and fish), could be significant.	Project would not add new water transit services. Project is a facility improvement project.	n/a
T-1	At a regional level, expansion of the ferry service would result in a decrease of the total automobile VMT. At the local level, expansion of the ferry service could facilitate changes in traffic patterns at new and existing ferry terminals. This could potentially result in localized increases in traffic in the vicinity of the terminals.	PS	**T-1.1:** Traffic mitigation measures would depend on local, site-specific conditions. Determination of appropriate mitigation measures would be performed at the time site-specific projects are proposed.	Project could contribute to the impact.	Local traffic impacts would be less than significant and not adverse (Section 3.2, Transportation and Circulation).

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
T-2	Additional car access to terminals would require parking. This could result in potential localized parking problems and conflicts in the vicinity of the terminals.	PS	**T-2.1:** WTA and terminal authorities/ planners should study and develop terminal-specific plans in conjunction with local and regional transit agencies. Determination of appropriate mitigation measures would be performed at the time site-specific projects are proposed. **T-2.2:** Non-drive access could be encouraged through measures such as charging fees for parking, provision of preferential parking for carpools and vanpools, comprehensive shuttle access, land use scenarios that encourage non-drive access, and encouraging bicycle and pedestrian access.	Project would not contribute to the impact due to its scope. Proposed project does not include parking.	n/a
E-1	The Proposed Project could result in more transportation-related energy consumed.	L	No mitigation is required.	Project could contribute to portion of the impact.	Impacts would be less than significant and not adverse (Section 3.14, Energy Consumption).
E-2	The Proposed Project could result in higher energy per passenger miles traveled value than other transit modes.	PS	**E-2.1:** Continue to investigate the feasibility and applicability of using energy sources other than fossil fuels and different engine technologies. Incorporate alternative energy sources and engine technologies as they become feasible.	Project would not contribute to the impact. Project would not add new water transit services. Project is a facility improvement project.	n/a

Table E-1 Summary of Impacts and Mitigation from the Program EIR and Relationship to the Downtown San Francisco Ferry Terminal Expansion Project (Continued)					
Impact for the Program		**Level of Significance for the Program (after Mitigation)**	**Mitigation Measures for the Program**	**Relationship to the Downtown San Francisco Ferry Terminal Expansion Project**	**Determination Made in the Downtown San Francisco Ferry Terminal Expansion Project EIS/EIR**
GRO-1	The Proposed Project includes expanded ferry service at existing terminals and addition of new ferry terminals primarily at already developed waterfront areas. The Proposed Project is not expected to be growth inducing at a regional level.	L	**GRO-1.1:** Implement Mitigation LU-1.1.	Project could contribute to the impact.	Impacts would be less than significant and not adverse (Section 3.18, Regional Growth).

Notes:

Impacts and Mitigation Measures shown in columns 1 through 4 are from the IOP Program EIR. Additional detail can be accessed in the Program EIR, which can be accessed on WETA's website at http://watertransit.org/newsInformation/eir.aspx.

ABS = ABS Consulting
BAAQMD = Bay Area Air Quality Management District
BMP = best management practice
CEQA = California Environmental Quality Act
cm = centimeter
CO = carbon monoxide
CO_2 = carbon dioxide
DMMO = Dredged Material Management Office
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
IOP = Implementation and Operations Plan
L = Less than Significant
m = meter
N = No Impact
n/a = not applicable
NMFS = National Marine Fisheries Service
NO_X = oxides of nitrogen
PM = particulate matter
PM_{10} = particulate matter less than or equal to 10 microns in diameter
PRBO = Point Reyes Bird Observatory
PS = Potentially Significant
ROG = reactive organic gas
RWQCB = Regional Water Quality Control Board
SCR = Selective Catalytic Reduction
SO_2 = sulfur dioxide
USCG = United States Coast Guard
VMT = vehicle miles traveled
WETA = Water Emergency Transportation Authority
WTA= Water Transit Authority

APPENDIX F

RESPONSE TO COMMENTS ON THE DRAFT EIS/EIR

Downtown San Francisco Ferry Terminal Expansion Project

Response to Comments on the Draft EIS/EIR

Prepared for
San Francisco Bay Area Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, California 94111

and

U.S. Department of Transportation
Federal Transit Administration
Region IX
201 Mission Street, Suite 1650
San Francisco, California 94105

Prepared by
URS Corporation
One Montgomery Street, Suite 900
San Francisco, California 94104-4538

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LIST OF ACRONYMS AND ABBREVIATIONS

ABAG	Association of Bay Area Governments
ADA	Americans with Disabilities Act
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Bay Plan	San Francisco Bay Plan
BCDC	Bay Conservation and Development Commission
BMP	best management practice
CAP	climate action plan
CARB	California Air Resources Board
CCSF	City and County of San Francisco
CCC steelhead	Central California Coast steelhead
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CSI	Cambridge Systematics, Inc.
CSLC	California State Lands Commission
CV steelhead	Central Valley steelhead
cy	cubic yard
dB	decibel
dBA	A-weighted decibel
DBR	daily breathing rate
DMMO	Dredged Material Management Office
DPM	diesel particulate matter
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EOP	Equity Office Properties
FEMA	Federal Emergency Management Agency
Ferry Building	San Francisco Ferry Building
Ferry Terminal	Downtown San Francisco Ferry Terminal
FESA	Federal Endangered Species Act
FTA	Federal Transit Administration
GHG	greenhouse gas
HRA	Health Risk Assessment
ID	identification
IOP	Implementation and Operations Plan
L/kg-day	liters per kilogram per day
lbs/day	pounds per day
LOS	level of service
LTMS	Long-Term Management Strategy
$\mu g/m^3$	micrograms per cubic meter
MOU	memorandum of understanding
MTC	Metropolitan Transportation Commission
Muni	San Francisco Municipal Railway
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration

NOP	Notice of Preparation
NO_X	oxides of nitrogen
PM_{10}	particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$	particulate matter equal to or less than 2.5 microns in diameter
Port	Port of San Francisco
RMS	root mean square
ROD	Record of Decision
ROG	reactive organic gas
ROMA	ROMA Design Group
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAP	Special Area Plan
SEL	sound exposure level
SFAH	San Francisco Architectural Heritage
SFARC	San Francisco Architectural Review Committee
SF-DODS	San Francisco Deep Ocean Disposal Site
SFDPW	San Francisco Department of Public Works
SFFD	San Francisco Fire Department
SFHPC	San Francisco Historic Preservation Commission
SFMTA	San Francisco Municipal Transportation Agency
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide
TAC	toxic air contaminant
TAZ	travel analysis zone
TEP	Transit Effectiveness Project
URS	URS Corporation
USCG	U.S. Coast Guard
USDOI	United States Departments of Interior
USEPA	United States Environmental Protection Agency
VTA	Santa Clara Valley Transportation Authority
WETA	Water Emergency Transportation Authority

1.0 INTRODUCTION

The Federal Transit Administration (FTA) and San Francisco Bay Area Water Emergency Transportation Authority (WETA) prepared a Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to address the environmental effects of the proposed Downtown San Francisco Ferry Terminal Expansion Project (or project) improvements. These agencies prepared the Draft EIS/EIR in accordance with the National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) of 1970, as well as implementing regulations and agency guidelines. The FTA is the NEPA lead agency, and WETA is the CEQA lead agency. In addition, the National Marine Fisheries Service (NMFS) is a cooperating agency under NEPA, and the Port of San Francisco (Port), the California State Lands Commission (CLSC), and the San Francisco Bay Conservation and Development Commission (BCDC) are responsible agencies under CEQA.

The Draft EIS/EIR evaluated two alternatives: the No Action Alternative and the Action Alternative, or proposed project. The No Action Alternative maintains the existing Downtown San Francisco Ferry Terminal (Ferry Terminal) gate configuration and circulation areas, including the function, uses, and design of public spaces in the project area. Increases in passenger and water transit vessel arrivals that could be accommodated with the existing facilities at the Ferry Terminal would occur as a part of the No Action Alternative. The Action Alternative includes expansion and improvement of the Ferry Terminal to accommodate construction of three new gates and overwater berthing facilities, in addition to supportive landside improvements, such as additional passenger waiting and queuing areas, and circulation improvements. The proposed construction is scheduled to commence as early as 2014 and be completed by 2020. The project is proposed to support existing and planned future water transit services operated by WETA, as well as WETA's emergency response operations.

The Draft EIS/EIR evaluated the potential impacts of implementing the No Action Alternative and Action Alternative on transportation and circulation; land use and land use planning; parklands and recreation; Section 4(f) resources; air quality and global climate change; noise and vibration; cultural and paleontological resources; biological resources; aesthetics and visual resources; hydrology and water quality, hazards and hazardous materials; geology, soils, and seismicity; energy consumption; utilities and public services; socioeconomics; environmental justice; and regional growth. The only adverse and significant and unavoidable impacts that would result from implementation of the Action Alternative, in the short or long term, would be transportation and circulation impacts. All other impacts identified for the Action Alternative would be negligible, less than significant and not adverse, or less than significant and not adverse with the implementation of mitigation measures.

The Draft EIS/EIR was made available to the public on May 31, 2013, and comments were received until July 30, 2013. During the public comment period, a public meeting was held on June 25, 2013, to receive comments on the Draft EIS/EIR. Refer to Section 1.2 for additional details on the Draft EIS/EIR distribution and noticing.

This Response to Comments Appendix to the EIS/EIR responds to the agency and public comments received on the Draft EIS/EIR. It also describes changes made to the Draft EIS/EIR either in response to comments received (Chapter 2.0) or as a result of consultation with agencies with jurisdiction over the project (Section 1.2). These modifications do not change the conclusions of the analysis presented in the Draft EIS/EIR, and do not introduce significant new information on the project, project impacts, or mitigation that is substantially different from what was presented and analyzed in the Draft EIS/EIR.

1.1 LOCALLY PREFERRED ALTERNATIVE

The comments received on the Draft EIS/EIR have been considered, and where appropriate, updates and clarifications have been made to the description of the proposed project and its anticipated impacts, as described in detail in this appendix. The proposed project, as described in the Final EIS/EIR, is the

locally preferred alternative, and is the project that will be carried forward for project approval after certification of the Final EIS/EIR.

1.2 PROJECT UPDATES AND MODIFICATIONS

Since the release of the Draft EIS/EIR, updates to the project description and mitigation measures presented in the Draft EIS/EIR have been made as a part of WETA's ongoing coordination with agencies with jurisdiction over the project. The changes described here do not change the conclusions presented in the Draft EIS/EIR. These changes are intended to clarify and update the description of the proposed project, and to ensure that the project is carried out in a manner consistent with the laws and policies governing the project area and the resources in it.

Where changes to the text of the Draft EIS/EIR have been made, the modifications are shown in the response. Text additions are shown in double-underline and text ~~deletions~~ are shown in strikethrough. Text changes are referenced by the page number, paragraph on that page, and the major heading under which the text falls.

If a figure has been revised, the figure number has been changed to include "Revised" (e.g., Revised Figure 3.6-1), and a description of the revision is included in this appendix.

Revisions and updates to the EIS/EIR also included the modification of appendices. The modifications are described in this appendix, and the title of the appendix has been modified to include "Revised" (e.g., Revised Appendix B, Air Quality).

1.2.1 Authorized Work Windows

As described in Section 3.9, Biological Resources, of the Draft EIS/EIR, the Long-Term Management Strategy (LTMS) Management Strategy for San Francisco Bay established construction work windows. The work windows establish times when construction is allowed, restricted, or prohibited. If construction is conducted within the work window, then sensitive life stages of steelhead, salmonids, and Pacific herring are not likely to be in the project area; therefore construction activities would not have a significant impact on these species. In the project area, the authorized work window for steelhead and salmonids is June 1 through November 30, and the authorized work window for Pacific herring is March 1 through November 30.

The analysis in Section 3.9 of the Draft EIS/EIR assumed that in-water construction work could be conducted year-round. Therefore, the Draft EIS/EIR concluded that if work was conducted outside of the authorized work windows, WETA and FTA would consult with the NMFS and California Department of Fish and Wildlife (CDFW) because the project could adversely affect steelhead, salmonids, and Pacific herring.

WETA has since committed to conducting all in-water construction activities within the authorized work windows. Therefore, impacts to steelhead, salmonids, and Pacific herring would not be adverse. The results of the consultation with the NMFS pursuant to the Federal Endangered Species Act (FESA) are discussed below. Because green sturgeon and longfin smelt are present in San Francisco Bay all year, authorization of potential incidental take of these species would still be required. The following modifications have been made to the Draft EIS/EIR to reflect this change in construction schedule:

Page ES-31, Executive Summary, Table ES-2, Summary of Impacts and Mitigation Measures for the Action Alternative, Mitigation Measure BIO-1: Dredging and Pile-Driving Measures, Mitigation Measure column, second paragraph after bullets:

~~Until Final Design is completed and a contractor is selected, WETA will not be able to make a final determination as to whether piling installation or dredging must occur at times other than the~~

~~approved work window. In addition, factors beyond WETA's control, such as requirements of other agencies or conflicting timing requirements, may prevent WETA from conducting all piling installation and dredging within the approved work window.~~

Page 2-34, Section 2.4.6, General Construction Schedule, insert after second paragraph:

In-water construction activities (e.g., dredging and pile driving) would be scheduled to be completed during the authorized work window for construction in San Francisco Bay established by the Long-Term Management Strategy. In the project area, the authorized work window is June 1 through November 30.

Page 3.9-13, Section 3.9, Biological Resources, Impact 3.9-1, Potential Adverse Effects of Maintenance Dredging on Special-Status or Commercially Valuable Marine Species, last paragraph on page:

All in-water construction activities would be conducted in the authorized work window for steelhead, salmonids, and Pacific herring, when sensitive life stages are not likely to be present. Green sturgeon and longfin smelt, however, are present in San Francisco Bay all year; therefore, regardless of when maintenance dredging is conducted, authorization of potential incidental take of these species would be required. WETA and FTA are consulting with NMFS, under Section 7 of FESA (for green sturgeon); and would be required to consult with CDFW, under Fish and Game Code Section 2080.1 (for longfin smelt). To minimize impacts to special-status and commercially important fish species, Mitigation Measure BIO-1 will be implemented. ~~This measure requires that dredging be conducted during the LTMS dredge window of June 1 through November 30, to the extent feasible. During this time period, sensitive life stages of listed salmonids are not present in San Francisco Bay. This work window would also avoid the Pacific herring spawning season.~~ Mitigation Measure BIO-1 ~~also~~ requires the use of the smallest feasible dredge head for mechanical dredge, to reduce the likelihood of entrainment; and measures to prevent exposure of fish and other aquatic organisms to contaminants that may be present in sediments exposed by dredging.

~~In the case that dredging must be extended outside of the work window, FTA and WETA have initiated consultation with NMFS to authorize potential incidental take of federally listed salmonids (see more detail below on the status of consultation). In addition, dredging outside the work window would require a waiver from CDFW – which may include specifications such at monitoring by a qualified biologist, and halting of dredging activities for a specified period if herring spawning activity is noted in the construction area.~~

Page 3.9-17, Section 3.9, Biological Resources, Impact 3.9-4, Potential Adverse Effects on Special-Status or Commercially Valuable Marine Species from Dredging Activities during Construction, last two paragraphs on page:

Dredging activities associated with construction could temporarily increase suspended sediments in the vicinity of the project site (potentially affecting fish and marine mammal behavior and spawning), entrain fish in the dredging equipment, and result in physical disturbance to benthic organisms in the dredged area. These effects could be substantial, as discussed in more detail below. However, all in-water construction activities would be conducted in the authorized work window for steelhead, salmonids, and Pacific herring, when sensitive life stages are not likely to be present. Implementation of Mitigation Measure BIO-1 ~~would require that, to the extent possible, dredging would occur during the LTMS dredge window of June 1 through November 30. During this time period, sensitive life stages of listed salmonids are not present in San Francisco Bay. This work window would also avoid the Pacific herring spawning season. Mitigation Measure BIO-1 also~~ requires the use of the smallest feasible dredge head for

mechanical dredge, to reduce the likelihood of entrainment; and measures to prevent exposure of fish and other aquatic organisms to contaminants that may be present in sediments exposed by dredging. Mitigation Measure BIO-1 would minimize impacts to listed and commercially important fish species.

~~In the case that dredging must be extended outside of the work window, FTA and WETA have initiated consultation with NMFS to authorize potential incidental take of federally listed salmonids. If dredging must occur during the herring spawning season, a waiver from CDFW would be required. However these are only typically granted if unforeseen circumstances arise (i.e., in emergency situations). A waiver, if granted, may include specifications such as monitoring by a qualified biologist, and halting of dredging activities for a specified period if herring spawning activity is noted in the construction area.~~

Page 3.9-25, Section 3.9, Biological Resources, Impact 3.9-5, Potential Adverse Effects to Special-Status Fish and Marine Mammals from Underwater Sound Generated During Pile Driving, first full paragraph on page:

Although pile-driving would be conducted during the authorized work window for steelhead, salmonids, and Pacific herring to minimize the effect of project construction noise on other fish and marine mammals (i.e., avoidance behavior, fleeing responses, temporary hearing impairment, or the temporary cessation of feeding), Mitigation Measures BIO-1 and BIO-2 will be implemented. Mitigation Measure BIO-1 would reduce the construction noise impacts by requiring measures such as use of bubble curtains. ~~to sensitive life stages of listed salmonids by requiring that pile driving be conducted between June 1 and November 30, if feasible.~~ In addition, Mitigation Measure BIO-2 requires that hydroacoustic and biological monitoring for fish and marine mammals be conducted during construction, and that corrective measures be implemented, in coordination with NMFS, if underwater sound levels exceed the threshold in this analysis.

Page 3.9-26, Section 3.9, Biological Resources, Impact 3.9-5, Potential Adverse Effects to Special-Status Fish and Marine Mammals from Underwater Sound Generated During Pile Driving, CEQA Determination:

CEQA Determination. Underwater sound levels from pile driving during construction could exceed thresholds for both injury and behavioral effects on fish and marine mammals. Injury thresholds would be exceeded primarily during impact driving of steel piles (impact driving of concrete pile would only exceed criteria for whales and dolphins, over a small distance [15 feet] from the pile). Mitigation Measures BIO-1 and BIO-2 would be implemented. Mitigation Measure BIO-1 includes measures such as use of bubble curtains to minimize noise during pile driving~~would reduce the construction noise impacts to sensitive life stages of listed salmonids by requiring that pile driving be conducted between June 1 and November 30, if feasible~~. In addition, Mitigation Measure BIO-2 requires that hydroacoustic and biological monitoring for fish and marine mammals be conducted during construction, and that corrective measures be implemented, in coordination with NMFS, if underwater sound levels exceed the threshold in this analysis. Therefore, with implementation of Mitigation Measures BIO-1 and BIO-2, and adherence to the requirements of NMFS' Biological Opinion, impacts to fish and marine mammals from underwater sound would be less than significant with mitigation incorporated.

Page 3.9-28, Section 3.9, Biological Resources, Mitigation Measure BIO-1, Dredging and Pile-Driving Measures, third paragraph:

~~Until Final Design is completed and a contractor is selected, WETA will not be able to make a final determination as to whether piling installation or dredging must occur at times other than the~~

~~approved work window. In addition, factors beyond WETA's control, such as requirements of other agencies or conflicting timing requirements, may prevent WETA from conducting all piling installation and dredging within the approved work window.~~

Page 4-3, Section 4.2, Irreversible and Irretrievable Commitment of Resources, second paragraph:

An irreversible loss of special-status species could occur, should the project result in incidental take of federally listed fish species. ~~The proposed project may result in a potential incidental take of federally listed salmonids if dredging must be extended outside of the work window. In addition, t~~The proposed project may result in potential incidental take of green sturgeon and longfin smelt~~, regardless of when dredging is conducted~~. However, measures have been identified in Section 3.9 that would minimize impacts to these species; therefore, an irretrievable loss of these species' populations is not expected.

1.2.2 Completion of Consultation with NMFS

Since the release of the Draft EIS/EIR, WETA and FTA have completed consultation with NMFS under Section 7 of FESA for impacts to federally listed species and critical habitat, and for impacts to Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act. NMFS issued its Biological Opinion, Incidental Take Statement, and EFH Conservation Recommendations on June 30, 2014.

The Final EIS/EIR has been revised to (1) reflect the completion of the consultation process; and (2) update the analysis under Impact 3.9-2 as well as Mitigation Measures LU-1, BIO-1, and BIO-2 for consistency with the mitigation actions, measures to protect species, and Terms and Conditions included in NMFS' Biological Opinion and Incidental Take Statement.

The project area provides potential habitat for three federally threatened or endangered species:

- Steelhead (*Oncorhynchus mykiss*), referred to as steelhead, consisting of the following Distinct Population Segments (DPSs):
  - Central California Coast (CCC) steelhead (federally listed as threatened).
  - Central Valley (CV) steelhead (federally listed as threatened).

- Chinook salmon (*O. tshawytscha*), consisting of the following Evolutionarily Significant Units:
  - Sacramento River winter-run Chinook salmon (federally listed as endangered).
  - CV spring-run Chinook salmon (federally listed as threatened).

- Green sturgeon (*Acipenser medirostris*) southern DPS (federally listed as threatened).

In addition, the project area falls within critical habitat designated for CCC steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon; EFH for various federally managed fish species in the Pacific Groundfish, Pacific Salmon, and Coastal Pelagic Fishery Management plans; and Habitat Areas of Particular Concern for various federally managed fish species in the Pacific Groundfish Plan.

In-water construction activities, including pile-driving and dredging, have the potential to directly affect these species and their habitat. In addition, the placement of new structures would modify habitat.

As described in the Draft EIS/EIR, FTA determined that if pile-driving and dredging activities occur during the proposed work window between June 1 and November 30, the project may affect, but is not likely to adversely affect, steelhead and Chinook salmon. It was also determined that pile-driving and dredging activities for the project, regardless of timing, are likely to adversely affect green sturgeon. With regard to

designated critical habitat in the action area, FTA determined that the project would not appreciably diminish the value of designated critical habitat for steelhead, Sacramento River winter-run Chinook salmon, or green sturgeon. Therefore, the project may affect, but is not likely to adversely modify, the capability of designated critical habitat for these species to support the survival and recovery of the species.

NMFS concurred with FTA's determination and issued their Biological Opinion and Incidental Take Statement on June 30, 2014, concluding that the project is not likely to jeopardize the continued existence of threatened CCC steelhead, threatened CV steelhead, threatened CV spring-run Chinook salmon, endangered Sacramento River winter-run Chinook salmon, or threatened southern DPS green sturgeon. In addition, NMFS concluded that the project is not likely to adversely modify or destroy critical habitat for CCC steelhead, Sacramento River winter-run Chinook salmon, or southern DPS green sturgeon. NMFS also determined that the project would adversely affect EFH; however, the proposed minimization and mitigation measures would adequately address these adverse effects, and therefore NMFS has no EFH Conservation Recommendations. Refer to Appendix D, Agency Coordination, for more information.

The following modifications have been made to the EIS/EIR:

Page ES-14, Executive Summary, Table ES-2, Mitigation Measure LU-1: Removal of Fill in San Francisco Bay, insert after first paragraph:

In addition, the removal of fill will be coordinated with NMFS per the requirements of the Biological Opinion for the project (refer to Section 3.9). As outlined in the Biological Opinion, if the fill removed is in Central San Francisco Bay and is in-kind open-water enhancement (i.e., removal of existing shading), it would be removed at a 1:1 ratio. The mitigation ratio will be 2:1 if the mitigation action is outside Central San Francisco Bay and is in-kind open-water enhancement. If the mitigation action is in Central San Francisco Bay, but out-of-kind habitat enhancement, the mitigation will be 2:1. This mitigation would be funded prior to completion of construction of the project.

Page ES-30, Executive Summary, Table ES-2, Impact 3.9-1: Potential Adverse Effects of Maintenance Dredging on Special-Status or Commercially Valuable Marine Species, NEPA Determination:

Not adverse after implementation of mitigation.

For federally listed green sturgeon, the Section 7 consultation finding is that dredging is likely to adversely affect the green sturgeon, but would not be likely to jeopardize the continued existence of the species.

Page ES-30, Executive Summary, Table ES-2, Mitigation Measure BIO-1: Dredging and Pile-Driving Measures:

The following measures will be implemented to reduce the impacts of dredging and pile driving on special-status fish and other aquatic species:

- During impact pile driving of steel piles, the applicant will use a bubble curtain or other attenuation device to attenuate underwater sound levels;
- Impact hammers will be cushioned using a 12-inch-thick wood cushion block, and a "soft start" technique will be used to give fish and marine mammals an opportunity to vacate the area;
- Only a single impact hammer will be operated at a time;

- When feasible, vibratory hammers will be used to drive piles; and
- If a mechanical dredge is used, the applicant will use the smallest possible dredge head (5 to 10 cubic yards) to reduce the likelihood of fish becoming entrained in the mechanical dredge.

WETA ~~plans to~~ will conduct all piling installation and dredging between approved work windows, between June 1 and November 30, when the likelihood of sensitive fish species being present in the work area is minimal (LTMS, 1998).

~~The project sponsors will undertake formal FESA and CESA consultation with NOAA, NMFS, and CDFW to identify avoidance and minimization methods that will be implemented to reduce effects on sensitive marine resources. Methods may include monitoring by a qualified biologist, and halting of dredging or pile-driving activities for a specific period if spawning activity is noted within the construction area.~~ In addition to the avoidance and minimization measures identified here, the project sponsors will comply with additional measures and requirements identified through consultation with NOAA, NMFS, and CDFW.

Page ES-32, Executive Summary, Table ES-2, Impact 3.9-2: Potential Adverse Effects of Permanent Fill in San Francisco Bay on Benthic Habitat and Marine Species:

Impact	Mitigation Measure	NEPA Determination	CEQA Determination
Impact 3.9-2: Potential Adverse Effects of Permanent Fill in San Francisco Bay on Benthic Habitat and Marine Species The proposed project would result in a net increase of 345 square feet (0.008 acre) of fill in bottom habitat in the North and South Basins~~; this small loss of benthic habitat would be considered negligible in this environment~~. The increased area of shade that would result from the project is ~~small~~ relatively small ~~to the size of the surrounding open waters~~ in the context of San Francisco Bay, but could adversely affect fish and their habitat ~~and the impact on phytoplankton production and the food chain is expected to be negligible. Reduction in light resulting from overwater structures could result in a slight increase in predation on larval and young fish in the local project area~~. With implementation of Mitigation Measure LU-1, impacts would be reduced and would not be adverse.	~~No mitigation necessary.~~ Mitigation Measure LU-1: Removal of Fill in San Francisco Bay	Not adverse after implementation of mitigation.	Less than significant with mitigation.

Page ES-32, Executive Summary, Table ES-2, Impact 3.9-4: Potential Adverse Effects on Special-Status or Commercially Valuable Marine Species from Dredging Activities During Construction:

Impact	Mitigation Measure	NEPA Determination	CEQA Determination
Impact 3.9-4: Potential Adverse Effect on Special-Status or Commercially Valuable Marine Species from Dredging Activities during Construction The project's construction dredging activities have the potential to impact special-status and commercially valuable marine species, including their habitats. With implementation of Mitigation Measure BIO-1, the impacts of construction dredging on special-status and commercially valuable marine species would be reduced~~ and would not be adverse~~.	**Mitigation Measure BIO-1: Dredging and Pile-Driving Measures**	Not adverse after implementation of mitigation. For federally listed green sturgeon, the Section 7 consultation finding is that dredging is likely to adversely affect the green sturgeon, but would not be likely to jeopardize the continued existence of the species.	Less than significant with mitigation.

Page ES-32, Executive Summary, Table ES-2, Impact 3.9-5: Potential Adverse Effects on Special-Status Fish and Marine Mammals From Underwater Sound Generated During Pile Driving, NEPA Determination:

Not adverse after implementation of mitigation.

For federally listed green sturgeon, the Section 7 consultation finding is that underwater sound is likely to adversely affect the green sturgeon, but would not be likely to jeopardize the continued existence of the species.

Page ES-32, Executive Summary, Table ES-2, Mitigation Measure BIO-2: Hydroacoustic and Biological Monitoring and Avoidance Measures:

WETA will minimize sound level exposure from the project to marine mammals and fish. The performance standards for these minimization efforts are described later in this measure. To provide the final implementation level details, WETA will develop a Hydroacoustic and Biological Monitoring Plan in consultation with NMFS and CDFW, prior to the start of construction. This plan will provide detail on the methods used to monitor and verify sound levels during pile-driving activities. WETA will make hydroacoustic monitoring data available to NMFS on a real-time basis, will allow NMFS to access the project site, and will provide NMFS with any dead or injured fish, if observed during construction. WETA or FTA will provide a written report to NMFS following construction, detailing the construction activities and the results of hydroacoustic monitoring.

The Hydroacoustic and Biological Monitoring Plan ~~plan~~will include specific measures to minimize exposure of marine mammals and fish to high sound levels. At a minimum, avoidance and minimization measures will meet the following performance standards, and will include the following methods:

- Underwater noise levels will be measured during pile-driving activities to determine the distance at which sound levels do not exceed injury thresholds for fish (206 dB and 187 dB SEL) or marine mammals (Level A thresholds [180 dB root mean square (RMS) or 190 dB RMS]).

- ~~A "soft start" technique shall be employed in all pile driving to give marine mammals an opportunity to vacate the area.~~

- If an activity produces underwater sound levels that exceed injury the threshold for fish or marine mammals, work will be stopped and sound levels will be reduced through noise control measures such as the installation of NMFS-approved attenuation devices (e.g., bubble curtains) or modification of construction methods (such as using cushioning between the hammer and pile).

- An NMFS-approved biological monitor will monitor the installation of at least 10 percent of the 24- to 42-inch-diameter steel piles that will be installed by impact hammer.

- During initial impact pile-driving efforts, a default exclusion zone at a distance of 500 feet from the pile will be monitored for the presence of marine mammals. The area will be monitored for 30 minutes prior to impact driving. No driving will be conducted until the area has been free of marine mammal sightings for 30 minutes. If no marine mammals are sighted, driving will begin, and hydroacoustic monitoring will be conducted.

Page 3.3-19, Section 3.3, Land Use and Land Use Planning, Section 3.3.4 Mitigation Measures, Mitigation Measure LU-1: Removal of Fill in San Francisco Bay, insert after first paragraph:

In addition, the removal of fill will be coordinated with NMFS per the requirements of the Biological Opinion for the project (refer to Section 3.9). As outlined in the Biological Opinion, if the fill removed is in Central San Francisco Bay and is in-kind open-water enhancement (i.e., removal of existing shading), it would be removed at a 1:1 ratio. The mitigation ratio will be 2:1 if the mitigation action is outside Central San Francisco Bay and is in-kind open-water enhancement. If the mitigation action is in Central San Francisco Bay, but out-of-kind habitat enhancement, the mitigation will be 2:1. This mitigation would be funded prior to completion of construction of the project.

Page 3.9-12, Section 3.9, Biological Resources, Section 3.9.3 Impact Evaluation, last paragraph on page:

WETA and FTA have ~~initiated~~ completed consultation with NMFS under Section 7 of the FESA for impacts to special-status species and critical habitat, and for impacts to EFH under the Magnuson-Stevens Fishery Conservation and Management Act. The ~~status of~~ conclusions of the consultation are ~~is~~ described in more detail in Impacts 3.9-1, 3.9-2, 3.9-4, and 3.9-5. ~~The consultation process will be completed prior to the release of the Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR).~~

Page 3.9-13, Section 3.9, Biological Resources, Impact 3.9-1, Potential Adverse Effects of Maintenance Dredging on Special-Status or Commercially Valuable Marine Species, Action Alternative, last paragraph:

Green sturgeon and longfin smelt are present in San Francisco Bay all year; therefore, regardless of when maintenance dredging is conducted, authorization of potential incidental take of these species would be required. WETA and FTA ~~are~~ consulted~~ing~~ with NMFS, under Section 7 of

FESA (for green sturgeon); and would be required to consult with CDFW, under Fish and Game Code Section 2081(b) (for longfin smelt).

Page 3.9-14, Section 3.9, Biological Resources, Impact 3.9-1, Potential Adverse Effects of Maintenance Dredging on Special-Status or Commercially Valuable Marine Species, NEPA Determination:

The proposed project's maintenance dredging activities have the potential to adversely impact special-status and commercially valuable marine species, including their habitats. With implementation of Mitigation Measure BIO-1 and adherence to the requirements of NMFS' Biological Opinion, impacts of maintenance dredging on special-status and commercially valuable marine species would be reduced~~, and would not be adverse~~.

WETA and FTA have ~~also initiated consultation~~ consulted with NMFS under Section 7 of the FESA, and for EFH under the Magnuson-Stevens Fishery Conservation and Management Act. ~~The Biological Assessment was submitted to NMFS for further action. FTA's~~ NMFS' Biological ~~Assessment~~ Opinion included the following conclusions:

- If dredging activities occur during the proposed work window between June 1 and November 30, the project may affect, but is not likely to adversely affect steelhead, Sacramento River winter-run Chinook salmon, and Central Valley spring-run Chinook salmon.

- ~~If dredging activities occur outside of the proposed work window (i.e., between December 1 and May 31), the project is likely to adversely affect steelhead, Sacramento River winter-run Chinook salmon, and Central Valley spring-run Chinook salmon.~~

- Dredging activities for the project, regardless of timing, are likely to adversely affect green sturgeon, but would not be likely to jeopardize the continued existence of the species.

With regard to designated critical habitat in the action area, NMFS concluded that the project is not likely to adversely modify or destroy critical habitat for CCC steelhead, Sacramento River winter-run Chinook salmon, or southern DPS green sturgeon. NMFS also determined that the project would adversely affect EFH; however, the proposed minimization and mitigation measures would adequately address these adverse effects.~~ for the purposes of the Biological Assessment, FTA has determined and WETA supports the determination that the project does not appreciably diminish the value of designated critical habitat for CCC and Central Valley steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon. Therefore, the project may affect, but is not likely to adversely modify, the capability of designated critical habitat for these species to support the survival and recovery of the species. With regard to EFH in the action area, FTA has determined and WETA supports the determination that EFH may be disturbed due to dredging activities, which may adversely affect EFH for Pacific salmon species~~

~~However, the implementation of avoidance and minimization measures described in Mitigation Measure BIO-1 would minimize these potential effects. These avoidance and minimization measures, in combination with the ability of these species to move themselves out of the range affected by injury-causing noise and turbidity, would minimize the direct impacts on individuals, and thus on populations of the species. In addition, as described in more detail in the Biological Assessment, the potential impacts to species and their habitats (critical habitat and EFH) would be temporary and not likely to result in death of injury to individuals. The consultation process will be completed prior to the release of the Final EIS/EIR.~~

Page 3.9-16, Section 3.9, Biological Resources, Impact 3.9-2, Potential Adverse Effects of Permanent Fill in San Francisco Bay on Benthic Habitat and Marine Species, beginning with the first full paragraph on the page:

The new structures would be placed within the existing Ferry Terminal area, where a number of overwater structures already exist. The increased area of shade that would result from the project is small relative to the size of the surrounding open waters of San Francisco Bay~~, and the impact on phytoplankton production and the food chain is expected to be negligible~~.

The reduction in light resulting from overwater structures can create "behavioral barriers" that can deflect or delay fish migration, reduce prey resource production and availability, and alter predator-prey relationships (Nightingale and Simenstad, 2001). Many predatory fish, such as striped bass (*Morone saxatilis*), are associated with in-water structures (Haeseker et al., 1996) and could occur within the area associated with the new structures. This could result in a slight increase in predation on larval and young fish in the local project area. This increase would be most pronounced during high tide, when larger predatory fish move into shallow water to feed. However, larval or young fish are likely to avoid areas that are shaded by the pier. Due to the daily changes in water depths resulting from tidal action, it is unlikely that prey fish would remain in this zone for extended periods, and experience large increases in predation.~~ The impact from the project is expected to be negligible in the current environment of the Ferry Terminal.~~

Although the impacts from new fill would be small, because the project area provides critical habitat for endangered and threatened fish species and EFH for a variety of other fish, the project's impacts could be adverse. To minimize adverse impacts to benthic habitat—affecting critical habitat, EFH, and marine species—Mitigation Measure LU-1 (refer to Section 3.3) would be implemented, which requires WETA to remove fill elsewhere in San Francisco Bay.

NEPA Determination. Impacts to benthic habitat, affecting EFH and marine species, related to the placement of fill in the project area would ~~not~~ be potentially adverse. With implementation of Mitigation Measure LU-1 and adherence to the requirements of NMFS' Biological Opinion, the impact of new fill on special-status species and habitat would be reduced, and would not be adverse.

WETA and FTA have also ~~initiated~~ consultat~~ion~~ed with NMFS under Section 7 of the FESA, and for EFH under the Magnuson-Stevens Fishery Conservation and Management Act. ~~The Biological Assessment was submitted to NMFS for further action.~~ With regard to designated critical habitat in the action area, NMFS concluded that the project is not likely to adversely modify or destroy critical habitat for CCC steelhead, Sacramento River winter-run Chinook salmon, or southern DPS green sturgeon. NMFS also determined that the project would adversely affect EFH; however, the proposed minimization and mitigation measures would adequately address these adverse effects.~~ for the purposes of the Biological Assessment, FTA has determined and WETA supports the determination that the project does not appreciably diminish the value of designated critical habitat for CCC and Central Valley steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon. Therefore, the project may affect, but is not likely to adversely modify, the capability of designated critical habitat for these species to support the survival and recovery of the species. With regard to EFH in the action area, FTA has determined and WETA supports the determination that EFH may be modified but modification would be minor. The consultation process will be completed prior to the release of the Final EIS/EIR.~~

CEQA Determination. Impacts to benthic habitat, affecting EFH and marine species, related to the placement of fill in the project area would be potentially ~~less than~~ significant. With implementation of Mitigation Measure LU-1 and adherence to the requirements of NMFS'

Biological Opinion, the impact of new fill on special-status species and habitat would be reduced, and would be less than significant with mitigation.

Page 3.9-18, Section 3.9, Biological Resources, Impact 3.9-4, Potential Adverse Effect on Special-Status or Commercially Valuable Marine Species from Dredging Activities during Construction, fourth paragraph:

Green sturgeon and longfin smelt are present in San Francisco Bay all year; therefore, regardless of when maintenance dredging is conducted, authorization of potential incidental take of these species would be required. WETA and FTA have ~~initiated consultation~~ consulted with NMFS, under Section 7 of FESA (for green sturgeon); and would be required to consult with CDFW, under Fish and Game Code Section 2081(b) (for longfin smelt).

Page 3.9-19, Section 3.9, Biological Resources, Impact 3.9-4, Potential Adverse Effects on Special-Status or Commercially Valuable Marine Species from Dredging Activities during Construction, NEPA Determination:

The proposed project's construction dredging activities have the potential to adversely impact special-status and commercially valuable marine species. With implementation of Mitigation Measure BIO-1 and adherence to the requirements of NMFS' Biological Opinion, the impacts of construction dredging on special-status and commercially valuable marine species would be reduced~~, and would not be adverse~~.

WETA and FTA have ~~also initiated consultation~~ consulted with NMFS under Section 7 of the FESA, and for EFH under the Magnuson-Stevens Fishery Conservation and Management Act. ~~The Biological Assessment was submitted to NMFS for further action. FTA's~~ NMFS' Biological ~~Assessment~~ Opinion included the following conclusions:

- If dredging activities occur during the proposed work window between June 1 and November 30, the project may affect, but is not likely to adversely affect steelhead, Sacramento River winter-run Chinook salmon, and Central Valley spring-run Chinook salmon.

- ~~If dredging activities occur outside of the proposed work window (i.e., between December 1 and May 31), the project is likely to adversely affect steelhead, Sacramento River winter-run Chinook salmon, and Central Valley spring-run Chinook salmon.~~

- Dredging activities for the project, regardless of timing, are likely to adversely affect green sturgeon, but would not be likely to jeopardize the continued existence of the species.

With regard to designated critical habitat in the action area, NMFS concluded that the project is not likely to adversely modify or destroy critical habitat for CCC steelhead, Sacramento River winter-run Chinook salmon, or southern DPS green sturgeon. NMFS also determined that the project would adversely affect EFH; however, the proposed minimization and mitigation measures would adequately address these adverse effects.~~ for the purposes of the Biological Assessment, FTA has determined and WETA supports the determination that the project does not appreciably diminish the value of designated critical habitat for CCC and Central Valley steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon. Therefore, the project may affect, but is not likely to adversely modify, the capability of designated critical habitat for these species to support the survival and recovery of the species. With regard to EFH in the action area, FTA has determined and WETA supports the determination that EFH may be disturbed due to dredging activities, which may adversely affect EFH for Pacific salmon species~~

~~However, the implementation of avoidance and minimization measures described in Mitigation Measure BIO-1 would minimize these potential effects. These avoidance and minimization measures, in combination with the ability of these species to move themselves out of the range affected by injury-causing noise and turbidity, would minimize the direct impacts on individuals, and thus on populations of the species. In addition, as described in more detail in the Biological Assessment, the potential impacts to species and their habitats (critical habitat and EFH) would be temporary and not likely to result in death of injury to individuals. The consultation process will be completed prior to the release of the Final EIS/EIR.~~

Page 3.9-25, Section 3.9, Biological Resources, Impact 3.9-5, Potential Adverse Effects to Special-Status Fish and Marine Mammals from Underwater Sound Generated During Pile Driving, NEPA Determination:

Underwater sound levels from pile driving during construction could adversely affect fish and marine mammals. With implementation of Mitigation Measures BIO-1 and BIO-2, and adherence to the requirements of NMFS' Biological Opinion, these impacts would be reduced ~~and would not be adverse~~.

WETA and FTA have ~~also initiated consultation~~ consulted with NMFS under Section 7 of the FESA, and for EFH under the Magnuson-Stevens Fishery Conservation and Management Act. ~~The Biological Assessment was submitted to NMFS for further action. FTA's~~ NMFS' Biological ~~Assessment~~ Opinion included the following conclusions:

- If pile-driving activities occur during the proposed work window between June 1 and November 30, the project may affect, but is not likely to adversely affect steelhead, Sacramento River winter-run Chinook salmon, and Central Valley spring-run Chinook salmon.

- ~~If pile-driving activities occur outside of the proposed work window (i.e., between December 1 and May 31), the project is likely to adversely affect steelhead, Sacramento River winter-run Chinook salmon, and Central Valley spring-run Chinook salmon.~~

- Pile-driving activities for the project, regardless of timing, are likely to adversely affect green sturgeon, but would not be likely to jeopardize the continued existence of the species.

With regard to designated critical habitat in the action area, NMFS concluded that the project is not likely to adversely modify or destroy critical habitat for CCC steelhead, Sacramento River winter-run Chinook salmon, or southern DPS green sturgeon. NMFS also determined that the project would adversely affect EFH; however, the proposed minimization and mitigation measures would adequately address these adverse effects. ~~for the purposes of the Biological Assessment, FTA has determined and WETA supports the determination that the project does not appreciably diminish the value of designated critical habitat for CCC and Central Valley steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon. Therefore, the project may affect, but is not likely to adversely modify, the capability of designated critical habitat for these species to support the survival and recovery of the species. With regard to EFH in the action area, FTA has determined and WETA supports the determination that EFH may be disturbed due to dredging activities, which may adversely affect EFH for Pacific salmon species~~

~~However, the implementation of avoidance and minimization measures described in Mitigation Measure BIO-1 would minimize these potential effects. These avoidance and minimization measures, in combination with the ability of these species to move themselves out of the range affected by injury-causing noise and turbidity, would minimize the direct impacts on individuals,~~

~~and thus on populations of the species. In addition, as described in more detail in the Biological Assessment, the potential impacts to species and their habitats (critical habitat and EFH) would be temporary and not likely to result in death of injury to individuals. The consultation process will be completed prior to the release of the Final EIS/EIR.~~

Page 3.9-27, Section 3.9, Biological Resources, Impact 3.9-7, Potential to Result in Cumulative Impacts on Biological Resources, third paragraph on page:

Fill in the terminal area, including shading, is small relative to surrounding open areas of San Francisco Bay. Although the increase in project-related fill would combine with fill associated with other projects and result in a cumulative increase of fill in San Francisco Bay, the amount of fill for the proposed project would be small and placed in an area that is already substantially altered by Ferry Terminal facilities, and therefore less likely to affect habitat, species, and species behavior. In addition, new fill created by the project would be offset by the removal of fill elsewhere in San Francisco Bay with implementation of Mitigation Measure LU-1. Therefore, the fill from the proposed project would not be considered cumulatively considerable.

Page 3.9-28, Section 3.9, Biological Resources, Section 3.9.4 Mitigation Measures, Mitigation Measure BIO-1: Dredging and Pile-Driving Measures:

The following measures will be implemented to reduce the impacts of dredging and pile driving on special-status fish and other aquatic species:

- During impact pile driving of steel piles, the applicant will use a bubble curtain or other attenuation device to attenuate underwater sound levels;
- Impact hammers will be cushioned using a 12-inch-thick wood cushion block, and a "soft start" technique will be used to give fish and marine mammals an opportunity to vacate the area;
- Only a single impact hammer will be operated at a time;
- When feasible, vibratory hammers will be used to drive piles; and
- If a mechanical dredge is used, the applicant will use the smallest possible dredge head (5 to 10 cubic yards) to reduce the likelihood of fish becoming entrained in the mechanical dredge.

WETA ~~plans to~~ will conduct all piling installation and dredging between approved work windows, between June 1 and November 30, when the likelihood of sensitive fish species being present in the work area is minimal (LTMS, 1998).

~~The project sponsors will undertake formal FESA and CESA consultation with NOAA, NMFS, and CDFW to identify avoidance and minimization methods that will be implemented to reduce effects on sensitive marine resources. Methods may include monitoring by a qualified biologist, and halting of dredging or pile-driving activities for a specific period if spawning activity is noted within the construction area.~~ In addition to the avoidance and minimization measures identified here, the project sponsors will comply with additional measures and requirements identified through consultation with NOAA, NMFS, and CDFW.

Page 3.9-28, Section 3.9, Biological Resources, Section 3.9.4 Mitigation Measures, Mitigation Measure BIO-2: Hydroacoustic and Biological Monitoring and Avoidance Measures:

WETA will minimize sound level exposure from the project to marine mammals and fish. The performance standards for these minimization efforts are described later in this measure. To provide the final implementation level details, WETA will develop a Hydroacoustic and Biological Monitoring Plan in consultation with NMFS and CDFW, prior to the start of construction. This plan will provide detail on the methods used to monitor and verify sound levels during pile-driving activities. WETA will make hydroacoustic monitoring data available to NMFS on a real-time basis, will allow NMFS to access the project site, and will provide NMFS with any dead or injured fish, if observed during construction. WETA or FTA will provide a written report to NMFS following construction, detailing the construction activities and the results of hydroacoustic monitoring.

The Hydroacoustic and Biological Monitoring Plan ~~plan~~will include specific measures to minimize exposure of marine mammals and fish to high sound levels. At a minimum, avoidance and minimization measures will meet the following performance standards, and will include the following methods:

- Underwater noise levels will be measured during pile-driving activities to determine the distance at which sound levels do not exceed injury thresholds for fish (206 dB and 187 dB SEL) or marine mammals (Level A thresholds [180 dB RMS or 190 dB RMS]).

- ~~A "soft start" technique shall be employed in all pile driving to give marine mammals an opportunity to vacate the area.~~

- If an activity produces underwater sound levels that exceed injury the threshold for fish or marine mammals, work will be stopped and sound levels will be reduced through noise control measures such as the installation of NMFS-approved attenuation devices (e.g., bubble curtains) or modification of construction methods (such as using cushioning between the hammer and pile).

- An NMFS-approved biological monitor will monitor the installation of at least 10 percent of the 24- to 42-inch-diameter steel piles that will be installed by impact hammer.

- During initial impact pile-driving efforts, a default exclusion zone at a distance of 500 feet from the pile will be monitored for the presence of marine mammals. The area will be monitored for 30 minutes prior to impact driving. No driving will be conducted until the area has been free of marine mammal sightings for 30 minutes. If no marine mammals are sighted, driving will begin, and hydroacoustic monitoring will be conducted.

Page 4-4, Chapter 4.0, Other CEQA/NEPA Considerations, Section 4.4 Relationship Between Local Short-term Uses of the Environment and Long-term Productivity, fifth paragraph:

The project would result in a net increase of 345 square feet (0.008 acre) of permanent fill in San Francisco Bay. The placement of piles would be in the existing Ferry Terminal area, which has a number of structures already in place, and is considered a somewhat disturbed environment relative to other open-water portions of central San Francisco Bay. This small loss of benthic habitat would be considered negligible in this environment. In addition, the new structures would be placed within the existing Ferry Terminal area, where a number of overwater structures already exist. The increased area of shade that would result from the project is small relative to the size of the surrounding open waters of San Francisco Bay~~, and the impact on phytoplankton~~

~~production and the food chain is expected to be negligible~~. To offset the new fill in San Francisco Bay, WETA would implement Mitigation Measure LU-1 (refer to Section 3.3), which requires WETA to remove of fill elsewhere in San Francisco Bay.

Page 5-7, Chapter 5.0, Public and Agency Involvement, Subsection titled Endangered Species Act Section 7 and Magnuson-Stevens Fishery Conservation and Management Act Consultation:

Pursuant to Section 7 of the federal Endangered Species Act—and, for Essential Fish Habitat, to the Magnuson-Stevens Fishery Conservation and Management Act—the FTA ~~has initiated~~ consultat~~ion~~ed with the National Marine Fisheries Service regarding potential impacts to species and protected habitat under its jurisdiction that are protected under these Acts. ~~FTA initiated consultation with submittal of a Biological Assessment (refer to Appendix D).~~ NMFS issued its Biological Opinion, Incidental Take Statement, and EFH Conservation Recommendations on June 30, 2014 (see Appendix D). Refer to Section 3.9, Biological Resources, for additional information. ~~The consultation process will be completed prior to the release of the Final EIS/EIR, which will contain a summary of the consultation process.~~

Appendix D, Agency Coordination and Consultation, has been updated to include a copy of the letter from NMFS transmitting the Biological Opinion, Incidental Take Statement, and EFH Conservation Recommendations.

1.2.3 Removal of Gate B Canopy from the Project Description

WETA and FTA have decided to not to include the weather protection canopy for Gate B in the project's Final Design; therefore, this element has been removed from the project description of Action Alternative. Providing weather protection to passengers is still a high priority for WETA, and the canopy was designed to organize queuing to ensure that others using the project area are free to circulate; however, based on comments received on the Draft EIS/EIR, this element is no longer being considered. As described in Chapter 2.0 of this Response to Comments Appendix, several organizations expressed concerns over the placement and design of this canopy, the canopy's potential to impede pedestrian flow, and the potential visual impact of this canopy on the historic Ferry Building. The following modifications have been made to the Draft EIS/EIR to reflect this change in the project description:

Page ES-8, Executive Summary, Table ES-1, Summary of Demolition and New Construction, last row:

Weather protection canopies	Gate A = 200 feet long by 20 feet wide ~~Gate B = 200 feet long by 20 feet wide~~ South Basin = 420 feet long by 24 feet wide	Installation of steel, glass, and photovoltaic cell overhead canopy on the pier deck

Page 2-7, Chapter 2.0, Alternatives, Table 2-1, Summary of Demolition and New Construction, last row:

Weather protection canopies	Gate A = 200 feet long by 20 feet wide ~~Gate B = 200 feet long by 20 feet wide~~ South Basin = 420 feet long by 24 feet wide	Installation of steel, glass, and photovoltaic cell overhead canopy on the pier deck

Page 2-13, Chapter 2.0, Alternatives, Figure 2-3, Proposed Berthing Facilities has been revised to remove Gate B Canopy construction from the North Basin.

Page 2-17, Chapter 2.0, Alternatives, Figure 2-5, Simulated View of North Basin Improvements has been revised to remove Gate B Canopy construction from the North Basin.

Page 2-19, Section 2.3.3, Passenger Boarding, Circulation Areas, and Amenities, subsection Weather Protection Canopies, first paragraph:

In the North Basin, a weather protection canopy structure would be constructed to span the length of the new Gate A Access Pier, as shown on Figure 2-5. The structure would provide weather protection and information for queuing and waiting passengers. The weather protection canopy structure~~s~~ would be approximately 20 feet wide, 200 feet long, 18 to 20 feet high, and constructed of steel, glass, and could include photovoltaic cells. Features of the weather protection canopy structure would include lighting, passenger information, and benches. ~~A weather protection canopy structure, similar in design to Gate A, would also be constructed along the north edge of the Ferry Building to provide weather protection for passengers queuing at the existing Gate B.~~

Page 2-20, Section 2.3.4, Circulation Improvements:

The project would also include improvements to circulation in the Ferry Building area.

~~In the North Basin, the canopy installed for Gate B would serve to organize the queuing of passengers waiting to board a vessel along the north railing, allowing other users of the Ferry Building area to pass through that area unimpeded.~~

In the South Basin, the East Bayside Promenade and associated canopy would ~~also serve to~~ organize passenger queuing and reduce use conflicts. The creation of the Embarcadero Plaza would greatly enhance passenger circulation to Gates E, F, and G, allowing free movement, and eliminating the current pedestrian bottlenecks and use conflicts at the southeastern corner of the Ferry Building. Figure 2-7 depicts the paths of anticipated pedestrian circulation through the project area. Because the project would improve pedestrian flow, pedestrian congestion in the fire lane would be reduced, ensuring that emergency access is maintained.

The project would change pedestrian circulation patterns in the project area; however, vehicular access would remain unchanged. Delivery trucks and emergency and maintenance vehicles would maintain their current access to the Ferry Plaza area, south of the Ferry Building. The project would not affect the Ferry Plaza function or access. All project improvements would occur within areas directly controlled by the Port, and would not affect, encroach upon, or modify any property or access to property under the control of other entities, including rights-of-way in the project area. ~~The improvements along the northern edge of the Ferry Building would be located within an existing maintenance easement for the Ferry Building held by Equity Office Partners (the leaseholder for the Ferry Building); responsibility for maintenance of the new facilities would be set forth in a Site Maintenance Plan developed by the Port and WETA in coordination with Equity Office Partners; refer to Section 2.3.6, Site Maintenance.~~

Page 2-25, Section 2.3.5, Design Considerations, subsection titled Green Building:

The project would incorporate green building approaches to the design of the new facilities in several key ways. It may be constructed as a zero net energy project, which would be achieved through the use of photovoltaic cells incorporated into the canopies at Gates A, ~~B,~~ E, F, and G (see the Lighting and Utilities subsection of Section 2.3.6, Operating Elements). In addition, the project is designed in response to state, regional, and local standards for stormwater management and water quality, and would also include sustainable construction materials and methods, as required by the San Francisco Green Building Ordinance, Chapter 13 of the San Francisco Building Code.

Page 2-28, Section 2.3.6, Operating Elements, subsection titled Lighting and Utility Requirements:

The total energy requirements for the additional lighting, communications, security, and hydraulic ramps would be approximately 140,000 kilowatt hours per year (ROMA, 2012). To offset this demand, the weather protection canopies constructed along the Gate A Access Pier~~, Gate B queuing area,~~ and perpendicular to Gates E, F, and G could be designed with photovoltaic cells. The energy generated from the photovoltaics would be expected to exceed the energy demand for the project lighting. Approximately ~~200~~160,000 kilowatt hours could be generated on site. The preliminary design of the project improvements includes the photovoltaic cells. The decision on whether the photovoltaic cells would be constructed would be made during the project's final design phase, based partly on public and agency input received on the EIS/EIR.

Page 2-28, Section 2.3.6, Operating Elements, subsection titled Site Maintenance:

WETA and the Port would develop a Site Maintenance Plan prior to project initiation. The Plan would designate responsibility and a schedule for regular maintenance and cleaning of the new facilities (e.g., canopies), as well as general site maintenance activities (e.g., wash-down; litter removal and trash receptacle management; lighting and landscape management). ~~For any new facilities along the northern edge of the Ferry Building, the Site Maintenance Plan would also be coordinated with Equity Office Partners, who currently have maintenance responsibilities in that area through their lease and management of the Ferry Building.~~

Page 2-30, Section 2.4.2, Construction Techniques, Materials, and Duration, subsection titled Gate A Access Pier, last paragraph:

~~The weather protection canopy structure for Gate B would be constructed in the same manner as described above for the Gate A weather protection canopy structure.~~

Page 2-34, Section 2.4.6, General Construction Schedule, second paragraph:

The improvements in the North Basin could be constructed within 14 months, as shown on Figure 2-10; many of the construction activities (dredging, Gate A Pier construction, Gate A berthing structure installation, Marginal Wharf Repair, Gate A ~~and Gate B~~ canopy installation, and site finishing work) would overlap. In the South Basin, construction could be completed within 24 months. Several phases of the South Basin construction (demolition, dredging, construction of Embarcadero Plaza, South Apron of the Agriculture Building improvements, construction of the East Bayside Promenade, installation of the berthing structures, installation of the canopies, and site finishing work) would also overlap.

Page 2-39, Chapter 2.0, Alternatives, Figure 2-10, Estimated Construction Schedule has been revised to remove Gate B Canopy construction from the North Basin.

Page 3.6-33, Section 3.6, Air Quality and Global Climate Change, Impact 3.6-10, Comply with the BAAQMD GHG Thresholds and Applicable Climate Action Plans, first paragraph after Table 3.6-10:

The project would be also consistent with the CAP's renewable energy provisions, because it is planned as a zero net energy project, which would be achieved through the use of photovoltaic cells incorporated into the weather protection canopies at Gates A, ~~B,~~ E, F, and G. The use of solar energy as part of the proposed project is consistent with CCSF's and the Port's CAPs, which require all tenants to develop onsite renewable energy.

Page 3.7-18, Section 3.7, Noise and Vibration, Table 3.7-7, Distance from the Construction Zone to Noise-Sensitive Receivers:

Table 3.7-7
Distance from the Construction Zone to Noise-Sensitive Receivers

Noise-Sensitive Receivers	Land Use	Distance to the Closest Construction Zone (feet)
Hotel Vitale	Residential	230
Ferry Building	Commercial	30[1]/55[2]
Agriculture Building	Commercial	5
Pier 1	Commercial	25
The Carnelian by the Bay	Commercial	220
Golden Gate Transit Terminal	Commercial	250

Source: URS, 2012a.

Notes:

[1] This ~~is the~~ distance represents the distance from the Ferry Building to ~~the construction zone in the North Basin~~ the location where in-water construction activities would occur in the North Basin, not to the edge of the Construction Zone boundary.~~(excluding the portion of the construction zone for the Gate B canopy installation, which would be considered a minor construction activity from a noise and vibration perspective, and not representative of project construction activities).~~

[2] This is the distance to the construction zone in the South Basin.

Distances are estimated based on the construction zone shown on Figure 2-9.

Page 3.7-18, Section 3.7, Noise and Vibration, Impact 3.7-2, Potential Impact of Construction and Demolition Equipment other than Impact Tools on Adjacent Noise-Sensitive Land Uses, third paragraph after Table 3.7-7:

~~The installation of the weather protection canopy for Gate B in the North Basin would be within 30 feet of the Ferry Building. However, this activity would be completed in approximately 1 week and would only require minor equipment and use of tools onsite to erect the canopy, which would be delivered to the site pre-constructed. This activity, by itself, is unlikely to create noise levels that would be typical of other site construction activities like demolition and deck construction.~~

Page 3.8-39, Section 3.8, Cultural and Paleontological Resources, Impact 3.8-5, Potential Indirect Effects of Visual or Noise and Vibration on Historic Properties or Resources, Action Alternative, subsection titled Visual, third paragraph on page:

~~Three~~ Two weather protection canopies are also included in the project's preliminary design. The weather protection canopies would have a uniform look throughout the project area. They would be approximately 20 to 24 feet wide and 18 to 20 feet high; constructed of steel and glass; and could include photovoltaic cells (see Figure 3.8-7). One weather protection canopy would be constructed along the Gate A Access Pier. ~~A similar canopy would be placed on the existing access pier along the north side of the Ferry Building.~~ In the South Basin, an extension of the East Bayside Promenade—also topped with a photovoltaic canopy—would replace the existing, noncontributing Pier 2 and Sinbad's Restaurant.

Page 3.8-41, Section 3.8, Cultural and Paleontological Resources, Figure 3.8-7, Weather Protection Canopy Design Concepts has been revised to only depict the weather protection canopy at Gates E, F, and G.

Page 3.8-43, Section 3.8, Cultural and Paleontological Resources, Figure 3.8-8, Views of the North Basin to the East has been revised to remove Gate B Canopy construction from the North Basin.

Page 3.8-45, Section 3.8, Cultural and Paleontological Resources, Figure 3.8-9, Views of the North Basin to the Southwest has been revised to remove Gate B Canopy construction from the North Basin.

Page 3.10-17, Section 3.10, Aesthetics and Visual Resources, Impact 3.10-1, Potential to Substantially Alter or Block Views of Scenic Vistas or Resources, Action Alternative, third full paragraph on page:

Gate A, in the North Basin, would require the construction of a 30-foot-wide, 265-foot-long pier to provide access to the berthing facilities. The Gate A Access Pier would be constructed where Pier ½[1] was located, and Gate A would be located to the east of where Pier ½ previously ended (see Figure 2-1). Figure 3.10-1, View 6, shows the area where Gate A and the Gate A Access Pier would be constructed, with Pier 1 in the background. Figure 3.10-1, View 3, is a ground-level view from public areas along The Embarcadero to the North Basin, with views of the Bay Bridge and Treasure Island in the background; it also shows the area where Gate A and the Gate A Access Pier would be constructed. Views of this area after implementation of the proposed project would contain an access pier, weather protection canopy, entry portal, gangway, and float for Gate A~~, as well as the weather protection canopies for Gate A and Gate B~~. The Gate A float would be similar in height and material to the existing float at Gate B (see Figures 2-3 and 2-5), and would therefore be of similar scale, color, and texture. Depending on the specific viewer vantage point, the features in the North Basin could potentially block views of the background (i.e., areas beyond the North Basin), including San Francisco Bay and portions of Treasure Island and the Bay Bridge. However, this impact is anticipated to be minor due to the limited width, height, and massing of the new features, and the abundance of adjacent vantage points that would retain these views. The weather protection canopy~~ies~~ in the North Basin could potentially block portions of the public's views of ~~the Ferry Building and~~ Pier 1 from along The Embarcadero, depending on the vantage point. However, because of ~~their~~ its relatively low vertical profile~~s~~, light massing, and glass features, ~~these project elements~~ it would have minimal visual impact, particularly when compared to the overall scale of ~~the Ferry Building and~~ Pier 1. The weather protection ~~canopies~~ canopy would stand no higher than 20 feet, far below the heights of the adjacent buildings, and would be visually subordinate to the~~ Ferry Building and Pier 1~~ surrounding buildings. Refer to Section 3.8, Cultural and Paleontological Resources, for more discussion of the proposed project's compatibility with the historic resources within the project area.

Page 3.14-4, Section 3.14, Energy Consumption, Impact 3.14-1, Wasteful, Inefficient or Unnecessary Consumption of Energy During Project Operation, Action Alternative, first paragraph:

The proposed project would require the installation of lighting for the gates and circulation areas. The total energy requirements for the additional lighting would be approximately 142,000 kilowatt hours (kWh) per year. To offset this demand, the proposed project could include photovoltaic cells in the weather protection canopies along the Gate A Access Pier~~, Gate B queuing area,~~ and perpendicular to Gates E, F, and G. The energy generated from the

[1] As described in Chapter 2, as part of the America's Cup project, Pier ½ has been removed. Additionally, the building that currently houses Sinbad's Restaurant on Pier 2 is to be vacated and removed by March 2015. Demolition of these facilities as a part of the America's Cup project is not addressed in this Environmental Impact Statement/Environmental Impact Report.

photovoltaics would be expected to exceed the energy demand for the project lighting. Approximately ~~200~~160,000 kWh could be generated on site. With the use of photovoltaic cells, the project would be a zero net energy project.

Page 3.14-5, Section 3.14, Energy Consumption, Impact 3.14-2, Significant Demand on Regional Energy Supply or Requirement of Substantial Additional Capacity, Action Alternative, first paragraph:

The majority of energy consumed by the proposed project would be from nighttime lighting. The use of photovoltaic cells at Gates A, ~~B,~~ E, F, and G would generate more electricity than the project would require for lighting. The project also has energy-saving measures incorporated into its design, such as maximizing energy efficiency in the lighting plan—which is consistent with City of San Francisco's Electricity Resource Plan and General Plan. The proposed project would be a zero net energy project, should photovoltaic cells be included in the final design. Therefore, if photovoltaic cells are used, the Action Alternative would not require any additional energy supply.

Page 4-3, Section 4.2, Irreversible and Irretrievable Commitment of Resources, first paragraph on page:

Construction activities would require the use of fossil fuels for the operation of vehicles and equipment. Construction of the project would also require a commitment of a variety of other nonrenewable or slowly renewable natural resources, such as construction materials. Use of raw building materials for construction would be an irretrievable commitment of resources from which these materials are produced. Commitment of labor and fiscal resources for construction and operation is considered irretrievable. However, project operation may be a zero-net energy project. It would incorporate green building approaches to the design of the new facilities, and potentially include photovoltaic cells into the canopies at Gates A, ~~B,~~ E, F, and G. The project's minor, incremental, increased use of these resources, however, would not significantly increase the overall commitment of resources associated with water transit operation in the Bay Area, or development within San Francisco. The project would involve only minor, incremental use of nonrenewable resources, and would not prevent sustainable development.

1.2.4 Clarification of Project Purpose and Need

Based on comments received since the release of the Draft EIS/EIR, text in Chapter 1.0, Purpose and Need, and Chapter 2.0, Alternatives, has been updated in the Final EIS/EIR to clarify the project's purpose, objectives, and anticipated implementation plan.

Additional description has been added to the EIS/EIR to further clarify that WETA's future ridership estimates shown in Table 1-2 include expansion of existing routes, the implementation of new routes that have already been approved, and the expansion of new services that are still in the development phase. Expansion of existing routes accounts for approximately 38 percent of the future ridership; future services that have already been approved would account for 42 percent of the future ridership, and 20 percent of the future ridership is projected from new routes that are still under development.

Because future ridership would expand gradually, both with the addition of services and the growth of ridership on existing and new services, WETA will implement the Ferry Terminal improvements using a phased approach that would be driven by the actual increases in ridership, operation of new services, and funding availability for circulation improvements. This approach is described more clearly in Chapter 2.0.

In addition, as described in Chapter 1.0 of the EIS/EIR, the purpose of the project is to support the existing and future planned water transit services operated by WETA on San Francisco Bay, as established by WETA in its Implementation and Operations Plan (IOP), adopted in 2003. The IOP is a comprehensive plan for the development and expansion of water transit service in San Francisco Bay. It includes plans for the development of new routes and facility improvements to support the expansion of the regional system. In accordance with the CEQA Guidelines and case law, WETA certified a Program EIR in 2003 that assessed the potential environmental impacts from implementation of WETA's IOP at a program level. The Program EIR assumes that WETA would prepare subsequent site-specific environmental evaluations for activities that implement the IOP. Portions of the Program EIR that are relevant to the Downtown San Francisco Ferry Terminal Expansion Project are incorporated by reference and summarized in Appendix E. The relevant portions of the Program EIR incorporated by reference include alternatives considered, and a summary of impacts and mitigation identified for the Program. The relationship of the Program impacts to this project is indicated in Appendix E.

The following modifications have been made to the Draft EIS/EIR to reflect these clarifications:

Page 1-2, Section 1.4.2, WETA Planning Efforts, first paragraph:

WETA's IOP presents a strategy to improve San Francisco Bay Area transit service with an environmentally friendly water transit system (WETA, 2003b). ~~WETA prepared a Program EIR that addressed the potential environmental impacts and associated mitigation measures resulting from the expansion of the network of water transit service defined in the IOP (WETA, 2003a). The Program EIR analyzed the cumulative impacts, at a program level, of the development of additional routes, and assumed that project-level environmental review would be undertaken for the development of new or expansion of existing Ferry Terminal facilities to adequately address site-specific issues.~~

Page 1-5, Insert new Section 1.4.3 and Section 1.4.4:

Section 1.4.3 Program EIR for the Implementation and Operations Plan

WETA prepared a Program EIR that addressed the potential environmental impacts and associated mitigation measures resulting from the expansion of the network of water transit service defined in the IOP (WETA, 2003a). The Program EIR analyzed, at a program level, the cumulative impacts of the development of additional routes, and assumed that project-level environmental review would be undertaken for the development of new or expansion of existing Ferry Terminal facilities to adequately address site-specific issues.

The primary purpose of WETA's IOP is to increase regional mobility and transportation options by providing new and expanded water transit services and ground transportation terminal access in the San Francisco Bay Area. The Program EIR evaluated five alternatives in detail for providing water transit service. The alternatives varied in routes and service frequencies. In addition, the Program EIR describes six other alternatives not involving water transit that were considered but eliminated from further consideration, based on considerations including cost, feasibility, and environmental effects. These other alternatives included expansion of other types of transit, such as bus and rail, and implementation of demand management or smart growth strategies to achieve comparable improvements in regional mobility.

The "Proposed Project" in the Program EIR (Program proposed project) was adopted by WETA as its IOP. The Program proposed project provides expanded ferry service and associated land-side improvements to be implemented in phases over an approximately 10-year period. Although the IOP does not represent a precisely fixed set of routes and terminal sites, the Program proposed project is based on the anticipated routes and terminals that would result from implementation of

the IOP, including expansion of existing services and development of seven new routes. The Program proposed project included improvements to the existing services between San Francisco and Oakland, Alameda, Harbor Bay, Vallejo, Larkspur, Sausalito, and Tiburon, as well as development of new routes between San Francisco and Berkeley, Richmond, Treasure Island, Antioch/Pittsburg, Martinez, Hercules/Rodeo, South San Francisco, and Redwood City. Additional details of the Program proposed project—including descriptions of how the new routes would be selected, terminal design considerations, system navigation, and safety—are described in WETA's IOP (WETA, 2003b).

Both NEPA and CEQA encourage the incorporation of previous analysis by reference in environmental documents to reduce redundancy and reevaluation of project issues. The NEPA Council on Environmental Quality (CEQ) regulations require federal agencies "to the fullest extent possible to reduce duplication between NEPA and state and local requirements" (40 Code of Federal Regulations [CFR] Section 1506.2(b). CEQ regulations (40 CFR Sections 1500.4 and 1502.21) also state that agencies shall incorporate material by reference when the effect will be to reduce bulk without impeding agency and public review of the project alternatives. The incorporated material shall be cited, and its content summarized. Under CEQA, incorporation by reference is authorized (California Public Resources Code, Sections 21093 and 21094; State CEQA Guidelines Section 15150).

Because the purpose of the Downtown San Francisco Ferry Terminal Expansion Project is to support the existing and future planned water transit services, as established by WETA in its IOP, portions of the Program EIR analysis that are relevant to the project are incorporated by reference and summarized in Appendix E. The relevant portions of the Program EIR incorporated by reference include the summary of alternatives considered, and a summary of impacts and mitigation identified for the Program. The relationship of the Program impacts to this project is indicated in Appendix E.

Section 1.4.4 Regional Transportation Plan

The Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) adopted *Plan Bay Area* in July 2013 (ABAG and MTC, 2013). The plan serves as the Regional Transportation Plan (RTP) and specifies how anticipated federal, state, and local transportation funds will be spent in the nine-county Bay Area until 2040. The Plan incorporates regional transportation and land use planning, and supersedes the previous RTP that was adopted in 2009 (MTC, 2009). The expansion of WETA's services, and specifically the Downtown San Francisco Ferry Terminal Expansion Project, are included in the RTP, and were included in the analysis in the EIR for the RTP.[2] The EIR for the RTP analyzed the proposed plan, as well as five other alternatives, including the No Project Alternative. *Plan Bay Area* represents a transportation and land use blueprint of how the Bay Area addresses its transportation mobility and accessibility needs, land development, and greenhouse gas emissions reduction requirements through the year 2040. It includes a financially constrained transportation investment plan with projects and programs that would be funded through existing and future revenues that are projected to be reasonably available to the region until 2040. *Plan Bay Area* includes investments in the region's transportation network that support job growth and new homes in existing communities.

FTA regulations link regional transportation planning efforts and environmental assessment requirements to ensure consistency and reduce redundancy in the evaluation of regional alternatives in transportation plans and project-level NEPA documents (23 CFR § 430.318;

[2] The Downtown San Francisco Ferry Terminal Expansion Project is project 22006 in the RTP.

23 CFR Part 450, Appendix A). These regulations authorize the use of regional transportation planning studies as part of the overall project development process consistent with NEPA. The RTP evaluated transportation alternatives at a regional level to address the mobility needs of the region, and concluded that the expansion of water transit service as reflected in WETA's IOP was necessary to achieve the region's mobility and land use objectives.

Pages 1-5 through 1-7, Section 1.4, headings:

1.4.~~3~~5 Current Water Transit at the Ferry Terminal

1.4.~~4~~6 Project Area History

1.4.~~5~~7 Ferry Building Area Planning and Development Program

Page 1-9, Section 1.5.2, Water Transit Operations, Circulation, and Access Constraints at the San Francisco Ferry Terminal:

In 2035, the Ferry Terminal is projected to serve approximately 32,000 water transit passengers, a 300 percent increase over current ridership levels of approximately 11,200 passengers (CSI, 2011; CSI, 2012) (see Table 1-2).[3] WETA's 2035 ridership is expected to be approximately 25,000 passengers per weekday. The increase in ridership would be from expansion of existing services, implementation of new routes that have already been approved, and the development of new water transit routes. Approximately 38 percent of future passengers would be using ~~accounting for~~ existing services between San Francisco and Alameda, Oakland, and Vallejo. Approximately 20 percent WETA's future ridership would be from~~as well as future~~ planned new water transit services between San Francisco and Antioch, Berkeley, Martinez, Hercules, Redwood City, and Richmond~~, and Treasure Island (CSI, 2011; CSI, 2012) (see Table 1-2).~~[3] Approximately 42 percent of the future ridership would be expected to be from service between San Francisco and Treasure Island, a service that is anticipated to begin operations between 2017 and 2020. The projected ridership increases cannot be adequately accommodated at the Ferry Terminal because of the following current infrastructure, circulation, and operating deficiencies.

Page 2-1, Chapter 2.0, Alternatives, third paragraph:

This Environmental Impact Statement (EIS)/EIR addresses facility improvements to the Ferry Terminal that would accommodate the additional WETA ridership and vessel arrivals anticipated to occur at the Ferry Terminal by 2035. This document does not ~~address~~ re-analyze the need for expanded routes and services, which was planned and analyzed in the IOP and Program EIR for the IOP, as well as in the RTP (refer to Section 1.4.3 and Section 1.4.4). ~~In addition, S~~separate environmental analysis pursuant to NEPA and CEQA will be prepared for each new route that will analyze potential impacts at the route origin. Both NEPA and CEQA encourage the incorporation of previous analysis by reference in environmental documents to reduce

[3] WETA's ridership model was developed in 2002, and is linked to the regional travel forecasting model maintained by the Metropolitan Transportation Commission, and to socioeconomic data forecasts published by the Association of Bay Area Governments. The WETA model was updated in 2011 to include the most recent data available from the Metropolitan Transportation Commission and the Association of Bay Area Governments for year 2035. In the 2002 ridership model, it was estimated that future (2025) weekday daily ridership at the Ferry Terminal (for all services, including non-WETA–operated services) would be approximately 35,000 passengers. The updated ridership model estimates that in 2035, average weekday daily ridership at the Ferry Terminal would be approximately 32,000 passengers. These estimates are presented in Table 1-2. The future ridership estimates for some services decreased from what was predicted in 2002, and the projected ridership of other services increased from the 2002 estimates. The WETA model is documented in the Draft Final Working Paper Ridership Model Calibration and Validation for the Water Transit Authority, and Draft Final WETA Model Update and Validation Report, both of which are available from WETA (CSI, 2011; CSI, 2012).

redundancy and reevaluation of project issues. For NEPA, the Council on Environmental Quality (CEQ) regulations (40 CFR Sections 1500.4, 1502.21) state that agencies shall incorporate material by reference when the effect will be to reduce bulk without impeding agency and public review of the project alternatives. The incorporated material shall be cited, and its content summarized. Under CEQA, incorporation by reference is authorized (California Public Resources Code, Sections 21093 and 21094; State CEQA Guidelines Section 15150). Portions of the Program EIR analysis that are relevant to the project are incorporated by reference and summarized in Appendix E. The relevant portions of the Program EIR incorporated by reference include the summary of alternatives considered and a summary of impacts and mitigation identified for the Program. The relationship of the Program impacts to this project is indicated in Appendix E.

Therefore, as discussed in this EIS/EIR, the No Action Alternative describes the WETA service that could be accommodated at the existing gates available to WETA at the Ferry Terminal (Gates B and E) without any changes or improvements. The Action Alternative describes the project alternative proposed by WETA and the Federal Transit Administration (FTA) for expanding the Ferry Terminal facilities to accommodate all new and existing WETA services projected by 2035.

Page 2-26, Section 2.3.6, Operating Elements, subsection titled WETA Implementation Plan for San Francisco Ferry Terminal Service:

WETA has developed an implementation plan for operating its new and existing services at the Ferry Terminal. The plan describes the services that would be operated at each gate and confirms that adequate berthing and circulation capacity would be provided. Anticipated gate locations were determined for each service based on projected ridership, service frequency, queuing and boarding needs, navigational concerns, and dredging requirements. Anticipated service start dates were also considered in determining gate location for each service, in order to accommodate a strategy for phased construction of the project. This EIS/EIR describes the full extent of facility improvements that would be required at the Ferry Terminal to meet WETA's project objectives for accommodating its existing and new services and providing emergency response capacity. However, all of the facility improvements would not be needed at the same time, and improvements would be constructed using a phased approach that would be driven by the actual increases in ridership, operation of new services, and funding availability for circulation improvements.

Page 3.1-1, Section 3.1, Introduction, last paragraph:

The impacts associated with WETA's planned expansion of water transit routes and services were analyzed in WETA's Implementation and Operations Plan and the Program EIR for the Implementation and Operations Plan (WETA 2003b; WETA, 2003a), and therefore are not re-assessed in this EIS/EIR. This EIS/EIR analyzes—at a project level—the site-specific impacts of improvements to the Ferry Terminal, and impacts associated with the increase in vessels while they use and/or are docked at the Ferry Terminal. Consistent with NEPA regulations (CEQ regulations [40 CFR Sections 1500.4 and 1502.21]) and CEQA Guidelines Section 15150, portions of the Program EIR analysis that are relevant to the project are incorporated by reference and summarized in Appendix E. The relevant portions of the Program EIR incorporated by reference include the summary of alternatives considered and a summary of impacts and mitigation identified for the Program. The relationship of the Program impacts to this project is indicated in Appendix E.

New Appendix E included in the EIS/EIR, Program EIR Analysis Incorporated by Reference.

1.2.5 Bay Area Air Quality Management District CEQA Guidelines

As described in Section 3.6, Air Quality and Greenhouse Gases, of the Draft EIS/EIR, the Alameda County Superior Court issued a judgment on March 5, 2012, finding that the Bay Area Air Quality Management District (BAAQMD) had failed to comply with CEQA when it adopted updated CEQA Thresholds of Significance. The court did not determine whether the thresholds were valid on the merits, but found that the adoption of the thresholds by the BAAQMD was a project under CEQA. The BAAQMD appealed the Alameda County Superior Court's decision. In August 2013, the First District Court of Appeal overturned the trial court and held that the thresholds of significance adopted by the BAAQMD were not subject to CEQA review. The Appellate court decision is currently being appealed. The following modifications have been made to the Draft EIS/EIR to reflect the current status of the BAAQMD's CEQA Thresholds of Significance:

Page 3.6-17, Section 3.6, Air Quality and Global Climate Change, subsection titled CEQA Guidelines, third paragraph:

On March 5, 2012, the BAAQMD's Air Quality CEQA Thresholds of Significance were challenged by an order issued in *California Building Industry Association v. BAAQMD,* Alameda Superior Court Case No. RGI0548693. The order requires the BAAQMD thresholds to be subject to further environmental review. The claims made in the case concerned the CEQA impacts of adopting the thresholds (i.e., how the thresholds would affect land use development patterns); and petitioners argued that the thresholds for Health Risk Assessments encompassed issues not addressed by CEQA. On August 13, 2013, a court of appeal rejected the challenge to the BAAQMD's Air Quality CEQA Thresholds of Significance. Although this decision is under further appeal, ~~However, as discussed in more detail below in Section 3.6.3, Impact Evaluation,~~ the BAAQMD's significance thresholds and recommended analysis methodologies were used in this analysis, as discussed in more detail below in Section 3.6.3, Impact Evaluation.

Page 3.6-21, Section 3.6.3, Impact Evaluation, first full paragraph:

The BAAQMD's Air Quality CEQA Thresholds of Significance provide reference thresholds for considering whether a project would have an air quality impact, and recommend procedures for evaluating potential air quality impacts. The issues identified in the BAAQMD *CEQA Air Quality Guidelines* court case are not considered relevant to the scientific soundness of the BAAQMD's analysis of the level at which a pollutant would potentially significantly affect air quality or human health. Therefore, even though the ~~guidelines~~ thresholds have been suspended by the BAAQMD until the issues identified in the case are resolved, the analysis in this Environmental Impact Statement/Environmental Impact Report (EIS/EIR) was conducted in accordance with the thresholds and methods described in the BAAQMD *CEQA Air Quality Guidelines.*

1.2.6 California Supreme Court Decision in Neighbors for Smart Rail v. Exposition Metro Line Construction Authority

Since the release of the Draft EIS/EIR, the California Supreme Court concluded in *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* that "existing conditions" are the normal baseline under CEQA for determining the significance of the impacts of a project, but that "factual circumstances can justify an agency departing from that norm when necessary to prevent misinforming or misleading the public and decision makers" (*Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2014) 57 Cal, 4th 439, 448-49). The Court held that "an agency enjoys the discretion to decide, in the first instance, exactly how the existing physical conditions without the project can most realistically be measured, subject to review, as with all CEQA factual determinations, for support by substantial evidence" (*Ibid*). The Court also held that agencies may use more than one baseline in the evaluation of impacts of a project.

The impact assessments in the Draft EIS/EIR were based on an evaluation of the proposed project improvements against the existing condition, generally as they existed in 2011 when the environmental review was initiated. In two cases, the project impacts presented in the Draft EIS/EIR were assessed both against the existing condition and a future baseline (i.e., the No Project Alternative), also consistent with the direction provided in *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority*. The assessment of Transportation and Circulation impacts (refer to Section 3.2 of the Draft EIS/EIR) included evaluations of the effect the project would have on the existing condition (Impacts 3.2-1 through 3.2-4), and of the effect of the project on transportation and circulation in consideration of expected conditions at the time that the project is likely to become operational (Impacts 3.2-6 through 3.2-9). Refer to Section 1.2.7 of this Response to Comments Appendix for discussion of other updates to existing conditions as they relate to the transportation and circulation analysis, consistent with the direction provided in *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority*.

As noted in the Air Quality Section (Section 3.6 of the Draft EIS/EIR), the air emissions expected from project operations were calculated, and both the net increase in emissions over the No Project Alternative (i.e., limited expansion of WETA's water transit service without facility improvements) and the total emissions from the proposed project (i.e., the increase in emissions over the existing condition) were evaluated. In the Draft EIS/EIR, the health risk assessment (i.e., Impact 3.6-2 and Impact 3.6-8) had been based solely on the net increase in emissions over the No Project Alternative. The health risk analysis has been revised to include the increase in emissions over the existing condition. Impacts remain the same as what was described in the Draft EIS/EIR, less than significant. The following modifications have been made to the Draft EIS/EIR to clarify the baseline used in the impact evaluation:

Page ES-7, Executive Summary, No Action Alternative, first paragraph on page:

~~This alternative serves as the baseline against which the environmental effects of the Action Alternative are measured.~~

Page 2-2, Chapter 2.0, Alternatives, Section 2.2, No Action Alternative, last paragraph of section:

~~This alternative serves as the baseline against which the environmental effects of the Action Alternative are measured. The impact analysis also includes comparisons to the existing conditions, where appropriate.~~

Page 3.2–38, Section 3.2, Transportation and Circulation, Conditions for Analysis, second paragraph:

Because the facility improvements would accommodate an increase in water transit service and therefore the number of passengers coming through the Ferry Terminal, the impact of the additional water transit ridership is evaluated in this EIS/EIR under Indirect Impacts. The new gates would be constructed by 2020, and the operational ridership estimates are for 2035. The analysis takes into consideration the WETA ridership capacity available without the project; the growth of non-WETA water transit services at the Ferry Terminal; and project-related ridership growth that could result from the expansion of facilities. These considerations led to the development of three scenarios for evaluation: the Existing Conditions Plus Project,[5] Future (2035) with the No Project Alternative, and Future (2035) Plus Project. Consistent with the CCSF guidelines and the California Supreme Court ruling in *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority*, to assess the incremental effects of the project, the circulation conditions in the Existing Conditions Plus Project were compared to the Existing Setting (Impacts 3.2-1 through 3.2-4). In addition, to assess the cumulative impacts of the incremental effects of the project (Impacts 3.2-6 through 3.2-9), the circulation conditions in the Future (2035) Plus Project were compared to the circulation conditions as they would be under

the Future (2035) with the No Project Alternative. The following describes the ridership forecasts, person trip increments, and other planned network changes that would apply for each condition for analysis.

~~[5]Pursuant to rulings in two recent CEQA cases (*Sunnyvale West Neighborhood Assoc. v. City of Sunnyvale City Council [*6th Dist. 2010] 190 Cal.App.4th 1351 and *Pfeiffer v. City of Sunnyvale City Council* [6th Dist. 2011]), the project's anticipated effects on the transportation and circulation network were assessed on both the existing transportation network and the transportation network that would be expected to exist at the time the project is fully operational (e.g., Future [2035]).~~

Page 3.6-24, Section 3.6, Air Quality and Global Climate Change, Impact 3.6—1, Conflict with or Obstruct BAAQMD Air Quality Plan Implementation, Exceed Applicable Air Quality Standards, or Contribute Substantially to an Air Quality Violation, Action Alternative, second paragraph after Table 3.6-5:

As shown in Tables 3.6-4 and 3.6-5, the proposed project would directly and indirectly increase exhaust emissions of criteria pollutants and precursors (ROG, NO_X, PM_{10}, and $PM_{2.5}$), both compared to existing conditions and the No Action Alternative~~,in comparison to the No Action Alternative~~. However, the proposed project's direct and indirect operational emissions would not exceed the applicable annual or daily BAAQMD thresholds.

Page 3.6-25, Section 3.6, Air Quality and Global Climate Change, Table 3.6-6, additional columns and a table note inserted:

Sensitive Receptor Type	Operational Risks[d]		
	Chronic Risk from DPM Emission	Carcinogenic Risk from DPM Emission (Expected Risk Per Million)	$PM_{2.5}$ Concentrations ($\mu g/m^3$)
Residential	0.0020	5.3	0.010
Schools (including day cares)	0.0017	4.6	0.008
Commercial	0.0021	5.8	0.011
Medical Facility	0.0003	0.8	0.001
BAAQMD Significance Threshold[c]	**1**	**10 per million**	**0.3 $\mu g/m^3$**

Notes:
[d] Operational Risks represent the risk of the proposed project (i.e., the risk associated with the operation of all future WETA vessels at the Ferry Terminal).

Page 3.6-26, Section 3.6, Air Quality and Global Climate Change, Impact 3.6—2, Expose Sensitive Receptors to Substantial Pollutant Concentrations, Action Alternative, first paragraph:

As described above under Impact 3.6-1, the proposed project would increase exhaust emissions of criteria pollutants and precursors (ROG, NO_X, PM_{10}, and $PM_{2.5}$)~~ in comparison to the No Action Alternative~~. However, the proposed project's operational emissions would not exceed the applicable BAAQMD thresholds (Tables 3.6-4 and 3.6-5).

1.2.7 Updated Transit Impact Analysis for Existing Condition

Since the release of the Draft EIS/EIR, the City and County of San Francisco and the San Francisco Municipal Transportation Agency (SFMTA) adopted the Transit Effectiveness Project (TEP). The TEP includes comprehensive adjustments to the City's transit network, including frequency increases and decreases, new routes, expanded limited-stop service, realigned transit routes (including in some cases eliminating segments of service), a route elimination, and expanded hours of operation. In addition to these service improvements, the TEP also includes travel time reduction projects and capital improvements to improve the operation of the City's transit network. The Draft EIS/EIR, Section 3.2, Transportation, page 3.2-43, provided an overview of proposed TEP improvements.

The Draft EIR for the TEP was released July 2013. Beginning in January 2014, SFMTA conducted extensive outreach on the proposed TEP to refine the improvements proposed. A revised plan for service changes was included in the Final EIR for the TEP. The Final EIR was certified on March 27, 2014. On March 28, 2014, the SFMTA Board approved the TEP. Detailed information on all the proposed improvements included in the TEP is available from the SFMTA.[4]

The approved TEP includes two changes to transit in the vicinity of the Ferry Terminal that have an effect on the anticipated impacts of proposed project—implementation of the new E Embarcadero service, and changes in frequency of the F Market and Wharves. The TEP would also result in other adjustments to transit lines that were included in the analysis for the proposed project, but those changes would be unlikely to affect the conclusions presented in the EIS/EIR.

New E Embarcadero service would be operated between the Fourth and King Station and Jones and Jefferson streets in Fisherman's Wharf. South of the Ferry Terminal, the new service would share tracks with the N Judah and T Third Street; north of the project area, the new service would share tracks with the F Market and Wharves. Under the TEP, service would begin in the summer of 2015 on weekends; and in the spring of 2016, full, everyday service would be provided with 15-minute headways during peak hours. The TEP identifies a capital improvement at the Jones and Beach Terminal that would allow the F Market and Wharves and E Embarcadero to operate independently; however, the initiation of the new service is not dependent on the terminal improvement.

The TEP also includes adjustments to the frequencies of the F Market and Wharves, decreasing frequencies in the AM peak hours and increasing frequencies in the PM peak hour. In the PM peak hour, the F Market and Wharves would be expected to operate on 5-minute headways instead of 6-minute headways.

The service improvements to the F Market and Wharves and E Embarcadero are identified as "Rapid Network" changes in the TEP, meaning that they are the highest priority for implementation by SFMTA, and would be among the first changes to be implemented. The SFMTA has proposed funding for fiscal years 2014/2015 and 2015/2016 to implement the service changes in the TEP. San Francisco's Transit First Policy prioritizes alternative modes of transportation (transit, pedestrians, and bicycles) to meet the City's transportation needs, and allocates funding for these modes.

As described in Section 1.2.6 of this Response to Comments Appendix. The California Supreme Court decision in *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* recognized that "in appropriate circumstances an existing conditions analysis may take account of environmental conditions that will exist when the project begins operations; the agency is not strictly limited to those prevailing during the period of EIR preparation. In so adjusting its existing conditions baseline, an agency exercises its discretion on how best to define such a baseline under the circumstance of rapidly changing environmental conditions" (57 Cal. 4th 439, 452). In consideration of the adoption of TEP, and the

[4] For detailed information on the TEP, refer to materials available from SFMTA at: http://www.sfmta.com/calendar/meetings/board-directors-special-meeting-march-28-2014-0.

decision by the SFMTA to fund and implement service improvements in the project area prior to the scheduled initiation of WETA's expansion of service,[5] WETA is exercising its discretion to include in the transportation conditions baseline the increases in transit service on the F Market and Wharves and E Embarcadero lines. WETA has determined that there is substantial evidence that the above TEP projects will be in operation prior to the expansion of WETA ridership at the Ferry Terminal.

The description of the existing conditions, or baseline for the proposed project, in Section 3.2, Transportation and Circulation of the EIS/EIR, has been revised to include the ridership and capacity for the F Market and Wharves and E Embarcadero lines, as described in the TEP. In addition, Impact 3.2–2, Potential Impacts to Transit in Existing Condition, has been updated to incorporate the new ridership and capacity data for these two lines.

At the time the Draft EIS/EIR was prepared, it was assumed that for WETA passengers traveling between the Ferry Terminal and areas north along The Embarcadero (e.g., Fisherman's Wharf), the F Market and Wharves was the only available transit line in the existing condition. The analysis indicated that the addition of water transit passengers to the F Market and Wharves line could increase overcrowding of this line. After the E Embarcadero line begins service in 2016, however, WETA passengers would have a choice between the two lines. Where multiple transit lines are available, passengers typically redistribute themselves between routes in the same corridor. The City and County of San Francisco's Transportation Impact Guidelines suggest that corridor analyses better represent passenger behavior and impacts to transit operations, especially in the downtown core, where multiple transit options are typically available to passengers.

An analysis of the combined capacity and utilization of the F Market and Wharves and E Embarcadero lines indicates that the corridor would operate at 77 percent capacity, and the addition of WETA riders to the E Embarcadero/F Market and Wharves lines would increase capacity utilization to 83 percent, below Muni's 85 percent capacity standard. Therefore, impacts to local transit operations in the existing condition would not be adverse, and would be less than significant.

The following modifications have been made to the Draft EIS/EIR to incorporate the updated ridership and capacity data for the F Market and Wharves and E Embarcadero lines:

Page ES–11, Executive Summary, Table ES-2:

Impact 3.2-2: Potential Impacts to Transit in Existing Conditions The project would not cause a substantial increase in transit demand that could not be accommodated by existing and planned transit capacity. ~~Increases in transit demand associated with the project under Existing Conditions would result in an increase to local and regional transit volumes. The only increase that would be adverse and above the thresholds of significance established by the City and County of San Francisco's guidelines and policies would be the addition of riders to the Muni F Market and Wharves in the PM peak hour.~~	~~Methods for mitigating impacts are being evaluated. If feasible mitigation is identified, it will be included in the Final EIS/EIR~~ No mitigation necessary.	Not ~~A~~adverse.	~~Significant and unavoidable~~ Less than significant.

[5] WETA would implement the Ferry Terminal improvements using a phased approach (i.e., construction in one basin at a time) that would be driven by the actual increases in ridership, operation of new services, and funding availability for circulation improvements. The EIS/EIR states that construction could begin as early as 2014, and would be completed by 2020. At present, WETA is assuming that the first phase of construction would be completed in 2018.

Page 3.2–1, Section 3.2, Transportation and Circulation, Section 3.2.1, Introduction to the Analysis, second paragraph:

As detailed in this section, the analysis ~~indicates that an increase in WETA water transit passengers using transit in the study area could significantly and adversely affect San Francisco Municipal Railway (Muni) F Market and Wharves operations. The analysis also~~ indicates that increases in pedestrian circulation in the study area resulting from implementation of the project could result in adverse impacts to two crosswalk levels of service in the study area. Mitigation measures have been identified that would reduce ~~some of~~ these potential impacts; however, impacts would remain adverse and would be considered significant and unavoidable.

Page 3.2-16, Section 3.2, Transportation and Circulation, subsection titled San Francisco Municipal Railway Service:

Muni provides transit service within San Francisco. Service options include bus (both diesel and electric trolley), light rail (Muni Metro), cable car, and electric streetcar lines. The transit study area includes the following Muni service: 2 Clement, 6 Parnassus, 9 San Bruno, 9L San Bruno Limited, 14 Mission, 14L Mission Limited, 14X Mission Express, 21 Hayes, 30X Marina Express, 31 Balboa, 41 Union, 80X Gateway Express, 81X Caltrain Express, and 82X Levi Plaza Express bus lines, as well as the J Church, K Ingleside, L Taraval, M Ocean View, N Judah, and T Third Street light rail lines, and the F Market and Wharves streetcar line, which operate along Market Street (SFMTA, 2011). In addition, the E Embarcadero line will begin providing service along The Embarcadero between the Fourth and King Street Station and Jones and Jefferson streets in Fisherman's Wharf in 2016 (SFMTA, 2014).

The fifteen Muni bus lines in the study area are described in detail in Table 3.2-3. All of the Muni bus lines in the study area accommodate bicycles and wheelchairs.

All of the Muni Metro lines are in the study area (E, F, J, K, L, M, N, and T) and are described in Table 3.2-4. ~~Each~~ All of the lines, except for E Embarcadero and F Market and Wharves, have~~s~~ a below-grade access at the Embarcadero Station at Drumm Street and Market Street, approximately 0.20 mile from the Ferry Terminal.

Table 3.2-5 presents the percent utilization for the Muni lines that serve the project area during the AM and PM peak periods. Four Muni lines—the K Ingleside, the L Taraval, the T Third Street, and the N Judah—currently operate with overcrowded conditions (more than 85 percent of capacity used) in the inbound direction during the AM peak hour. ~~Five~~ Six Muni lines—the F Market and Wharves, J Church, the K Ingleside, the L Taraval, the T Third Street, and the N Judah—currently operate with overcrowded conditions (more than 85 percent of capacity used) in the outbound direction during the PM peak hour. Tables 3.2-3 through 3.2-5 are on the pages following Figure 3.2-4.

Page 3.2-17, Figure 3.2-4, Study Area Transit Network has been revised to add a note regarding the E Embarcadero.

Page 3.2-20, Section 3.2, Transportation and Circulation, Table 3.2-4, Study Area Muni Metro Lines

Table 3.2-4
Study Area Muni Metro Lines

Muni Metro Line	Hours	Neighborhoods	AM and PM Peak Hour Headways
J Church	5:00 AM to 1:00 AM	Balboa Park and Downtown	9 minutes
K Ingleside	5:00 AM to 1:00 AM	Balboa Park and Downtown	9 minutes
L Taraval	5:00 AM to 1:00 AM Owl 1:00 AM to 5:00 AM	San Francisco Zoo	7 minutes
M Ocean View	5:00 AM to 1:00 AM	Balboa Park and Downtown	9 minutes
N Judah	5:00 AM to 1:00 AM Owl 1:00 AM to 5:00 AM	Ocean Beach and Downtown	7 minutes
T Third Street	5:00 AM to 1:00 AM	Castro and Sunnydale	9 minutes
E Embarcadero[1]	5:00 AM to 1:00 AM	South of Market and Fisherman's Wharf	15 minutes
F Market and ~~Wharves[1]~~Wharves[2]	5:00 AM to 1:00 AM	Castro and Fisherman's Wharf	7.5~~6~~ minutes (AM) 5 minutes (PM)

Source: SFMTA, 2011.

Notes:

Information current as of June, 2011 unless noted below.

[1] The E Embarcadero line will begin regular everyday service in 2016 (SFMTA, 2014).

~~[1]~~[2] The F Market and Wharves line is a Muni streetcar line rather than a Muni Metro Line. The headways shown are those reflected in the Transit Effectiveness Project, and would be expected to be in effect before 2015.

Muni = San Francisco Municipal Railway

Page 3.2-21, Section 3.2, Transportation and Circulation, Table 3.2-5, Existing Conditions Muni Demand and Capacity

Table 3.2-5
Existing Conditions Muni Demand and Capacity

Route	Direction	Weekday AM Peak Hour Utilization (%)	Weekday PM Peak Hour Utilization (%)
1 California	Howard Street and Main Street (inbound)	74	29
	Geary Boulevard and 33rd Avenue (outbound)	32	62
2 Clement	Market Street and Steuart Street (inbound)	68	43
	Balboa Street and 32nd Avenue (outbound)	41	71
6 Parnassus	Transbay Terminal (inbound)	53	21
	Quintara Street (outbound)	21	52
14 Mission	Transbay Terminal (inbound)	45	35
	Mission Street and San Jose Avenue (outbound)	23	48
14X Mission Express	Transbay Terminal (inbound)	74	61
21 Hayes	Transbay Terminal (inbound)	66	32
	Fulton Street and Eighth Avenue (outbound)	30	63
31 Balboa	Transbay Terminal (inbound)	61	41
	Cabrillo Street and La Playa Street (outbound)	34	53
E Embarcadero	The Embarcadero and Washington Street (inbound)	74	27
	The Embarcadero and Greenwich Street (outbound)	24	48
F Market and Wharves	Jones Street and Beach Street (inbound)	~~57~~36	~~44~~30
	17th Street and Castro Street (outbound)	~~19~~22	**~~76~~87**
J Church	Embarcadero (inbound)	78	36
	Balboa Park (outbound)	29	**91**
K Ingleside	Embarcadero (inbound)	**97**	24
	Balboa Park (outbound)	39	**98**
L Taraval	Embarcadero (inbound)	**98**	29
	Wawona Street and 46th Avenue (outbound)	17	**88**
M Ocean View	Embarcadero (inbound)	62	56
	Balboa Park (outbound)	22	72
T Third Street	Bayshore Boulevard (inbound)	**97**	78
	West Portal (outbound)	63	**90**
N Judah	King Street and Fourth Street (inbound)	**93**	51
	Judah Street and La Playa Street (outbound)	34	**96**

Source: SFMTA, 2012.
Notes:
E Embarcadero service would begin in 2016.
Demand and Capacity for the E Embarcadero and F Market and Wharves lines are those reflected in the Transit Effectiveness Project (SFMTA, 2014).
Percent utilization is calculated at the Maximum Load Point.
Bolded numbers indicate lines that operate over 85 percent utilization standard.
Muni = San Francisco Municipal Railway

Page 3.2-43, Section 3.2, Transportation and Circulation, subsection titles Reasonable Foreseeable Projects Considered in the Cumulative Impact Analysis (i.e., Future 2035 Analysis), beginning after Table 3.2-17:

In the project area, programmed or planned transportation facility improvements that would be expected to affect the transportation and circulation network in 2035 include the implementation of the Transit Effectiveness Project (TEP), the San Francisco Bicycle Plan, BART's Ferry Plaza Barrier Project, the New Transbay Terminal~~, development of the Muni E Embarcadero~~, and the Transit Center District Plan (TCDP) Public Realm Program. These projects are intended to improve the safety of transportation facilities, and may affect circulation, transit, pedestrian, bicycle, and traffic conditions in the study area. Affected corridors and streets would include Market Street, Mission Street, The Embarcadero, Steuart Street, and Spear Street.

Transit Effectiveness Project. The TEP was adopted by SFMTA on March 28, 2014 (SFMTA, 2014). The TEP includes comprehensive adjustments to the City's transit network, including frequency increases and decreases, new routes, expanded limited-stop service, realigned transit routes (including in some cases eliminating segments of service), a route elimination, and expanded hours of operation. In addition to these service improvements, the TEP also includes travel time reduction projects and capital improvements to the City's transit network. The changes would be implemented pending resource availability.[6] ~~TEP is a planning effort between the SFMTA and CCSF's Controller's Office that reviews and evaluates San Francisco's public transportation system, and provides recommendations to make Muni service reliable, efficient, and quicker. Initial planning documents and findings were presented in October 2008. An Implementation Strategy was developed in 2011, and reflects an update to the findings from 2008, because some of the recommendations were implemented between December 2009 and September 2010.~~ The TEP includes the following changes to transit services in the study area:

- The proposed frequencies for the 1 California line would be 6 to 7 minutes during peak demand, 5 minutes during midday, and 12 minutes in the evening east of Presidio Avenue.
- The 2 Clement route would be adjusted, and ~~line would add~~ supplemental trolley coach service between downtown and Presidio would be added, to maintain trunk service.~~ on Sutter, replacing the discontinued 3 Jackson~~. West of the Presidio Avenue, frequencies would decrease to 15-minute headways; east of Presidio Avenue, frequency of service would increase to 7.5-minute headways.~~ Although current frequencies are 12 minutes during the peak and 20 minutes during midday, the proposed frequencies east of Market Street would be 10 minutes during the peak demands, and 20 minutes during midday and in the evening.~~
- The frequency of the 6 Parnassus line would decrease to 12-minute headways during peak hours.
- The 14 Mission line would use motor coaches, and the limited-stop service would use trolley coaches. No route changes are proposed for the 14 Mission/14L Mission Limited. Stops would be adjusted to reduce the travel time. Frequencies of the 14L Mission Limited and 14X Mission Express would increase during peak hours to 7.5-minute headways.~~ Service hours would be expanded for the 14L Mission Limited to operate from 6:00 AM to 8:00 PM. Mission Street would have more frequent service at all times~~

[6] Note, some of the changes adopted in the TEP in the project area would be implemented prior to the initiation of WETA's project, and are described in Section 3.3.2, Affected Environment, Subsection titled Transit Network.

~~during the day, provided by all-day local and limited-stop service (14L and 49L). Limited-stop service on the 14L would be changed from the current frequency of 9 to 10 minutes all day, to 7 to 8 minutes during peak hours, 9 minutes midday, and 15 minutes (7 to 8 minutes when combined with 49L) during the evening.~~

- The frequency of service for the 21 Hayes line during peak hours would increase from 9 to 8 minutes in the AM and from 10 to 9 minutes in the PM.

- The frequency of service for the 31 Balboa line during the PM peak hours would increase from 14 to 12 minutes.

- ~~The frequency of service for the 41 Union during peak hours would increase from 8 to 7 minutes.~~

- ~~The frequency of service for the 82X Levi Plaza Express during the PM peak hours would decrease from 12 to 15 minutes.~~

- New E Embarcadero streetcar service would operate on 15-minute headways during peak hours. This line would operate between the Fourth and King Station and Fisherman's Wharf. In the project area, the E Embarcadero line would share tracks and stations with the N Judah and T Third Street lines south of Market Street, and the F Market and Wharves line north of Market Street. The expected future AM and PM peak hour capacity of this line is 280 passengers.

- The frequency for the F Market and Wharves would decrease to 7.5-minute headways in the AM, and would increase to 5-minute headways in the PM peak hours. ~~10 minutes during the evening~~.

- More frequent service would be operated on the J Church, K Ingleside, L Taraval, M Oceanside, ~~for the~~ N Judah and T Third Street lines during peak hours, to increase capacity and reduce crowding. ~~would change the current frequencies of 7 minutes during peaks, 10 minutes midday, and 10 minutes in the evening to 6 minutes during peaks, and 10 minutes midday and in the evening~~.

San Francisco Bicycle Plan. The San Francisco Bicycle Plan, approved in June 2009, proposes minor changes to the existing facilities on Mission Street between The Embarcadero and Steuart Street, and Steuart Street between Market Street and Mission Street (SFMTA, 2009). Minor improvements, including markings, signage, and facilities, are considered treatments necessary to improve conditions for bicycle use, and are not specified in more detail by route in the Bicycle Plan. Additionally, the Bicycle Plan identifies one near-term bicycle improvement (Project 2-9) along Howard Street. A bicycle lane along Howard Street between The Embarcadero and Fremont Street would be constructed by 2014.

~~**E Embarcadero.** Muni also has plans to implement a new transit line: E Embarcadero. This line would operate between the Fourth and King Station, and ultimately terminate in Fort Mason. In the project area, the E Embarcadero would share tracks and stations with the N Judah and T Third Street south of Market Street, and the F Market and Wharves north of Market Street. The expected future capacity of this line is 280 passengers during the AM and PM peak hours.~~

Page 3.2-47, Section 3.2, Transportation and Circulation, Impact 3.2—2, Potential Impacts to Transit in Existing Conditions, Local Transit, beginning on last paragraph of page:

For the F Market and Wharves, when the full WETA ridership—projected for 2035—occurs, the project would add ~~71~~ 54 passengers in the PM peak hour in the peak direction (i.e., southbound

along The Embarcadero or west along Market Street). As shown on Table 3.2-18, the F Market and Wharves line operates with more than 85 percent of capacity used, and the riders added by the project would potentially increase crowding on this line. ~~This~~ WETA riders would represent~~s~~ ~~9.0~~6.9 percent of the total F Market and Wharves ridership. The majority of WETA passengers accessing the F Market and Wharves line in the PM Peak Hour would be traveling south along The Embarcadero to the Ferry Terminal, and would have the option to also take the E Embarcadero line, which would only operate at 55 percent capacity used (see Table 3.2-18). Because alternate transit service with available capacity would be available in the same corridor, passengers would be able to redistribute themselves between multiple routes in the same corridor. An analysis of the combined capacity and utilization of the F Market and Wharves and E Embarcadero lines indicates that the corridor currently operates at 77 percent capacity, and that the addition of WETA riders to the E Embarcadero/F Market Wharves lines would increase corridor capacity utilization to 83 percent, operating below Muni's 85 percent capacity standard. Therefore, impacts to local transit would not be adverse and would be less than significant.

~~, exceeding the project contribution threshold of 5 percent~~.

~~WETA is assessing several options to reduce potential impacts to the F Market and Wharves however, it is currently unknown if these measures are feasible and whether they would fully mitigate the impacts to the F Market and Wharves. Therefore for the purposes of the EIS/EIR, impacts to the F Market and Wharves would still be considered significant and adverse.~~

~~WETA passenger service is expected to occur gradually and over a 20-year period (i.e., between 2015 and 2035) and the operation Muni transit along the Embarcadero could also substantially change during that period should the E Embarcadero line be developed. Therefore, WETA is considering several methods by which to reduce the impact WETA's riders could have on the operation of the F Market and Wharves. WETA will evaluate the feasibility of the following methods of mitigating the impact; and, based on the results of that evaluation, will mitigate the impact to the extent feasible.~~

- ~~Entering into an agreement with SFMTA for financial compensation, proportionate to the anticipated impacts, for WETA's fair share of operational improvements along the F Market and Wharves corridor.~~

- ~~Implementation of a shuttle service between the Ferry Terminal and areas north along the Embarcadero during the PM peak hour to reduce demand for the F Market and Wharves when it operates over capacity.~~

- ~~Monitoring of actual WETA ridership, transit use, and Muni capacity. The monitoring results would be reported to SFMTA, and if they show that ridership from the project has the potential to exceed the capacity utilization standard, WETA will implement such other mitigation methods as may be appropriate at that time, such as financial compensation or a shuttle service.~~

- ~~Other methods as agreed to by the parties involved (WETA, SFMTA, and the Port).~~

~~Each of these mitigation methods is currently being evaluated and, if feasible mitigation is identified, it will be included in the Final EIS/EIR.~~

Page 3.2-48, Section 3.2, Transportation and Circulation, Impact 3.2—2, Potential Impacts to Transit in Existing Conditions, Table 3.2-18:

Table 3.2-18
Muni Individual Line Utilization for Existing Conditions Plus Project

		Existing Conditions		Existing Conditions Plus Project	
AM Peak (inbound)	**Capacity**	**Ridership**	**Utilization (%)**	**Ridership (inc.)[1]**	**Utilization (%)**
1 California	1,071	790	74	796 (6)	74
2 Clement	441	299	68	301 (2)	68
6 Parnassus	441	232	53	236 (4)	54
14 Mission	1,128	506	45	507 (1)	45
14X Mission Express	658	489	74	489 (0)	74
21 Hayes	567	374	66	376 (2)	66
31 Balboa	378	229	61	229 (0)	61
E Embarcadero[2]	280	209	75	229 (20)	82
F Market and ~~Wharves[2]~~Wharves[3]	~~700~~560	289	~~41~~52	~~354 (65)~~ 334 (44)	~~51~~60
J Church	952	745	78	748 (3)	79
K Ingleside	952	**922**	**97**	**929 (7)**	**98**
L Taraval	1,904	**1,861**	**98**	**1,863 (2)**	**98**
M Ocean View	1,666	1038	62	1,040 (2)	62
T Third Street	714	**696**	**97**	**710 (14)**	**100**
N Judah	1,904	**1,768**	**93**	**1,770 (2)**	**93**
		Existing Conditions		**Existing Conditions Plus Project**	
PM Peak (outbound)	**Capacity**	**Ridership**	**Utilization (%)**	**Ridership (inc.)[1]**	**Utilization (%)**
1 California	1,512	939	62	945 (6)	63
2 Clement	378	269	71	271 (2)	72
6 Parnassus	378	196	52	200 (5)	54
14 Mission	1,128	547	48	548 (1)	49
14X Mission Express	658	399	61	399 (0)	61
21 Hayes	504	319	63	321 (2)	64
31 Balboa	378	199	53	199 (0)	53
E Embarcadero[2]	280	138	49	155 (17)	55
F Market and Wharves[3]	~~700~~840	**~~718~~729**	**~~103~~87**	**~~789~~ 783 (~~71~~54)**	**~~113~~93**
J Church	952	**871**	**91**	**874 (3)**	**92**
K Ingleside	833	**819**	**98**	**827 (8)**	**99**
L Taraval	2,142	**1,884**	**88**	**1,886 (2)**	**88**
M Ocean View	1,666	1,194	72	1,196 (2)	72
T Third Street	833	**750**	**90**	**766 (16)**	**92**
N Judah	2142	**2,055**	**96**	**2,058 (3)**	**96**

Source: DKS Associates, 2012.

Notes:

[1] (inc.) refers to the increment added by the project.

[2] For the E Embarcadero line, the "inbound" direction is north along The Embarcadero, and the "outbound" direction is south along The Embarcadero. Existing demand and capacity are those reflected in the Transit Effectiveness Project (SFMTA, 2014).

[~~2~~3] For the F Market and Wharves line, the "inbound" direction is east along Market Street and north along The Embarcadero. The "outbound" direction is south along The Embarcadero and west along Market Street. Existing demand and capacity are those reflected in the Transit Effectiveness Project (SFMTA, 2014).

Bolded text indicates that the transit line would operate above 85 percent capacity used, Muni's standard. This does not necessarily indicate that the project has a significant or adverse impact on the transit line.

Page 3.2-50, Section 3.2, Transportation and Circulation, Impact 3.2—2, Potential Impacts to Transit in Existing Conditions, NEPA and CEQA Determinations:

NEPA Determination. Increases in transit demand associated with the project under Existing Conditions would result in an increase to local and regional transit volumes. However, because the increases would either be minor or could be accommodated by adjacent transit capacity, the project's impact on local and regional transit would not be adverse. ~~The only increase that would be adverse would be the addition of riders to the F Market and Wharves in the PM peak hour, when WETA's full projected ridership occurs. WETA is committed to mitigating this impact to the extent feasible. However, because the feasibility of mitigation is still being evaluated, the project's impact on the operation of the F Market and Wharves would remain adverse.~~

CEQA Determination. Increases in transit demand associated with the project under Existing Conditions would result in a minor increase to local and regional transit volumes. However, because the increases would either be minor or could be accommodated by adjacent transit capacity, the project's impact on local and regional transit would be less than significant. ~~The only increase that would be potentially significant would be the addition of riders to the F Market and Wharves in the PM peak hour, when WETA's full projected ridership occurs. WETA is committed to mitigating this impact to the extent feasible. However, because the feasibility of mitigation is still being evaluated, the project's impact on the operation of the F Market and Wharves would remain significant and unavoidable.~~

Page 3.17-4, Section 3.17, Environmental Justice, Impact 3.17-2, Potential to Result in Disproportionately High or Adverse Indirect Impacts on Minority or Low-Income Populations, Action Alternative, second paragraph:

The ~~three~~two potentially adverse and significant indirect impacts identified Section 3.2, Transportation and Circulation, are related to ~~the addition of riders to the Muni F Market and Wharves line in the PM peak hour; and to~~ pedestrian traffic congestion at three crosswalks along The Embarcadero. As described in Section 3.2, mitigation measures have been identified that could reduce ~~some of~~ these impacts. However, because there is uncertainty as to whether fully mitigating these impacts is feasible, these impacts were conservatively considered adverse and significant in this Environmental Impact Statement/Environmental Impact Report. These impacts would affect ~~passengers of the F Market and Wharves, as well as~~ pedestrians along The Embarcadero, ~~both of~~ which is ~~are~~ broadly used by Bay Area residents and visitors, and would not disproportionately impact minority or low-income populations in the project area.

Page 4-3, Section 4.3, Significant Unavoidable Impacts, third paragraph:

~~Three~~ Two potentially adverse and significant indirect impacts are identified Section 3.2, Transportation and Circulation, related ~~to the addition of riders to the Muni F Market and Wharves line in the PM peak hour, and~~ to pedestrian traffic congestion at three crosswalks along The Embarcadero. These impacts are summarized below:

- ~~**Impact 3.2-2: Potential Impacts to Transit in Existing Conditions.** Under Existing Conditions, the project's addition of riders to the Muni F Market and Wharves in the PM peak hour would result in this transit line operating under overcrowded conditions.~~

- **Impact 3.2-3: Potential Impacts to Pedestrian Facilities in Existing Conditions.** Increases in pedestrian circulation associated with the project under Existing Conditions would result in substantial overcrowding for three study area crosswalks.

- **Impact 3.2-8: Potential Cumulative Impacts to Pedestrian Facilities in Future (2035) Conditions.** Increases in pedestrian circulation associated with the project under Future (2035) Plus Project conditions would result in substantial overcrowding for three study area crosswalks.

As described in Section 3.2, mitigation measures have been identified that could reduce ~~some of~~ these impacts. However, because there is uncertainty as to whether fully mitigating these impacts is feasible, these impacts were conservatively considered adverse and significant in this EIS/EIR.

Page 7-13, Section 7.0, References, insert:

SFMTA (San Francisco Municipal Transportation Agency), 2014. Transit Effectiveness Project Service Changes. March 28.

1.2.8 Ongoing Public and Agency Involvement

Chapter 5.0, Public and Agency Involvement, has been updated as follows to describe in detail the release of the Draft EIS/EIR, public and agency coordination on the Draft EIS/EIR, and anticipated ongoing coordination through project permitting.

Page 5-1, Chapter 5.0, Public and Agency Involvement, inserted after first paragraph:

5.1 Initiating Environmental Review Process

Page 5-6, Chapter 5.0, Public and Agency Involvement, inserted above Native American Consultation heading:

5.2 Review of Draft EIS/EIR

The Draft EIS/EIR was published on May 31, 2013. On May 30, 2013, the Notice of Availability (NOA) for the Downtown San Francisco Ferry Terminal Expansion Project Draft EIS/EIR was filed with the San Francisco County Clerk's Office, mailed to the project Mailing List (i.e., government agencies, interested parties, and property owners and occupants within 500 feet of the project site), and posted at the project site. Copies of the Draft EIS/EIR, including the NOA, were also provided to the San Francisco Public Library and mailed to each of the Participating and Cooperating Agencies in the NEPA process (which also included Responsible Agencies as defined by CEQA).

The Draft EIS/EIR was made available for download on WETA's website (www.watertransit.org), and WETA notified its users, through both the website and Twitter, of the availability of the Draft EIS/EIR. A hard copy of the Draft EIS/EIR was also available for public review at WETA's office.

On May 31, 2013, the San Francisco Examiner published a Public Notice for the project.

The Notice of the Availability of the Draft EIS/EIR was also published in the Federal Register on June 7, 2013.

Agencies and the general public had the opportunity to review and comment on the Draft EIS/EIR during a formal 60-day comment period, ending on July 30, 2013.

During the comment period, a public meeting was held on June 25, 2013, at the Port of San Francisco's Offices at Pier 1, to receive comments on the Draft EIS/EIR. The public meeting was announced in the NOA and through the same notifications described above. At the public meeting, an overview of the proposed project and the findings of the Draft EIS/EIR was

presented; the public was given the opportunity to provide verbal comments, which were recorded by a court reporter. The transcript of the public meeting is provided in Appendix F, Response to Comments.

Pages 5-6 and 5-7, headings:

5.3 Native American Consultation

5.4 National Historic Preservation Act Section 106 Consultation

5.5 Endangered Species Act Section 7 and Magnuson-Stevens Fishery Conservation and Management Act Consultation

Page 5-7, insert new text after last paragraph:

5.6 Ongoing Agency Coordination

WETA and FTA have coordinated informally with agencies with permitting authority over the proposed project throughout the environmental review process, such as the Bay Conservation and Development Commission, California Department of Fish and Wildlife, and U.S. Army Corps of Engineers. WETA will continue coordination with these agencies during the permitting process. Refer to Section 2.6, Agency Approvals Required, for more information on expected approvals required.

1.2.9 Plan Bay Area Adopted and Updated Bay Crossing Study Underway

The Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) adopted *Plan Bay Area* in July 2013. The plan serves as the Regional Transportation Plan (RTP), and specifies how anticipated federal, state, and local transportation funds will be spent in the nine-county Bay Area until 2040. The Plan incorporates regional transportation and land use planning, and supersedes the previous RTP that was adopted in 2009 (MTC, 2009). Updates have been made in the Draft EIS/EIR to incorporate the latest version of the RTP.

In addition, MTC is in the process of updating the 2000 Bay Crossing Study. The Bay Crossing Study Update is based on data consistent with *Plan Bay Area.* Updates have been made in Chapter 1.0 of the Draft EIS/EIR to incorporate the latest estimates for transbay travel.

As noted in Section 1.5.2 of the Draft EIS/EIR, the WETA ridership model was updated in 2011 based on much of the same data and trends used for *Plan Bay Area* and the Bay Crossing Study. Therefore, the changes in some of the projections for regional travel have been incorporated into WETA's ridership estimates presented in Table 1-2 of the Draft EIS/EIR, and do not affect the purpose and need for the proposed project.

Page ES-2, Executive Summary, Need for the Proposed Project, Regional Growth and Transbay Capacity Constraints, first paragraph*:*

Between now and ~~2035~~2040, the Bay Area is expected to gain 2.1 million residents and 1.~~7~~ 1 million jobs (ABAG and MTC, ~~2009~~2013). Downtown San Francisco will remain one of the primary employment centers of the region. The Metropolitan Transportation Commission (MTC)'s Bay Area Toll Authority estimates that the Bay Bridge corridor will ~~have~~ experience ~~substantial~~ growth in the number of daily person trips, increasing from ~~590~~486,000 ~~current~~ trips in 2010 to ~~772~~644,000 in ~~2025~~2035 (BATA, 2011); ~~and in~~ vehicular traffic is projected to increase~~ing~~ from ~~300~~247,5~~0~~00 ~~current~~ vehicles per day in 2010 to ~~425~~309,000 vehicles per day in ~~2025~~ 2035 (~~MTC, 2002~~BATA, 2011).

MTC estimates transbay transit ridership will also ~~follow this~~ grow~~th trend~~.

In 2010, ~~T~~transit ~~currently~~ carried~~s~~ approximately ~~160,700~~175,600 BART passengers, ~~15,200~~9,990 Alameda-Contra Costa Transit (AC Transit) bus passengers, and 4,~~900~~ 500 water transit passengers between the East Bay and San Francisco (~~MTC, 2000~~BATA, 2011). By ~~2025~~2035, transit trips across the Bay Bridge corridor would be expected to increase 44 percent, to approximately 272,800 total trips per day (BATA, 2011).~~BART is expected to carry 254,000 daily riders through the Transbay Tube. AC Transit is expected to carry 19,800 passengers to and from San Francisco, and water transit services are expected to carry 7,060 passengers. In total, 36 percent of Bay Bridge corridor trips are expected to be on transit (MTC, 2002).~~

Page 1-8, Section 1.5, Need for the Proposed Project, Section 1.5.1, Regional Growth and Transbay Capacity Constraints, first paragraph*:*

Between now and ~~2035~~2040, the Bay Area is expected to gain 2.1 million residents and 1.~~7~~ 1 million jobs (ABAG and MTC, ~~2009~~2013). Downtown San Francisco will remain one of the primary employment centers of the region. The Metropolitan Transportation Commission (MTC)'s Bay Area Toll Authority estimates that the Bay Bridge corridor will ~~have~~ experience ~~substantial~~ growth in the number of daily person trips, increasing from ~~590~~486,000 ~~current~~ trips in 2010 to ~~772~~644,000 in ~~2025~~2035 (BATA, 2011); ~~and in~~ vehicular traffic is projected to increase~~ing~~ from ~~300~~247,500~~0~~00 ~~current~~ vehicles per day in 2010 to ~~425~~309,000 vehicles per day in ~~2025~~ 2035 (~~MTC, 2002~~BATA, 2011).

MTC estimates transbay transit ridership will also ~~follow this~~ grow~~th trend~~.

In 2010, ~~T~~transit ~~currently~~ carried~~s~~ approximately ~~160,700~~175,600 BART passengers, ~~15,200~~9,990 Alameda-Contra Costa Transit (AC Transit) bus passengers, and 4,~~900~~ 500 water transit passengers between the East Bay and San Francisco (~~MTC, 2000~~BATA, 2011). By ~~2025~~2035, transit trips across the Bay Bridge corridor would be expected to increase 44 percent, to approximately 272,800 total trips per day (BATA, 2011).~~BART is expected to carry 254,000 daily riders through the Transbay Tube. AC Transit is expected to carry 19,800 passengers to and from San Francisco, and water transit services are expected to carry 7,060 passengers. In total, 36 percent of Bay Bridge corridor trips are expected to be on transit (MTC, 2002).~~

Page 1-17, Section 1.5, Need for the Proposed Project, Section 1.5.3, Air Quality Management Issues, first paragraph:

According to the Bay Area Air Quality Management District, the region is currently in non-compliance for ozone and particulate matter 2.5 microns in diameter or less ($PM_{2.5}$) under federal air quality standards and in non-compliance for ozone, $PM_{2.5}$, and particulate matter 10 microns in diameter or less (PM_{10}) under state standards (BAAQMD, 2010). ~~Although the San Francisco Bay Area's air quality has improved in recent years, an increase in population and vehicle miles driven between now and 2035 is expected to increase particulate matter emissions by 20 percent for $PM_{2.5}$ and 29 percent for PM_{10} (MTC, 2009).~~ The ~~Bay Area Air Quality Management District~~ regional performance objectives for the Bay Area call for reductions in daily vehicle miles traveled by 10 percent, $PM_{2.5}$ emissions by 10 percent, PM_{10} emissions by ~~45~~ 30 percent, and reductions in per-capita CO_2 emissions from cars and light-duty trucks by 15 percent ~~carbon dioxide emissions to 40 percent below 1990 levels~~ (ABAG and MTC, ~~2009~~2013).

Page 3.6-14, Section 3.6, Air Quality and Global Climate Change, Subsection on Federal Clean Air Act, third paragraph:

Transportation Conformity. In nonattainment or maintenance areas, road and transit projects are subject to transportation conformity. Transportation conformity applies to a project's operational emissions, but does not apply to construction emissions. Projects subject to transportation conformity must demonstrate both regional and local conformity. A project would conform regionally if the project has been included in a conforming long-range and short-range transportation plan—the Regional Transportation Plan and the Regional Transportation Improvement Program (TIP). These plans are prepared by the local metropolitan planning organization; in the project area, this is the Metropolitan Transportation Commission (MTC). The MTC must show that emissions generated by the Regional Transportation Plan and TIP would not exceed the transportation-related air emissions that have been included in the applicable SIP. Transportation or transit projects that would cause emissions to exceed the levels allowed in the SIP cannot be included in the conforming plan, and cannot be built (Caltrans, 2012). The proposed project is included in both the Regional Transportation Plan and the Regional TIP. MTC adopted an updated RTP and Regional TIP in July 2013 (ABAG and MTC, 2013). The Final Conformity Analysis prepared for the RTP and Regional TIP was adopted in July 2013 (MTC, 2013). , both were ~~of which have been~~ found to be conforming ~~-~~by the Federal Highway Administration (FHWA) and FTA on August 12, 2013.

Page 3.6-18, Section 3.6, Air Quality and Global Climate Change, Regulatory Setting, Regional Transportation Plan:

In July 2013~~09~~, the MTC and ABAG adopted the ~~*Transportation 2035 Plan for the San Francisco Bay Area*~~*Plan Bay Area*, an integrated transportation and land use plan for the region. The plan serves as the Regional Transportation Plan (RTP) and ~~which~~ specifies how anticipated federal, state, and local transportation funds will be spent in the nine-county Bay Area until ~~2035~~2040. The plan's vision is to support a prosperous and globally competitive Bay Area economy; provide for a healthy and safe environment; and promote equitable mobility opportunities for all residents. ~~Among other initiatives, the plan launches a Transportation Climate Action Campaign to reduce transportation-related GHG emissions (MTC, 2012).~~ Projects identified in the ~~Transportation 2035 Plan~~ RTP only include proposed transportation projects that are consistent with (or conform to) the approved SIP, and hence the requirements of the FCAA. ~~In 2010, an administrative modification to the plan was approved to make minor changes to project costs, initiation dates, or funding sources (MTC, 2010b).~~

The federally required TIP is a comprehensive listing of surface transportation capital projects for the nine-county San Francisco Bay Area that receive federal funds, are subject to a federally required action, or are regionally significant. The MTC prepares and adopts the TIP at least once every 4 years. Projects identified in the TIP only include proposed transportation projects that are consistent with (or conform to) the approved SIP, and hence the requirements of the FCAA.

The FHWA and the Federal Transit Administration (FTA) approved the 201~~1~~3 TIP and 20~~35~~40 ~~Transportation Plan~~ RTP on ~~December 14, 2010 (FHWA, 2010)~~ August 12, 2013.

Page 3.6-20, Section 3.6.3, Air Quality and Global Climate Change, Impact Evaluation, paragraph after bulleted list:

The project is located in a nonattainment area for $PM_{2.5}$ and must demonstrate transportation conformity by: a) showing that the project is listed in and consistent with the Regional Transportation Plan – *Plan Bay Area*~~*Transportation 2035 Plan for the San Francisco Bay Area*~~; and b) performing a microscale or "hot-spot" analysis for conformity. ~~The proposed project is~~

~~also within a nonattainment area for federal $PM_{2.5}$ standards. Therefore, a~~According to 40 Code of Federal Regulations (CFR) Part 93, a $PM_{2.5}$ hotspot analysis is required for conformity purposes. However, the U.S. EPA only requires hotspot analyses for projects that are listed in Section 93.123(b)(1) as a project of air quality concern.

Page 3.6-24, Section 3.6, Air Quality and Global Climate Change, Impact 3.6-1, Conflict with or Obstruct BAAQMD Air Quality Plan Implementation, Exceed Applicable Air Quality Standards, or Contribute Substantially to an Air Quality Violation, beginning of third paragraph on page:

In addition, as identified in Appendix 1 of the ~~2035 Transportation Plan~~RTP, Plan Bay Area (ABAG and MTC, ~~2009~~2013), the proposed project is included in an approved transportation project (as project 22006).

Page 7-1, References:

ABAG and MTC (Association of Bay Area Governments and Metropolitan Transportation Commission), 2013. Plan Bay Area. July 18.

BATA (Bay Area Toll Authority), 2011. Current and Projected Conditions Report, San Francisco Bay Crossing Study Update. April 8.

Page 7-7, References:

~~FHWA (Federal Highway Administration), 2010. Conformity Determination for MTC's 2011 Regional Transportation Improvement Program (RTIP) and 2035 Regional Transportation Plan (RTP). December 14.~~

Page 7-10, References:

~~MTC (Metropolitan Transportation Commission), 2002. Metropolitan Transportation Commission, San Francisco Bay Crossings Study Final Report. July~~

MTC (Metropolitan Transportation Commission), 2013. Final Conformity Analysis Plan Bay Area. July 18.

1.2.10 Reasonably Foreseeable Projects Updates

As described in Section 3.1, Introduction, the Draft EIS/EIR uses the "list approach" in assessing cumulative impacts. The list of projects that were considered were those reasonably foreseeable projects that were known at the time the NOP was filed. The NOP for this project was filed on March 24, 2011. Projects that had been defined and would have been considered reasonably foreseeable at that time—and that were also in geographic proximity or likely to result in similar environmental impacts—were considered in the cumulative impact analysis; they are shown on Figure 3.1-1 and listed in Table 3.1-1 of the Draft EIS/EIR. WETA consulted with the Port and the San Francisco Planning Department in development of this list.

Since this list was compiled, several projects have been proposed or have been developed further so that they would now be considered reasonably foreseeable future projects. Environmental review is now underway for the Seawall Lot 337 and Pier 48 Mixed-Use project; the 75 Howard Street project; and the Event Center and Mixed-Use Development. Potential Rehabilitation of Pier 38 is also progressing. As described below, updates were made to Table 3.1-1 of the EIS/EIR, and to the cumulative analysis, to include these as potential future projects. In addition, as noted in the Response to EOP-11, to recognize

that in 2013 the Port and EOP discussed a plan to activate the Ferry Plaza, updates were made to Table 3.1-1 of the EIS/EIR, and to the cumulative analysis, to include this as a potential future project.

The status and anticipated schedule of many of the projects listed in Table 3.1-1 have changed since the release of the Draft EIS/EIR. Table 3.1-1 and the cumulative impact analysis have also been updated to reflect the status of each project (as of March 2014).

The following modifications have been made to the Draft EIS/EIR to include updates to the cumulative impact analysis.

Page 3.1-7, Section 3.1, Introduction, Table 3.1-1, Reasonable Foreseeable Projects considered in the Cumulative Impact Analysis:

Project Number	Project Name/Location	Project Summary	Project Date	Source
4	San Francisco/ Oakland Bay Bridge Seismic Safety Projects	Seismic improvements to the San Francisco Bay Bridge, including construction of a new approach and seismic improvements to the western span of the bridge, reconstruction of the 2-mile-long eastern span, and a new transition structure on Yerba Buena Island, among other improvements.	The ~~estimated date opening the~~ new bridge opened to traffic in both directions ~~is~~ in 2013.	Caltrans East Span Seismic Safety Project
7	Pier 15 to 17 Exploratorium Relocation	Relocation of the Exploratorium from the Palace of Fine Arts to Piers 15 and 17 on The Embarcadero at Green Street.	~~Under construction~~Construction completed in~~ion expected~~ 2013.	Port of San Francisco Fact Sheet
8	Chinatown Broadway Street Design	The Chinatown Broadway Street Design project will improve pedestrian conditions, and develop a design plan.	~~Currently Under Construction.~~Final Report completed. Improvements TBD.	City of San Francisco Project Page
9	717 Battery Street	Construction of a private social club. This four-story building will include a full basement containing a fitness club, spa, and a wine cellar room; a 1st floor commercial kitchen and restaurant; a 2nd floor bar with parlor rooms and library; 3rd and 4th floor hotel rooms; and an outdoor spa on the roof.	Construction ~~anticipated to be~~ completed in 2013.~~.~~	San Francisco Planning Department NOA/MND
15	350 Mission Street	Demolition of an existing four-story building at 350 Mission Street and construction of a 24-story, ~375-foot-tall (plus mechanical space) tower containing ~356,000 sf of office space, 6,600 sf of restaurant and retail space, and 6,960 sf of public open space. Retail and restaurant spaces would include a retail store and a coffee bar/café on the ground floor, and a restaurant and conference space on the mezzanine. A 40-foot-wide driveway on Fremont Street would provide access to two loading and two service parking spaces on the ground floor, and 61 parking spaces and 64 bike parking spaces in three subgrade levels.	~~FEIR stated project construction would take approximately 22 months, and occupancy is anticipated in late 2012. Project not yet initiated.~~Under construction.	Project Website

Project Number	Project Name/Location	Project Summary	Project Date	Source
18	San Francisco Museum of Modern Art Expansion and Fire Station Relocation and Housing Project	The proposed project includes an approximately 235,000-sf expansion of San Francisco Museum of Modern Art, a private nonprofit modern art museum at 151 Third Street (between Mission and Howard streets); the demolition of two structures to the south (670 Howard Street and 676 Howard Street) to accommodate the expansion; and the relocation of San Francisco Fire Department Station No. 1 from 676 Howard Street to 935 Folsom Street. The existing building at 935 Folsom Street (formerly used for apparel manufacturing and as a commercial laundry) would be demolished; and in addition to construction of a new fire station fronting Folsom Street, the site would be subdivided, and a residential building containing up to 13 units would be constructed on the southern portion of the site fronting Shipley Street.	~~Received planning department approval on November 10, 2011~~Construction began in 2013; expected completion in early 2016.	CEQAnet
19	Pier 36 Brannan Street Wharf Project	Construction of a 57,000-sf public park over the water and parallel to the Embarcadero Promenade, consisting of a lawn, walkway with seating, and floating dock for kayaks.	Construction ~~is anticipated to be~~ completed in 2013.	San Francisco Planning Department
23	BART Ferry Plaza Physical Barrier Projects	Installation of ~~27~~ physical barriers on and around the San Francisco Ferry Building Plaza to protect BART facilities located behind the Ferry Building.	Construction began in October 2012 and is scheduled to be completed by June ~~2013~~2016.	BART
25	Water Taxi	Implementation of a new water taxi service that would provide on-call or regularly scheduled point-to-point service via a vessel with a capacity of less than 49 passengers. Potential service locations include Pier 1½, South Beach Harbor Marina, and Hyde Street Harbor.	~~TBD.~~Operating.	Port of San Francisco
26	Ferry Plaza Activation Plan	Equity Office Partners (the entity that manages the Ferry Building) is proposing an 18-month test period for plaza programming. The proposal includes activating the plaza through various programming (night markets, antique fairs, additional seating and lighting, etc.), activating the north end of the plaza, and providing temporary valet parking (64, 32, or 16 spaces) Monday through Friday during business hours.	The project is still in the planning phase. Implementation TBD.	EOP/Port of San Francisco
27	Pier 38 Rehabilitation	Pier 38 is currently vacant. The Port of San Francisco has undertaken efforts to repair and re-tenant Pier 38.	TBD.	Port of San Francisco
28	Seawall Lot 337 and Pier 48 Mixed-Use Project	The project sponsor proposes a mixed-use, multi-phase waterfront development of Seawall Lot 337, rehabilitation and reuse of Pier 48, and construction of approximately 5.4 acres of net new open space, for a total of 8 acres of open space on site. The Project would also include public access areas, assembly areas, and an internal grid of public streets, shared public ways, and utilities infrastructure. Overall, the Project would involve construction of up to 3.7 million gross square feet of residential, commercial, and retail uses, and a public parking garage. Both Seawall Lot 337 and Pier 48 are owned by the Port of San Francisco.	Construction would be phased between 2015 and 2021.	Notice of Preparation

Project Number	Project Name/Location	Project Summary	Project Date	Source
29	75 Howard Street Project	The proposed project consists of the demolition of the existing 75 Howard Garage and construction, in its place, of an approximately 31-story, 348-foot-tall, residential, high-rise tower containing 186 market rate units and approximately 5,658 gross square feet of retail use. The proposed Public Parking Variant would provide an additional 91 nonaccessory public off-street parking spaces, and two additional car-share parking spaces, for a total of 268 parking spaces. The proposed Residential/ Hotel Mixed Use Variant would provide a mix of residential units and hotel rooms in the high-rise tower.	Environmental review is underway. Construction could start in 2014, and would take 30 months.	Draft EIR
30	Event Center and Mixed-Use Development	An affiliate of the Golden State Warriors National Basketball Association team, proposes to construct a multi-purpose event center, public open space, maritime uses, a parking facility, and visitor-serving retail uses in San Francisco. The proposed event center would have a seating capacity of 17,000 to 19,000 seats. In May 2014, the project sponsor announced that the event center would be constructed in Mission Bay, in an area bounded by Third Street, 16th Street, and Terry Francois Boulevard.	Environmental review is underway.	Notice of Preparation

Page 3.1-9, Figure 3.1-1, has been revised to show the location of reasonably foreseeable projects 26 through 30 described in Table 3.1-1.

Page 3.3-18, Section 3.3 Land Use, Impact 3.3-6, Potential to Result in Cumulative Impacts on Land Use, first paragraph:

The proposed project would expand water transit and passive recreation uses at the Ferry Terminal, and would require the construction of new facilities, such as the gates. The proposed project facilities and land uses would be generally consistent with the existing land uses and land use patterns in the project area, and would also be generally consistent with the Port's land use and design plans and policies. The Port's permitting and approval process would ensure the project's consistency with the Port's policies. Although the impacts from the proposed project would not be substantial and have been determined to be less than significant and not adverse, other reasonably foreseeable projects in the study area (along and adjacent to San Francisco's eastern waterfront) could result in similar impacts. Projects, such as the America's Cup project, San Francisco/Oakland Bay Bridge Seismic Safety projects, Pier 27 Cruise Ship Terminal project, the Piers 15 and 17 Exploratorium Relocation, 8 Washington Street, 350 Mission Street, Transbay Transit Center, Central Subway, 75 Howard Street, Event Center and Mixed Use Development, Seawall Lot 337 and Pier 48 Mixed-Use Project, and Pier 70 Area (listed in Table 3.1-1), would generally involve upgrades to existing infrastructure and public facilities, rehabilitation or replacement of aging facilities, or the development of mixed urban uses. These projects, in combination with the proposed project, would affect land use and lands use patterns in the study area and/or result in the construction of facilities along the waterfront. Although individual projects may result in land use impacts, those projects—in combination with the proposed project—would not be anticipated to contribute collectively to cumulative land use impacts, because individual impacts would be mitigated, and because the projects under the cumulative

scenario would be generally consistent with the urban character and existing land uses in the study area. In addition, the proposed project improvements would be constructed on areas under the control of the Port of San Francisco; they would not affect, encroach on, or modify any property or access to property under the control of other entities, and therefore would not interfere with the future of development of the Agriculture Building or Ferry Plaza. As part of the permitting and approvals process for individual projects, potential land use impacts would be evaluated and project consistency with the CCSF and Port's applicable plans would be ensured by the lead agency. Therefore, the reasonably foreseeable projects, in combination with the proposed project, would not result in adverse cumulative land use impacts.

Page 3.7-25, Section 3.7, Noise and Vibration, Impact 3.7-6, Potential to Result in Cumulative Impacts on Noise, second paragraph:

The proposed project could result in adverse noise and vibration impacts during construction. There are ~~two~~ three projects listed in Table 3.1-1 that have the potential to result in cumulative noise impacts, when combined with the proposed project, due to their location (close proximity to the proposed project) and the potential for overlapping construction activities: Golden Gate Transit Ferry Terminal Improvements, BART's Ferry Plaza Physical Barrier Projects, and the Embarcadero Pedestrian Signage and Map Program. ~~BART's Ferry Plaza Physical Barrier Project, although located within the project area, would be completed before WETA's project construction would commence.~~

Page 3.7-26, Section 3.7, Noise and Vibration, Impact 3.7-6, Potential to Result in Cumulative Impacts on Noise, insert after first paragraph on page:

The BART Ferry Plaza Physical Barrier Projects would construct physical barriers on and around the Ferry Plaza, to protect BART facilities behind the Ferry Building, and this construction activity may overlap with the proposed project. It is assumed that the equipment used would be compliant with the City's noise ordinance for construction equipment (operating noise level no greater than 80 dBA at 100 feet); therefore, the potential cumulative noise impacts would be similar to those discussed for the Golden Gate Transit Terminal Improvements, as discussed above, and no cumulative noise impacts would be expected.

Page 3.10-21, Section 3.10, Aesthetics and Visual Resources, Impact 3.10-5, Potential to Result in Cumulative Impacts on Aesthetics or Visual Resources, last paragraph on page:

The America's Cup project (for the portions in the Rincon Point Open Water Basin, 14 – 22½), Golden Gate Transit Ferry Terminal Improvements, ~~BART Ferry Plaza Physical Barrier Project,~~ and Agriculture Building Rehabilitation and Seismic Upgrades could involve similar construction activities that could affect aesthetics or visual resources in the study area. However, none of the projects are anticipated to be constructed concurrently; therefore, all potential impacts would be related to the operational phases of these projects.

Page 3.10-22, Section 3.10, Aesthetics and Visual Resources, Impact 3.10-5, Potential to Result in Cumulative Impacts on Aesthetics or Visual Resources, fifth paragraph:

The BART Ferry Plaza Physical Barrier Projects would install physical barriers on the Ferry Plaza in the project area. This project is currently under construction, and is expected to be completed by June 2016~~, and would not be expected to result in an overlap in construction schedules with the proposed project~~. Construction of the BART's Ferry Plaza Physical Barrier Projects could overlap with construction of the proposed project. Cumulatively, concurrent construction of both projects could affect aesthetics and visual resources in the area. However, overlap would only be temporary, and construction staging and access in the project area would

be coordinated as a part of the Mitigation Measure TRANS-3, Construction Circulation Management. Therefore, construction impacts would not be significant or adverse. In addition, the~~This~~ BART projects ~~has~~have undergone separate environmental review and design review by BCDC and the Port; it was determined that the projects would not result in significant visual changes in the area. The improvements are generally low-profile and would not be expected to change views of or views within the project area. In addition, the proposed project improvements would not be on the Ferry Plaza. Therefore, the projects would not be expected to cumulatively adversely impact aesthetics or visual resources in the project area.

Page 3.16-16, Section 3.16 Socioeconomics, Impact 3.16-7, Potential to Result in Cumulative Impacts on Socioeconomics, first paragraph:

Construction of the proposed project improvements would temporarily disrupt the project area, affecting circulation and site access. Four other projects listed in Table 3.1-1 would also involve construction in the project area: the Golden Gate Ferry Terminal Improvement, Bay Area Rapid Transit (BART) Ferry Plaza Physical Barrier Projects, America's Cup Project, and Agriculture Building Rehabilitation. Should construction occur simultaneously, cumulative adverse impacts to the community and businesses in the project area could occur. However, overlap would only be temporary, and construction staging and access in the project area would be coordinated as a part of the Mitigation Measure TRANS-3, Construction Circulation Management. ~~However, construction activities associated with the proposed project and these other projects are unlikely to occur at the same time. The BART Ferry Plaza Physical Barrier Project and~~ America's Cup improvements would be completed prior to initiation of construction of the proposed project. The Agriculture Building Rehabilitation has not been planned in detail yet, and due to the Agriculture Building's location and space constraints on site, rehabilitation of the Agriculture Building could not occur at the same time as the proposed project improvements. The Golden Gate Ferry Terminal Improvements could overlap with the proposed project improvements, but this project would be expected to be small in scale and limited in duration, and would be likely to only affect the Golden Gate Terminal. Therefore is it unlikely that cumulative adverse impacts due to disruption of the project site during construction would occur.

The proposed project improvements would be constructed on areas under the control of the Port, and would not affect, encroach on, or modify any property or access to property under the control of other entities, and therefore would not interfere with the future of development of the Agriculture Building or the Ferry Plaza. In addition, the proposed project would improve access to regional transit in the area, which would be expected to benefit the future residential, recreation, mixed-use, and commercial developments in the area.

1.2.11 Combined Final EIS/Record of Decision

After consideration of the comments received on the Draft EIS/EIR, FTA decided to issue a single document that combines the Final EIS and Record of Decision (ROD) pursuant to the Moving Ahead for Progress in the 21st Century Act (Public Law 112-141, 126 Stat. 405, Section 1319[b]). A public notice of FTA's intent was posted to WETA's website on April 8, 2014, and provided to each of the participating, cooperating, and responsible agencies—as well as to those agencies, organizations, and individuals that commented on the Draft EIS/EIR.

NEPA regulations require that the federal agency prepare a concise public record of its decision (40 Code of Federal Regulations [CFR] Section 1505.2). The ROD notifies the public of the agency's selection of an alternative to be carried forward for more detailed engineering and design, and the rationale for that decision. The ROD serves as FTA's federal approval of the EIS, and authorizes the state transportation agency to proceed with the project. The ROD is included in the Final EIS/EIR as Appendix H. In

addition, the following modifications have been made to the EIS/EIR to indicate that this is the Final EIS/EIR and also FTA's ROD.

Cover, Title Page, Signature Page, and Abstract:

"Environmental Impact Statement/Environmental Impact Report" is replaced with "Final Environmental Impact Statement and Record of Decision/Environmental Impact Report."

Signature Page:

National Environmental Policy Act of 1969, §102 (42 United States Code [USC] §4332); Federal Transit Law (49 USC §5301[e], §5323[b], and §5324[b]); Public Law 112-141, 126 Statute 405, Section 1319(b); 49 USC §303 (formerly Department of Transportation Act of 1966 §4[f]); National Historic Preservation Act of 1966, §106 (16 USC §470f); Executive Order 11990 (Protection of Wetlands); Executive Order 11988 (Floodplain Management); Executive Order 12898 (Environmental Justice); California Environmental Quality Act, Public Resources Code 21000 *et seq.*; and the State of California's California Environmental Quality Act Guidelines, California Administrative Code, 15000 *et seq.*

Abstract, third paragraph:

The Draft EIS/EIR was published on May 31, 2013, and was available for public review for ~~A~~a 60-day period. Comments received on the Draft EIS/EIR are addressed in Appendix F of this Final EIS/EIR. In addition, after considering the comments provided on the Draft EIS/EIR, pursuant to Public Law 112-141, 126 Statute 405, Section 1319(b), FTA decided to issue a combined Final EIS and Record of Decision (ROD). The ROD is included as Appendix H.~~has been established for comments on this document. Comments may be submitted in writing, or may be made orally at the public meeting. Written comments should be submitted to Mike Gougherty at the address below by July 30, 2013. Information on the public meeting can be obtained from WETA.~~

Page ES-1, Executive Summary, Introduction, third paragraph:

WETA and the Federal Transit Administration (FTA) have prepared this Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and Record of Decision (ROD) to address the environmental effects of the proposed Ferry Terminal improvements. These agencies have prepared this EIS/EIR and ROD in accordance with the National Environmental Policy Act (NEPA) of 1969, 42 United States Code (USC) Section 4321 et seq.; the Council on Environmental Quality (CEQ) regulations for implementing NEPA, 40 Code of Federal Regulations (CFR), Parts 1500-1508; Public Law 112-141, 126 Statute 405, Section 1319(b); the California Environmental Quality Act (CEQA) of 1970, California Public Resources Code, Section 21000 et seq., as amended; the Guidelines for Implementation of CEQA, Title 14, California Code of Regulations (CCR), Section 15000 et seq.; and FTA guidelines. The FTA is the NEPA lead agency, and WETA is the CEQA lead agency.

Page 1-1, Section 1.1, Introduction, second paragraph:

WETA and the Federal Transit Administration (FTA) have prepared this Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and Record of Decision (ROD) to address the environmental effects of the proposed Ferry Terminal improvements. These agencies have prepared this EIS/EIR and ROD in accordance with the National Environmental Policy Act (NEPA) of 1969, 42 United States Code (USC) Section 4321 et seq.; the Council on Environmental Quality (CEQ) regulations for implementing NEPA, 40 Code of Federal

Regulations (CFR), Parts 1500-1508; Public Law 112-141, 126 Statute 405, Section 1319(b); the California Environmental Quality Act (CEQA) of 1970, California Public Resources Code, Section 21000 et seq., as amended; the Guidelines for Implementation of CEQA, Title 14, California Code of Regulations (CCR), Section 15000 et seq.; and FTA guidelines. The FTA is the NEPA lead agency, and WETA is the CEQA lead agency. The project includes two alternatives: the No Action and the Action Alternative under NEPA guidelines (No Project and Project under the CEQA guidelines), as described in Chapter 2.0.

Page 1-18, Section 1.6, Purpose of the EIS/EIR Document, fourth paragraph:

During the review period, public comments ~~will be~~are recorded, and FTA and WETA ~~will~~ prepares responses to the comments, which are then incorporated into the Final EIS/EIR. Refer to Chapter 5.0 for details of public and agency involvement for this project. Appendix F contains the comments received on the Draft EIS/EIR, as well as responses to those comments.

In addition to revisions in the text that correspond to the comments received, the Final EIS/EIR identifies the lead agency's preferred alternative and the reasons for selecting this alternative. ~~The release of the Final EIS/EIR is announced by publishing a Notice of Availability in the Federal Register. A~~This document also serves as FTA's Record of Decision, ~~notifies~~ which notifies the public of the alternative that the agency has selected to be carried forward for more detailed engineering and design and the rationale for that decision. WETA, the local lead agency under CEQA, can certify the EIR after the Final EIS/EIR is published.

Appendix D has been updated to include the public notice of FTA's consideration of the combined Final EIS and ROD.

A new Appendix G has been added that includes the Mitigation Monitoring and Reporting Program for the project.

A new Appendix H has been added that includes the ROD.

2.0 COMMENTS AND RESPONSES

This chapter includes all of the comments received on the Draft EIS/EIR, responses to each comment, and, where applicable, text changes made in the Final EIS/EIR in response to the comment.

Thirteen members of the public or agency representatives submitted comments on the Draft EIS/EIR. Each of the eleven comment letters received is included in its entirety, followed by responses to the comments contained in that letter. In addition, the transcript from the public meeting where two members of the public provided comment is also included in its entirety, followed by responses to the public comments received.

Table 2-1 lists the comments received on the Draft EIS/EIR. Each commenter has been assigned an identification (ID) code, as shown in Table 2-1 (e.g., for United States Environmental Protection Agency, the code is USEPA). In addition, each individual comment made by the commenter has been assigned a number. Therefore each individual comment received has a commenter ID and comment number (e.g., USEPA-1, USEPA-2, etc.). Responses are provided for each individual comment received.

Table 2-1
Comments Received on the Draft EIS/EIR

Commenter	Commenter Type	Comment Format	Commenter ID
United States Environmental Protection Agency, Region IX	Federal Agency	Letter	USEPA
United States Departments of Interior, Office of Environmental Policy and Compliance, Pacific Southwest Region	Federal Agency	Letter	USDOI
California State Lands Commission	State Agency	Letter	CSLC
California Department of Fish and Wildlife	State Agency	Letter	CDFW
Bay Area Air Quality Management District	Regional Agency	Letter	BAAQMD
Bay Conservation and Development Commission	Regional Agency	Letter	BCDC
San Francisco Bay Area Rapid Transit District	Regional Agency	Letter	BART
San Francisco Historic Preservation Commission	Local Agency	Letter	SFHPC
San Francisco Architectural Review Committee of the Historic Preservation Commission	Local Agency	Letter	SFARC
Morrison & Foerster, LLP on behalf of Equity Office Properties	Public Comment	Letter	EOP
San Francisco Architectural Heritage	Public Comment	Letter	SFAH
Jane Connors, Senior Property Manager at the Ferry Building	Public Comment	Oral Comment at Public Meeting	CONNORS
Mailine Chew	Public Comment	Oral Comment at Public Meeting	CHEW

Where changes to the text of the Draft EIS/EIR have been made, the modifications are shown in the response. Text additions are shown in double underline and text ~~deletions~~ are shown in strikethrough. Text changes are referenced by the page number, paragraph on that page, and the major heading under which the text falls.

If a figure has been revised, the figure number has been changed to include "Revised" (e.g., Revised Figure 3.6-1), and a description of the revision is included in this appendix.

Revisions and updates to the EIS/EIR also included the modification of appendices. The modifications are described in this appendix and the title of the Appendix has been modified to include "Revised" (e.g., Revised Appendix B, Air Quality).

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

JUL 22 2013

Mr. Alexander Smith
U.S. Department of Transportation
Federal Transit Administration, Region IX
201 Mission Street, Suite 1650
San Francisco, CA 94105

Subject: Draft Environmental Impact Statement for the Downtown San Francisco Ferry Terminal Expansion Project, San Francisco, California (CEQ #20130153)

Dear Mr. Smith:

The Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA is highly supportive of the project objective to provide an additional transit mode for transbay travel in order to reduce highway congestion, improve air quality, and for use in emergencies where other modes may not be available. We commend the Federal Transit Administration (FTA) and the San Francisco Water Emergency Transportation Authority (WETA) on including minimization of impacts to natural resources as a project objective. We look forward to the successful implementation of this project.

After reviewing the document for the proposed Downtown Ferry Building Terminal Expansion project, we rated this Draft Environmental Impact Statement (DEIS) EC-2, *Environmental Concerns, Insufficient Information*. Please see the attached *Summary of EPA Rating Definitions* for a description of our rating system. Our concerns are based on the need for additional information regarding potential material reuse and disposal sites for the 33,000 cubic feet of material the proposed project is expected to dredge during construction. We also recommend mitigation opportunities to reduce the impacts to the over 32,000 additional commuters exposed to emissions from idling. EPA further recommends species protection commitments identified through the biological consultation with the National Marine Fisheries Service. Lastly, we encourage FTA to consider additional mitigation measures at key pedestrian crossings and provide current circulation studies in the Final Environmental Impact Statement (FEIS). Our concerns are described in the attached detailed comments.

We appreciate the opportunity to review this DEIS. When the FEIS is released for public review, please send two copies to the address above (mail code: CED-2). If you have any questions, please contact Zac Appleton of my staff at 415-972-3321 or appleton.zac@epa.gov.

Sincerely,

for Jeff Scott, Director
Waste Management Division and
Communities and Ecosystems Division

Enclosures:
Summary of Rating Definitions
Detailed Comments

cc: Raymond Sukys, FTA
Mike Gougherty, WETA
Brenda Goeden, BCDC
Becky Ota, CA F&W
Ryan Olah, US FWS
Korie Schaeffer, NMFS
Robert Lawrence, USACOE
James Hurley, Port of San Francisco

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 analyzed 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 analyzed in the draft EIS, which should be analyzed 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.

EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE DOWNTOWN SAN FRANCISCO FERRY TERMINAL EXPANSION PROJECT, JULY 19, 2013

Dredging

The Draft Environmental Impact Statement (DEIS) describes the proposed project generating up to 33,000 cubic yards of dredged material, to be beneficially reused and/or disposed of in accordance with the Long Term Management Strategy (LTMS) program for San Francisco Bay, and in compliance with a U.S. Army Corps of Engineers permit issued at a future date. The LTMS goals call for a significant reduction of in-Bay disposal and an increase in beneficial reuse. In-Bay disposal limits have already been reduced substantially and they will continue to be reduced under the LTMS management plan.

The LTMS agencies (including the U.S. Army Corps of Engineers and Bay Conservation and Development Commission) may determine the proposed project's construction dredging is "new work." Although maintenance dredging may dispose of material in-Bay under certain circumstances, in-Bay disposal of new work material is generally not allowed, and FTA and WETA may be required to prepare an alternatives analysis for future disposal, including options such as using the San Francisco Deep Ocean Disposal Site (SF-DODS) if no practicable beneficial reuse alternative is available. With these likely limitations in mind, EPA makes the following recommendations for the Final Environmental Impact Statement (FEIS). USEPA-1

Recommendations:

- Include a range of potential dredged material reuse and disposal sites for the construction-related dredging in the FEIS, with emphasis on alternatives that do not propose placing material back into San Francisco Bay.
- Include detailed information in the FEIS regarding the expected frequency and volumes of maintenance dredging. Proposed locations for disposal of dredged material should be included, noting the LTMS requirements stated above.

Air Quality

The DEIS describes a number of direct and indirect operational and construction emissions from the proposed project which contribute to a deterioration in air quality that do not exceed the Bay Area Air Quality Management District's annual threshold levels. Nevertheless, the proposed project is expected to nearly triple PM 10 and PM 2.5 emissions from idling vessels, closest to ferry commuters queuing for embarkation. Considering these localized emissions increases, EPA offers the following recommendations for the FEIS. USEPA-2

Recommendations:

- Since WETA is expected to procure additional vessels in future years to deliver the levels of passenger service outlined in the DEIS, EPA recommends FTA and WETA consider procuring vessels that meet Tier III and Tier IV marine engine standards (http://epa.gov/otaq/standards/nonroad/marineci.htm) and/or California Air Resources Board commercial harborcraft engine requirements (http://www.arb.ca.gov/ports/marinevess/harborcraft.htm).

- EPA further recommends FTA and WETA consider using construction equipment that meets U.S. EPA Tier 4 standards for non-road engines (http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm) and replace diesel-powered construction generators with connections to the municipal electricity grid, where practicable. USEPA-3

Biological Resources

We note that the DEIS describes minor impacts from a net 345 square feet of bay fill and a net 0.5 acres of shading to benthic habitat and phytoplankton production, which may result in a slight increase in predation for larval and young fish from the proposed project. The DEIS does not suggest mitigation measures for these impacts. USEPA-4

Recommendations:

- EPA recommends the FEIS identify mitigation measures regarding species protection as provided by NMFS, the San Francisco Bay Conservation and Development Commission, and/or California Department of Fish and Wildlife through the consultation process under the Endangered Species Act and the Essential Fish Habitat provisions of the Magnuson-Stevens Act.
- EPA further recommends the FTA, the WETA, and the Port of San Francisco consider the use of deck materials and designs that allow light penetration to the water surface to reduce shading impacts. USEPA-5

Multimodal Circulation

The proposed ferry terminal expansion project will double the number of new docks in the southern area of the Ferry Building compared with its northern area, and proposes a 24,500 square foot Embarcadero Plaza over the existing Lagoon to facilitate safe and efficient foot traffic for the projected 184% increase in ferry riders (an addition of 32,147 daily riders expected by 2035). The DEIS notes significant multimodal conflicts in the area of the Embarcadero in front of the Ferry Building, and offers mitigation with intersection adjustments and crosswalk improvements at northern approaches to the Ferry Building. While the proposed mitigation may address impacts to ferry commuters working in the Financial District, the proposed mitigation may not address a large proportion of future ferry riders using the more direct southerly route along Mission Street between the new ferry docks and the extensive commercial development now underway in the South of Market area. USEPA-6

Recommendations:

- EPA recommends the FEIS describe additional mitigation at Mission Street crossings (No. 18a/18b) to account for the forecasted ferry rider growth, and consider measures at this intersection to reduce subsequent northbound bicycle-pedestrian conflicts along the length of the Embarcadero in front of the Ferry Building.
- The FEIS should also supplement its bicycle circulation analysis to include a forecast of circulation impacts from pedicab operators and future Bikeshare station locations that are proposed for the area but were not included in the DEIS analysis. USEPA-7
- Similarly, EPA recommends the FEIS update Emergency Access and Use analysis to account for the more distant relocation of SF Fire Station 1 on Howard Street. USEPA-8

2.1 USEPA

2.1.1 Response to USEPA-1

Dredging would occur in an area that has previously been dredged, and is in the Port's maintenance dredging footprint permitted with the U.S. Army Corps of Engineers (Corps), San Francisco Bay Regional Water Quality Control Board (RWQCB), and BCDC. Therefore, it is anticipated that the dredging for construction would be considered "maintenance dredging," and not "new work" for the purpose of permitting dredging activities.

The LTMS for the management of dredged material in the San Francisco Bay region established goals of beneficial reuse of at least 40 percent, no more than 40 percent placement at the San Francisco Deep Ocean Disposal Site (SF-DODS), and no more than 20 percent placement at in-Bay sites. Furthermore, the BCDC prefers beneficial reuse of dredged material, where feasible. The purpose of the Dredged Material Management Office (DMMO) is to cooperatively review sediment quality sampling plans, analyze the results of sediment quality sampling, and make suitability determinations for material proposed for placement in San Francisco Bay, for placement in the ocean, or for beneficial reuse. As described on page 2-28 and page 2-33 of the Draft EIS/EIR in Subsections titled Maintenance Dredging Requirements and Dredging Requirements, dredging and disposal of dredged materials for the proposed project would be coordinated with the DMMO. Requirements would include development of a sampling plan, sediment characterization, a sediment removal plan, and disposal in accordance with the LTMS to ensure beneficial reuse, as appropriate. Before dredging would be performed, a Sampling and Analysis Plan would be prepared and submitted to the DMMO. Based on the results of the sediment analysis, the alternatives for placement of dredged materials will be evaluated, including disposal at SF-DODS, disposal at an upland facility, or beneficial reuse. Selection of the disposal site would be reviewed and approved by the DMMO.

The feasibility of beneficial reuse of dredged material would depend on the results of the sediment analysis and characterization, and sediment quality criteria of the permitted beneficial reuse sites available to receive dredged material at the time of dredging. At the time of this Final EIS/EIR, permitted beneficial reuse sites in the Bay region include Cullinan Ranch and the Montezuma Wetlands Restoration Project. Beneficial reuse sites that are in the planning stages and may be permitted for use in the future include Bel Marin Keys V, the South Bay Salt Ponds Restoration Project, and VA/Alameda.

If the sediment analysis identifies contaminated sediment, disposal at an upland facility may be required. In any case, as long as a feasible disposal alternative (i.e., SF-DODS or beneficial reuse) is available, WETA would avoid disposal at an in-Bay placement site. This would support the LTMS goal of reducing in-Bay placement.

The process described above would be followed for both initial construction dredging and future maintenance dredging, as required by the DMMO. As stated on page 2-27, Section 2.3.6, Operating Elements, subsection titled Maintenance Dredging Requirements, of the Draft EIS/EIR, it is expected that future maintenance dredging would be required at Gates F and G every 3 to 4 years, and would require removal of approximately 5,000 to 10,000 cubic yards of material. It is not anticipated that a regular maintenance cycle of dredging would be required at Gate A.

The following modifications have been made to the Draft EIS/EIR to clarify the process for evaluating and selecting dredge disposal alternatives during the permitting process, including the preference to avoid in-Bay disposal.

Page 2-28, Section 2.3.6, Operating Elements, subsection titled Maintenance Dredging Requirements, first paragraph on page:

Dredging and disposal of dredged materials would be conducted in cooperation with the San Francisco Dredged Material Management Office (DMMO), to comply with the requirements of the Dredging – Dredge Material Reuse/Disposal permit that would be issued by the U.S. Army Corps of Engineers. Requirements would include development of a sampling plan, sediment characterization, a sediment removal plan, and disposal in accordance with the Long-Term Management Strategy for San Francisco Bay to ensure beneficial reuse, as appropriate. Based on the results of the sediment analysis, the alternatives for placement of dredged materials will be evaluated, including disposal at the San Francisco Deep Ocean Disposal Site, disposal at an upland facility, or beneficial reuse. Selection of the disposal site would be reviewed and approved by the DMMO.

Page 2-33, Section 2.4.3, Dredging Requirements, first paragraph after Table 2-10:

Dredging and disposal of dredged materials would be conducted in cooperation with the DMMO~~San Francisco Dredged Material Management Office~~, to comply with the requirements of the Dredging – Dredge Material Reuse/Disposal permit that would be issued by the U.S. Army Corps of Engineers. Requirements would include development of a sampling plan, sediment characterization, a sediment removal plan, and disposal in accordance with the Long-Term Management Strategy for San Francisco Bay to ensure beneficial reuse, as appropriate. Because the project area is in an area already permitted for dredging by the U.S. Army Corps of Engineers, San Francisco Bay Area Regional Water Quality Control Board, and Bay Conservation and Development Commission, dredging for the proposed project would be considered maintenance dredging for permitting purposes. Based on the results of the sediment analysis, the alternatives for placement of dredged materials will be evaluated, including disposal at the San Francisco Deep Ocean Disposal Site, disposal at an upland facility, or beneficial reuse. Selection of the disposal site would be reviewed and approved by the DMMO.

Page 3.11-12, Section 3.11, Hydrology and Water Quality, Impact 3.11-1, Potential Impacts of Maintenance Dredging on Water Quality, Action Alternative, second and third paragraphs:

In 1994, the U.S. EPA designated the "Deep Ocean Disposal Site," which is 50 miles outside of the Golden Gate. The U.S. EPA manages the site and has set a yearly capacity of 4.8 million cubic yards of dredged material (BCDC, 2008). In addition, permitted beneficial reuse sites in the region include Cullinan Ranch and the Montezuma Wetlands Restoration Project. Beneficial reuse sites that are in the planning stages and may be permitted for use in the future include Bel Marin Keys V, the South Bay Salt Ponds Restoration Project, and VA/Alameda.~~There are also four disposal sites in the San Francisco Bay Estuary, including the Suisun Bay Channel, Alcatraz Island, San Pablo Bay, and Carquinez Strait. The volume of dredged material that would require disposal would be negligible compared to the total yearly capacity of these disposal sites (i.e., 10,000 cy, compared to more than 7 million cy or approximately 0.1 percent).~~

Dredging and disposal of dredged materials would be conducted in cooperation with the San Francisco DMMO. Coordination through the DMMO addresses (1) a Section 404 or Section 10 dredging authorization by the San Francisco District of the Corps; (2) an administrative dredging permit from the BCDC; (3) the San Francisco RWQCB water quality certification or waste discharge requirements; and (4) a dredging project lease from the CSLC (if required). The Water Emergency Transportation Authority (WETA) would either acquire and comply with the requirements of the Dredging – Dredge Material Reuse/Disposal project-specific permit that would be issued by the Corps, or coordinate with the Port to manage dredging and dredge spoils disposal under ~~an~~ existing applicable ~~Corps~~ permits for the Port's ongoing maintenance dredging.

Requirements would include development of a sampling plan, sediment characterization, a sediment removal plan, and disposal in accordance with the Long-Term Management Strategy to ensure beneficial reuse, as appropriate. Based on the results of the sediment analysis, the alternatives for placement of dredged materials will be evaluated, including disposal at the San Francisco Deep Ocean Disposal Site, disposal at an upland facility, or beneficial reuse. Selection of the disposal site would be reviewed and approved by the DMMO. The permits issued by the DMMO will require dredging BMPs, which may include scheduling of dredging operations to avoid adverse effects on local biological resources (e.g., during spawning periods), use of silt curtains and/or gunderbooms, and mechanical/hydraulic dredge operation controls (e.g., reduced cutterhead rotation speeds, increased cycle times). Therefore, the impact is not anticipated to be adverse, and the effects to water quality would be minimal due to low volume of dredged material, infrequent dredging operations, and in-place requirements for implementation of dredging BMPs.

Page 3.11-19, Section 3.11, Hydrology and Water Quality, Impact 3.11-7, Potential Impacts of Dredging and Pile Removal and Placements Activities on Water Quality, first full bullet on page:

- Sample the sediments in accordance with the approved sampling and analysis plan, and submit a report to the DMMO documenting the sampling event. Based on this report, the DMMO would determine the suitable disposal method for the dredged sediments, including disposal at the San Francisco Deep Ocean Disposal Site, disposal at an upland facility, or beneficial reuse. WETA would then submit a Consolidated Dredging-Dredged Material Reuse-Disposal Application to the DMMO, detailing proposed disposal method and location. The DMMO agencies would review the permit application, and approve or deny the permit.

Page 3.13-12, Section 3.13, Geology, Soils, and Seismicity, Impact 3.13-2, Potential Impacts to Sediment or Geology from Maintenance Dredging, Action Alternative, second paragraph:

In 1994, the U.S. Environmental Protection Agency designated the "Deep Ocean Disposal Site," which is 50 miles outside of the Golden Gate. The U.S. Environmental Protection Agency manages the site, and has set a yearly capacity of 4.8 million cy of dredged material (BCDC, 2008). ~~There are also four disposal sites in the San Francisco Bay Estuary, including the Suisun Bay Channel, Alcatraz Island, San Pablo Bay, and Carquinez Strait. The volume of dredged material that would require disposal would be negligible compared to the total yearly capacity of these disposal sites (i.e., 10,000 cy, compared to more than 7 million cy, or approximately 0.1 percent).~~In addition, permitted beneficial reuse sites in the region include Cullinan Ranch and the Montezuma Wetlands Restoration Project. Beneficial reuse sites that are in the planning stages and may be permitted for use in the future include Bel Marin Keys V, the South Bay Salt Ponds Restoration Project, and VA/Alameda.

2.1.2 Response to USEPA-2

WETA would procure new vessels to support the expansion of service planned in WETA's IOP. WETA would procure new vessels (or repowered/refurbished vessels) that meet the current marine engine emissions standards at the time of purchase.

The current USEPA standards for marine engines require that all newly built engines (starting in 2009) meet Tier 3 emissions standards. USEPA requirements also establish Tier 4 standards for newly built commercial marine diesel engines above 600 kilowatts, based on the application of high-efficiency catalytic after-treatment technology, phasing in beginning in 2014 (USEPA, 2013).

In addition, the California Air Resources Board (CARB) has standards for new marine engines (CARB, 2008). CARB requires that all new ferries acquired after January 1, 2009, with capacity for 75 or more passengers, install on the propulsion engines the best available control technology, in addition to having engines that meet the applicable Tier 2 or Tier 3 standards in effect at the time of acquisition. Alternatively, ferry vessels may comply with the regulation by installing propulsion engines that meet the Tier 4 standards.

It is likely that new vessels would be procured after 2014, when Tier 4 standards for some newly built engines would be in effect.

2.1.3 Response to USEPA-3

The Port has confirmed that shore power is available adjacent to the construction zone. Where feasible, shore power would be used in place of diesel generators for some tools and equipment such as table saws, welders, and drills. In addition, as described in Mitigation Measure AQ-2, Implement BAAQMD-Recommended Best Management Practices, the contractor will demonstrate that off-road equipment and marine engines would achieve a project-wide fleet average 20 percent reduction of oxides of nitrogen (NO_X) and a 45 percent reduction of particulate matter compared to the most recent CARB fleet average, to the extent feasible. The contractor must demonstrate how this reduction would be achieved, and could include the use of equipment that meets Tier 4 standards for nonroad engines.

To clarify the use of shore power during construction, the following modification has been made to the Draft EIS/EIR.

Page 2-33, Section 2.4.4, Construction Utility Requirements:

> Night work is not anticipated, so minimal lighting, if any, would be required. Onsite power would ~~could~~ be provided by the Port during construction, and used to power construction equipment where feasible. Generators for equipment operation could also be required, and would be located on the construction barges and on the landside structural improvements when completed.

2.1.4 Response to USEPA-4

As described in detail in Section 1.2.2 of this Response to Comments Appendix, consultation with NMFS regarding potential impacts to federally listed special-status species and their critical habitat (under Section 7 of the FESA) and EFH (under the Magnuson Stevens Fishery Conservation and Management Act) has been completed. The Draft EIS/EIR has been updated to include the changes to the project description and mitigation measures consistent with this consultation.

WETA and FTA have coordinated informally with both CDFW and BCDC throughout the environmental review process, as described in Chapter 5.0, Public and Agency Involvement, and as updated in Section 1.2.8 of this Response to Comments Appendix. WETA will continue coordination with these agencies during the permitting process. It is anticipated that a Major Permit will be required from BCDC, which would also include Design Review. It is also anticipated that incidental take authorization will be required from CDFW. Both BCDC and CDFW commented on the Draft EIS/EIR, and their comments have been addressed in this appendix, including modifications to the Draft EIS/EIR where appropriate.

2.1.5 Response to USEPA-5

WETA will consider the use of light-transmitting materials in the project's Final Design; however, because of the project's proximity to historic structures and districts, other agencies have expressed concern over design features that may impact the historic setting. The Final Design will be subject to

review by the BCDC Design Review Board, Port Waterfront Design Advisory Committee, and San Francisco Planning Department Historic Preservation Commission (SFHPC).

WETA and FTA have consulted with NMFS under Section 7 of FESA for impacts to special-status species and critical habitat, and for impacts to EFH under the Magnuson-Stevens Fishery Conservation and Management Act. As described in Section 1.2.2 of this Response to Comments Appendix, to offset potential shading impacts to EFH, WETA is coordinating with BCDC, the Port, and NMFS, per Mitigation Measure LU-1, to remove shading elsewhere in San Francisco Bay to compensate for the amount of new shading proposed (refer to Mitigation Measure LU-1 in the Draft EIS/EIR, Section 3.3.4, page 3.3-19.

2.1.6 Response to USEPA-6

The analysis did consider future water transit passengers traveling to and from the south of Market area. The transportation and circulation analysis documented in detail in the Transportation Impact Study (WETA, 2013) and summarized in the Draft EIS/EIR was based on WETA's ridership model. WETA's ridership model was developed in 2002, and is linked to the regional travel forecasting model maintained by the MTC, and to socioeconomic data forecasts published by the ABAG. The WETA model was updated in 2011 to include the most recent data available from the MTC and ABAG for the year 2035. One of the outputs of the WETA model is the destination/origin of future water transit passengers by travel analysis zone (TAZ) in San Francisco. For each TAZ, the model estimates the number of passengers who would walk, bike, or take transit to or from the Ferry Terminal.

The pedestrian analysis for this project estimated the route that pedestrians would be likely to take when traveling between each TAZ and the Ferry Terminal. It was assumed that pedestrians traveling between the Ferry Terminal and areas north of Howard Street, south of Market, east of 1st Street—corresponding to TAZs 14 and 15—would cross The Embarcadero through intersections 18A/18B. Based on the level of service (LOS) analysis performed for these crosswalks, these crosswalks would continue to operate at LOS A or B with the addition of project-related pedestrians, as shown in Table 3.2-19 and Table 3.2-21 of the Draft EIS/EIR. Therefore, the analysis indicates that no additional mitigations or crosswalk improvements are needed to accommodate the increase in pedestrians expected to use this crosswalk. The transportation and circulation analysis was also prepared in coordination with the San Francisco Planning Department, SFMTA and Port.

The Ferry Terminal and the area around the Ferry Building is a dynamic public space with pedestrians, bicycles, and vehicles active in the area. As described in the Transportation and Circulation Affected Environment section of the Draft EIS/EIR (Section 3.2.2), some areas can become congested during periods of heavy use, leading to conflicts between vehicles, pedestrians, and bicycles. The causes and severity of the congestion varies between The Embarcadero roadway and within the Ferry Terminal itself (i.e., areas east of the roadway).

Along The Embarcadero roadway in front of the Ferry Building, there are valet parking spaces, a loading zone, an Amtrak bus stop, two northbound traffic lanes, and a bicycle lane. As described in the Draft EIS/EIR, this mix of uses, combined with illegal maneuvers such as double-parking or loading/unloading that blocks a vehicle or bicycle lane, can result in conflicts between vehicles, bicycles, and pedestrians in the roadway. This congestion is worse during the Ferry Building Farmer's Market, especially on Saturdays.[7] However, the proposed project would not require vehicular loading or unloading at the Ferry Terminal (either for passengers or deliveries), and would not change or add to vehicular circulation in the project area. In addition, because WETA water transit service primarily serves commuters, peak usage of the area by water transit passengers does not coincide with the operation of the Saturday's Farmer's

[7] The Farmers Market operates from 10:00 AM to 2:00 PM Tuesdays and Thursdays, and Saturdays from 8:00 AM to 2:00 PM.

Market. Therefore, the proposed project would not contribute to or exacerbate existing issues with vehicular circulation along The Embarcadero roadway. The proposed project would result in an increase of water transit passenger traveling to and from the terminal by bicycling. However, the analysis of intersections and on-street bicycle volumes presented in the Draft EIS/EIR indicates that the existing bicycle infrastructure (i.e., bicycle lanes) can safely accommodate the additional bicycles volume to and from the Ferry Terminal. Recent improvements in the roadway, including painting the bicycle lane green, are intended improve the flow of vehicles and bicycles in front of the Ferry Terminal, reducing existing congestion and ensuring that vehicle and bicycle lanes are unobstructed.

In the project area (i.e., east of the roadway), because the Embarcadero Promenade in front of the Ferry Terminal is part of the San Francisco Bay Trail, cyclists are permitted to use the sidewalk as well as the bicycle lane. Data collected in support of the Draft EIS/EIR on pedestrian flow in the project area showed that overall space for pedestrians in and around the Ferry Building during weekdays was adequate, and the overall pedestrian experience was free-flowing and open. Although several bottlenecks affecting pedestrian circulation currently exist in project area (refer to Section 1.5.2 of the Draft EIS/EIR), the proposed project improvements have been designed to remove these bottlenecks and improve passenger flow. The bottlenecks likely contribute to some of the existing conflicts between bicyclists and pedestrians observed at the Ferry Terminal, and also contribute to the congestion curbside along The Embarcadero. As shown on Figure 1-5, the current options for circulation, especially in the South Basin, are limited. Passengers accessing water transit gates generally use three distinct, fairly narrow corridors between The Embarcadero and the gates. The proposed project improvements would result in the creation of the Embarcadero Plaza in the South Basin, which would remove the current bottleneck at the south side of the Ferry Building, and make it easier for bicyclists and pedestrians alike to access the bicycle lanes and crosswalks from a variety of points. The addition of approximately 24,500 square feet of open area (i.e., the Embarcadero Plaza) would substantially improve the free movement of passengers in the project area.

In addition, in areas west of the Embarcadero Promenade, wayfinding and information signage would be developed in consultation with the Port as a part of the project's Final Design. The signage would encourage cyclists to walk their bicycles and yield to pedestrians. Other options, such as pavement markings, could also be considered in the Final Design of the project improvements to further enhance pedestrian and bicycle flow at the Ferry Terminal.

2.1.7 Response to USEPA-7

In August 2013, Bay Area Bike Share launched a pilot bikeshare program. The bikeshare program—a partnership among local government agencies including the BAAQMD, SFMTA, MTC, San Mateo County Transit, Caltrain, the County of San Mateo, the San Mateo County Transportation Authority, the City of Redwood City, and the Santa Clara Valley Transportation Authority—includes 700 bicycles and 70 stations across the region. The program allows bikes to be rented from any station and returned to any station in the system. One of the pilot stations is near project area, in Harry Bridges Plaza across The Embarcadero from the Ferry Building, and holds 23 bikes. This program should improve bicycling accessibility in the region, and could also increase bicycle use along The Embarcadero. The analysis of Future (2035) Conditions presented in the Draft EIS/EIR, already assumed that bicycle usage in the project area, whether from the bikeshare program or private bicycles, would continue to increase.

To recognize the implementation of the Bay Area Bike Share program, the following description of the program has been added to the EIS/EIR.

Page 3.2-44, Section 3.2.3, Impact Evaluation, subsection titled Reasonably Foreseeable Projects Considered in the Cumulative Impact Analysis (i.e., Future 2035 Analysis), new paragraph inserted after the paragraph titled "San Francisco Bicycle Plan":

> **Bay Area Bike Share**. The Bay Area Bike Share, launched in August 2013, is the region's new bike sharing system. The pilot program includes 700 bikes and 70 stations across the region—in San Francisco, Redwood City, Mountain View, Palo Alto, and San Jose. The bike sharing system consists of a fleet of specially designed, durable bikes that are locked into a network of docking stations throughout the region. Bay Area bikes can be rented from and returned to any station in the system. The Bay Area Bike Share is a pilot project in a partnership among local government agencies, including the Air District, San Francisco Municipal Transportation Agency, Sam-Trans, Caltrain, the County of San Mateo, the City of Redwood City and the Santa Clara Valley Transportation Authority. A docking station is located in Harry Bridges Plaza, across The Embarcadero from the Ferry Building.

Pedicabs currently operate along San Francisco's waterfront, and limited approvals have recently been given for some services to operate in an expanded geographic area. Pedicab operations generally target tourists visiting the waterfront, Friday and Saturday night users in neighborhoods such as the Mission and the Marina, and special events (e.g., festivals in Golden Gate Park). The operation of pedicabs along the waterfront in the project area—in the bicycle lanes and along The Embarcadero Promenade—are a part of the overall mix of uses in the project area, described in the Affected Environment subsection of Section 3.2, Transportation and Circulation. Pedicabs operating in project area bicycle lanes were counted as bicycles when data were collected on the existing conditions in the project area (refer to Table 3.2-11 of the Draft EIS/EIR), and were considered in the analysis of bicycle conditions.[8]

2.1.8 Response to USEPA-8

Comment is noted, and the information on the current location of San Francisco Fire Station 1 has been updated in the EIS/EIR. Text of the Draft EIS/EIR has been modified as follows.

Page 3.2-34, Section 3.2, Transportation and Circulation, Emergency Access and Use, first bullet:

- Station 1 at ~~676 Howard Street at Third Street~~ 935 Folsom Street at Fifth Street;

Page 3.15-4, Section 3.15, Utilities and Public Services, San Francisco Fire Department, first bullet:

- Station 1 at ~~676 Howard Street at Third Street~~ 935 Folsom Street at Fifth Street (approximately 1.2 miles away);

[8] The methodology and analysis of transportation and circulation were developed in close coordination with the San Francisco Planning Department, SFMTA, and Port.

USDOI

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
333 Bush Street, Suite 515
San Francisco, CA 94104

IN REPLY REFER TO:
(ER 13/0407)

Filed Electronically

30 July 2013

Mary Nguyen
Federal Transit Administration
888 South Figueroa Street, Suite 2170
Los Angeles, CA 90017

Subject: Draft Environmental Impact Statement (DEIS), Department of Transportation (DOT), Federal Transit Administration (DTA), Downtown San Francisco Ferry Terminal Expansion Project California

Dear Ms. Nguyen:

The Department of the Interior has received and reviewed the subject document and has no comments to offer. USDOI-1

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port
Regional Environmental Officer

cc:
Director, OEPC
OEPC Staff Contact: Lisa Chetnik Treichel

2.2 USDOI

Response to USDOI-1: Comment is noted.

RECEIVED
JUL 18 2013

STATE OF CALIFORNIA

EDMUND G. BROWN JR., *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

Our 75th Year

1938 - 2013

JENNIFER LUCCHESI, *Executive Officer*
(916) 574-1800 *Fax* **(916) 574-1810**
California Relay Service TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

Contact Phone: **(916) 574-1900**
Contact Fax: **(916) 574-1885**

July 12, 2013

File Ref: SCH # 2011032066

Mike Gougherty
San Francisco Bay Area Water Emergency Transit Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

Subject: Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIS/DEIR) for the Downtown San Francisco Ferry Terminal Expansion Project, San Francisco County

Dear Mr. Gougherty:

The California State Lands Commission (CSLC) staff has reviewed the subject DEIS/DEIR for the Downtown San Francisco Ferry Terminal Expansion Project (Project), which is being prepared by the San Francisco Bay Area Water Emergency Transit Authority (WETA). WETA, as the agency with authority over ferry operations and related facilities in San Francisco, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), and the Federal Transit Authority (FTA) is the lead agency under the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.). CSLC staff has prepared these comments as a trustee agency because of its trust responsibility for projects that could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters. Additionally, as the Project involves dredging on granted sovereign lands, the CSLC will act as a responsible agency. CSLC staff previously commented on the Project's Notice of Preparation on May 13, 2011. **CSLC-1**

<u>CSLC Jurisdiction and Public Trust Lands</u>

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable rivers, sloughs, lakes, etc. The CSLC has certain residual and review authority for tide and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tide and submerged lands, granted or ungranted, as well as navigable rivers, sloughs, etc., are impressed with the Common Law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for fill or artificial accretion.

CSLC-1 (cont'd.)

The proposed Project is located on sovereign tide and submerged lands that have been transferred, in trust, to the San Francisco Port District, pursuant to Chapter 1333, Statutes of 1968 and as amended, with minerals reserved to the State. Page 2-32 of the DEIS/DEIR notes that Project construction will require dredging of approximately 29,500 to 33,000 cubic yards of material at Gates A, F, and G. In addition, page 2-27 of the DEIS/DEIR notes that the Project would require minor maintenance dredging at Gates F and G every 3 to 4 years, for the removal of approximately 5,000 to 10,000 cubic yards of material. As dredging is proposed as an element of this Project, WETA must submit an application to the CSLC. Applications may be found on the CSLC website at http://www.slc.ca.gov. Please contact the staff with our land management division (contact information has been provided at the end of this letter) to further discuss CSLC leasing requirements.

Project Description

The Project is located at the San Francisco Ferry Building, on Port property between Pier 1 on the north and Pier 14 on the south, and includes the Ferry Building, ferry gate, and the Ferry Plaza.

As described in the DEIS/DEIR, the Project includes demolition, removal, repair, and replacement of existing facilities, as well as construction of new facilities in the Project area. The Ferry Terminal can generally be divided into the North Basin (areas north of the Ferry Plaza) and South Basin (areas south of the Ferry Plaza). The Project includes the following elements:

- Removal of portions of existing deck and pile construction and fendering (portions would remain as open water, and other portions would be replaced);
- Dredging of approximately 29,500 to 33,000 cubic yards of material at Gates A, F, and G so that approach areas are 12 feet below mean lower low water;
- Construction of one new gate and access pier (Gate A) in the North Basin and two new gates (Gates F and G) in the South Basin; and
- Improved passenger boarding areas, amenities, and circulation, including rebuilding a portion of the marginal wharf in the North Basin; extending the East Bayside Promenade along Gates E, F, and G; strengthening the South Apron of the Agriculture Building; creating the Embarcadero Plaza; and installing weather protection canopies for passenger queuing.

In addition, construction of the Project would necessitate occasional maintenance dredging as noted above on a regular maintenance cycle beneath the floats at Gates F and G, due to their proximity to the Pier 14 breakwater.

Environmental Review

CSLC staff requests that the following potential impacts be analyzed in the DEIS/DEIR.

Biological Resources

1. Dredging and Pile-Driving. The DEIR/DEIS specifies Mitigation Measure (MM) BIO-1 (page 3.9-28) to reduce the impacts of dredging and pile driving on special-status fish and other aquatic species. However, besides the conditions noted in BIO-1, CSLC staff suggests that the MM also require a floating boom and skirt be deployed around the Project site during in-water activities to control sediment dispersal. **CSLC-2**

2. Invasive Species. As requested in our previous letter, since one of the major ecological stressors in the San Francisco Bay is introduced species, the DEIS/DEIR should analyze the Project's potential to introduce or spread invasive species, such as the Quagga mussel, into high-traffic and sensitive areas; if any impact is determined significant, mitigation measures could include quarantine of equipment and methods of early detection and early response. **CSLC-3**

Cultural Resources

3. Submerged Resources. The DEIS/DEIR notes that the CSLC Shipwrecks Database was consulted to determine the location of potentially submerged resources; however, the DEIS/DEIR should also mention that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. In addition, CSLC staff requests that WETA consult with CSLC staff (contact provided below), should any cultural resources be discovered during construction of the proposed Project. **CSLC-4**

Thank you for the opportunity to comment on the DEIS/DEIR for the Project. As a responsible and trustee Agency, the CSLC will need to rely on the Final EIS/EIR for the issuance of any lease as specified above and, therefore, we request that you consider our comments prior to certification of the EIS/EIR.

Please send copies of future Project-related documents, including electronic copies of the Final EIS/EIR, Mitigation Monitoring and Reporting Program (MMRP), Notice of Determination (NOD), CEQA Findings and, if applicable, Statement of Overriding Considerations when they become available, and refer questions concerning environmental review to Cynthia Herzog, Staff Environmental Scientist, at (916) 574-1310 or by e-mail at Cynthia.Herzog@slc.ca.gov. For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Senior

Staff Counsel Pam Griggs at (916) 574-1854 or via email at pamela.griggs@slc.ca.gov. In addition, please contact Grace Kato, Southern California/SF Bay Team Manager, at (916) 574-1227 or by email at grace.kato@slc.ca.gov for information concerning CSLC leasing requirements or jurisdiction.

Sincerely,

Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
Grace Kato, LMD, CSLC
Cynthia Herzog, DEPM, CSLC
Jessica Rader, Legal, CSLC

2.3 CSLC

2.3.1 Response to CSLC-1

Comments are noted. As described on page 2-28 and page 2-33 of the Draft EIS/EIR in Subsections titled Maintenance Dredging Requirements and Dredging Requirements, dredging and disposal of dredged materials would be coordinated with the San Francisco DMMO. Because the CSLC participates in the DMMO, they would have the opportunity to review the coordinated dredge application. Individual permits would be coordinated with CSLC as required.

Although the Draft EIS/EIR recognized CSLC's role in future permitting of the project in Section 2.6 Agency Approvals Required, CSLC has not been previously listed as a responsible agency under CEQA. The following edits have been made to the Draft EIS/EIR to clarify CSLC's role as a responsible agency, as requested.

Abstract:

Responsible Agenc~~y~~ies (CEQA): Port of San Francisco
California State Lands Commission

Page ES-46, Executive Summary, Consultation and Coordination, third paragraph:

Additionally, the Port and the California State Lands Commission ~~accepted WETA's request to serve as a~~ are responsible agenc~~y~~ies under CEQA.

Page 5-6, Chapter 5.0, Public and Agency Involvement, first paragraph:

Additionally, the Port and the California State Lands Commission ~~accepted WETA's request to serve as a~~ are responsible agenc~~y~~ies under CEQA.

2.3.2 Response to CSLC-2

Of the in-water construction activities proposed, dredging has a greater potential to increase suspended sediments in the project area than does pile driving. The initial dredging operation and subsequent maintenance dredging would be small operations (approximately 30,000 cubic yards for initial dredging during construction, and 5,000 to 10,000 cubic yards for maintenance dredging every 3 to 4 years), generally similar to other small marina dredging operations. Deployment of silt curtains, fine screens designed to capture sediment that are typically attached to both the Bay bottom and a floating boom, is sometimes used on large dredging operations, particularly when sensitive habitats occur nearby. However, dredging for the proposed project is relatively small, and would occur in the active Ferry Terminal basin, which has been disturbed in the past and contains no particularly sensitive habitats or species such as eelgrass. As described above in Section 1.2.1 of this Response to Comments Appendix, WETA has committed to conducting all in-water construction activities (including dredging and pile driving) during the LTMS dredging work windows, when the most sensitive life stage of listed fish species and Pacific herring are absent. Initial dredging and subsequent maintenance dredging are expected to be short-term activities. In addition, the Ferry Terminal will remain active during the construction period, with approximately 130 weekday water transit vessels arrivals and departures. Deployment of booms and silt curtain in an active ferry terminal basin may pose logistical and safety issues with respect to navigation in the basin during construction. Water movement resulting from vessel traffic would also likely make effective use of in-water turbidity control measures difficult.

As described on page 3.11-20 of the Draft EIS/EIR under Impact 3.11-8, Potential Degradation of Water Quality Caused by Demolition and Construction Activities, a variety of best management practices would

be implemented during construction to protect water quality as required by the USACE, RWQCB, and BCDC construction permits. These practices would likely include the use of a floating containment boom to capture floating debris.

WETA and FTA have also completed consultation under with the NMFS on potential project impacts to EFH and federally listed special-status species. Please refer to Section 1.2.2 of this Response to Comments Appendix for a description of the mitigation measures that will be implemented in accordance with NMFS' Biological Opinion and Incidental Take Statement.

2.3.3 Response to CSLC-3

Analysis on page 3.9-19 of the Draft EIS/EIR, under Impact 3.9-4, Potential Adverse Effects on Special-Status or Commercially Viable Marine Species from Dredging Activities during Construction, discusses the potential for project construction activities (including dredging) to result in adverse effects through the spread of invasive species. To further elaborate on this analysis, construction of the Ferry Terminal facilities would require the use of marine construction equipment (tug boats, barges for construction staging and delivery of equipment, and dredging equipment). It is anticipated that due to the limited size of the project's construction equipment needs and the availability of this type of equipment in San Francisco Bay, the construction equipment would be sourced locally, from within San Francisco Bay waters. Vessels and barges that home port in San Francisco undergo routine hull cleaning in accordance with existing regulations. Should construction equipment be required from outside San Francisco Bay, because of their size, these vessels would be required to comply with U.S. Coast Guard (USCG) and/or CSLC regulations concerning ballast water exchanges, ballast water exchange reporting, hull cleaning, and reporting that are intended to control the introduction of invasive species from larger vessels. Therefore, the use of marine construction equipment would not be expected to introduce new species or exacerbate the spread of invasive species in San Francisco Bay. To clarify the existing regulations that apply to vessels for the control of invasive species, descriptions of the National Invasive Species Act and the Marine Invasive Species Act have been added to the Final EIS/EIR as follows.

Page 3.9-11, Section 3.9.2, Biological Resources, subsection titled Regulatory Setting, Federal:

National Invasive Species Act

Under the National Invasive Species Act of 1996, the United States Coast Guard (USCG) established a national ballast water management program with mandatory requirements for all vessels equipped with ballast water tanks that enter or operate in waters of the United States. The regulations carry mandatory reporting requirements to aid in the USCG's responsibility, under the National Invasive Species Act, to determine patterns of ballast water movement. The regulations also require ships to maintain and implement vessel-specific ballast water management plans.

Page 3.9-11, Section 3.9.2, Biological Resources, subsection titled Regulatory Setting, State:

Marine Invasive Species Act

All shipping operations that involve major marine vessels are subject to the Marine Invasive Species Act of 2003, formerly the California Ballast Water Management for Control of Non-indigenous Species Act of 1999 (Assembly Bill 703). The Marine Invasive Species Act is administered by the California State Lands Commission through its Marine Invasive Species Program, and applies to all domestic and foreign vessels over 300 gross registered tons. The Act regulates the handling of ballast water from marine vessels arriving at California ports to prevent or minimize the introduction of nonnative invasive species from other regions. Other requirements of the Act address hull husbandry, the reduction of fouling, and the spread of invasive species from fouling organisms, as well as data gathering to better understand threats to state waters and marine communities.

Although the Quagga mussel, as mentioned in the comment, is of particular concern in California, this mussel is a freshwater species and all project construction would be conducted in saline waters of San Francisco Bay. Therefore, Quagga mussel would not be expected to survive in the project area, and it would not be expected that equipment used during project construction could transport the Quagga mussel to other waters or vice versa.

2.3.4 Response to CSLC-4

Comments are noted. The following text has been added to the EIS/EIR to (1) recognize that CSLC retains title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on submerged lands of California; and (2) require notification to CSLC in Mitigation Measure CUL-1: Inadvertent Discovery Measures.

Page ES-24, Executive Summary, Table ES-2, Summary of Impacts and Mitigation Measures for the Action Alternative, Mitigation Measure CUL-1, Inadvertent Discovery Measures, last sentence of second paragraph:

The archaeological consultant will make a recommendation to WETA as to what action or additional measure, if any, are warranted, including coordination with appropriate agencies, such as the California State Lands Commission.

Page 3.8-26, Section 3.8.2, Cultural and Paleontological Resources, subsection titled Regulatory Setting, State:

California Public Resources Code Sections 6309, 6313, and 6314

The title to all abandoned shipwrecks and all archaeological sites and historic resources on or in the tide and submerged lands of California is vested in the state. The California State Lands Commission administers the Shipwreck and Historic Maritime Resources Program. Through this program, the commission has exclusive jurisdiction with respect to salvage operations over and upon all tide and submerged lands of the state. As used in this section, "salvage operation" means any activity, including search by electronic means, or exploration or excavation using tools or mechanical devices, with the objective of locating, and recovering or removing vessels, aircraft, or any other cultural object from the surface or subsurface of state submerged lands. A person who removes, destroys, or damages, without authorization from the commission, an archaeological site or a historic resource, that is on or in the submerged lands of, and that is the property of, the state, is guilty of a misdemeanor.

Page 3.8-56, Section 3.8.4, Cultural and Paleontological Resources, Mitigation Measures, Mitigation Measure CUL-1, Inadvertent Discovery Measures, last sentence of second paragraph:

The archaeological consultant will make a recommendation to WETA as to what action or additional measure, if any, are warranted, including coordination with appropriate agencies, such as the California State Lands Commission.

State of California -The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
1933 Cliff Drive, Suite 9
Santa Barbara, CA 93109
http://www.dfg.ca.gov

EDMUND G. BROWN, Jr, Governor
CHARLTON H. BONHAM, Director

RECEIVED
JUL 08 2013
BY:

July 3, 2013

Mike Gougherty
San Francisco Bay Area Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

Subject: Draft Environmental Impact Statement/Environmental Impact Report – Downtown San Francisco Ferry Terminal Expansion Project

Dear Mr. Gougherty:

The California Department of Fish and Wildlife (Department) has reviewed the Draft EIS/EIR (DEIR) for the Downtown San Francisco Ferry Terminal Expansion Project (Project). The Project proposes to expand the berthing capacity at the downtown San Francisco ferry terminal. The Project includes demolition, removal, repair and replacement of the existing structures as well as adding three new gates with associated berthing facilities. Construction and repair would include an estimated 29,500 to 33,000 cubic yards of dredging with a clamshell bucket, driving concrete, steel, and dolphin piles with a vibratory or impact hammer, and general construction/repair in and over the waters of San Francisco Bay.

As a trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, and habitat necessary for biologically sustainable populations of those species. In this capacity, the Department administers the California Endangered Species Act, the Native Plant Protection Act, and other provisions of the California Fish and Game Code that afford protection to the State's fish and wildlife trust resources. The Department is recognized as a "Trustee Agency" under the California Environmental Quality Act (CEQA guidelines §15368). Pursuant to our jurisdiction, the Department has the following concerns, comments, and recommendations regarding the Project. CDFW-1

Biological Significance

The San Francisco Bay-Delta is the second largest estuary in the United States and supports numerous aquatic habitats and biological communities. It encompasses 479 square miles, including shallow mudflats. This ecologically significant ecosystem supports a number of state and federally threatened and endangered species, and sustains important commercial and recreational fisheries.

Protected species under the State and Federal Endangered Species Acts occur in the Project area and could potentially be impacted by Project activities. Fish species include:

- Chinook salmon (*Oncorhynchus tshawytscha*), state and federally threatened (Spring-run), state and federally endangered (Winter-run);
- Steelhead (*Oncorhynchus mykiss*), federally-threatened (Central California Coast and Central Valley ESUs);
- Green sturgeon (*Acipenser medirostris*), federally-threatened (southern DPS); and
- Longfin smelt (*Spirinchus thaleichthys*), state-threatened.

Several species with important commercial and recreational fisheries value also exist in the Project area and could potentially be impacted by Project activities, including:

- Dungeness crab (*Cancer magister*),
- Pacific herring and eggs (*Clupea pallasii*),
- Rockfish (*Sebastes* spp.),
- California halibut (*Paralichthys californicus*)
- Surfperches (*Embiotocidae*).

CDFW-1 (cont'd.)

Sound Monitoring

The pile driving needed to build infrastructure for the ferry terminals could create sound levels that are deleterious to fish and marine mammals as discussed in the DEIR. Mitigation measure BIO-2 proposes the development of a hydroacoustic and biological monitoring plan (Plan) to be approved by National Marine Fisheries Service (NMFS) prior to the start of construction. The Department will also need to review and approve this Plan. If noise levels should exceed the *Interim Criteria for Injury to Fish from Pile Driving Activities (*attached), then there is potential for take of state listed species such as the longfin smelt and Chinook salmon. The San Francisco Bay Area Water Emergency Transportation Authority (WETA) must consult with the Department to obtain incidental take authorization pursuant to Fish and Game Code §2081(b) prior to construction of the new terminals if take of state-listed species is expected to occur.

CDFW-2

Pacific Herring

As mentioned within the DEIR, if pile driving or dredging is to take place outside of the LTMS work window from June 1-November 30, consultation and a waiver will be required by the Department. Pacific herring are very common in the vicinity of the Project from December – March and herring are likely to be spawning nearby or transiting the shoreline daily. Due to the likelihood of herring being present in the Project vicinity during the winter months, the Department strongly suggests against any waiver requests. If the need for a work window waiver is unavoidable,

CDFW-3

the Department recommends starting consultation at least 30 days prior to the close of the work window. CDFW-3 (cont'd.)

Lighting and Light Pollution

Adverse effects to fish, mammals, and birds have been observed with the use of artificial lighting during nighttime hours. Exterior lighting should be properly shielded to minimize the potential of light pollution onto Bay waters. CDFW-4

As always, Department personnel are available to discuss our comments, concerns, and recommendations in greater detail. To arrange for a discussion, please contact Arn Aarreberg, Environmental Scientist, California Department of Fish and Wildlife, 5355 Skylane Blvd., Suite B, Santa Rosa, CA 95403, telephone (707) 576-2889, email Arn.Aarreberg@wildlife.ca.gov.

Sincerely,

Craig Shuman
Regional Manager
Marine Region

Enclosure

ec: Becky Ota, CDFW, Becky.Ota@wildlife.ca.gov
Vicki Frey, CDFW, Vicki.Frey@wildlife.ca.gov
Suzanne DeLeon, CDFW, Suzanne.Deleon@wildlife.ca.gov
Arn Aarreberg, CDFW, Arn.Aarreberg@wildlife.ca.gov

cc: Gary Stern
National Marine Fisheries Service
777 Sonoma Ave., Rm 325
Santa Rosa, CA 95404

Regulatory Division
U.S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, CA 94103

Bob Batha
San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, California 94111

Xavier Fernandez
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Byron Rhett
Port of San Francisco
Pier 1, The Embarcadero
San Francisco, CA 94111

NOAA's Fisheries Northwest and Southwest Regions	*U.S. Fish and Wildlife Service Regions 1 & 8*	*California/Washington/ Oregon Departments of Transportation*	*California Department of Fish and Game*	*U.S. Federal Highway Administration*

MEMORANDUM

June 12, 2008

From: Fisheries Hydroacoustic Working Group

Subject: Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities

To: Applicable Agency Staff

The signatory agencies, identified below, have agreed in principle to use the attached Interim Criteria for Injury to Fish from Pile Driving Activities. The agreement was concluded at a meeting in Vancouver, Washington on June 10-11, 2008 with key technical and policy staff from the Federal Highway Administration, NOAA Fisheries, U.S. Fish and Wildlife Service, the Departments of Transportation from California, Oregon, and Washington; and national experts on sound propagation activities that affect fish and wildlife species of concern. The agreed upon criteria identify sound pressure levels of 206 dB peak and 187 dB accumulated sound exposure level(SEL) for all listed fish except those that are less than 2 grams. In that case, the criteria for the accumulated SEL will be 183 dB.

These criteria will apply to all new projects beginning no later than 60 days from the date of this memorandum. During the interim 60 day period, the Transportation Agencies will work with the Services to identify projects currently in the consultation process and reach agreement on which criteria will be used to assess project effects.

The agencies agree to review the science periodically and revise the threshold and cumulative levels as needed to reflect current information. Behavioral impacts to fish and impacts to marine mammals are not addressed in this agreement. Sub-injurious effects will continue to be discussed in future meetings.

The respective agencies also agree to develop appropriate training for staff on these revised criteria, as well as a process to review and possibly refine the criteria, when appropriate.

For questions or concerns about the revised criteria, we recommend staff contact their agency environmental coordinator or agency expert on pile driving issues.

Federal Highway Administration*

*FHWA supports the use of these interim criteria in the states signing this agreement in principle. FHWA leaves the schedule for implementation to the discretion of the state DOTs in cooperation with their respective FHWA Division Offices and the Services.

NOAA Fisheries – NWR

NOAA Fisheries – SWR

US Fish and Wildlife Service Region 1

US Fish and Wildlife Service Region 8

California Department of Transportation

California Department of Fish and Game

Oregon Department of Transportation

Washington State Department of Transportation

Washington State Department of Transportation

2.4 CDFW

2.4.1 Response to CDFW-1

Comments are noted. The protected and important commercial and recreational fisheries identified in the comment were also noted in the description of the Biological Resources Affected Environment for the project area (refer to Section 3.9.2). For clarification, the section of the Draft EIS/EIR that identifies fish species that may occur in the project area has been modified as follows.

Page 3.9-4, Section 3.9.2, Biological Resources, subsection titled Environmental Setting, Site Fauna, Fish, second paragraph:

> Fish reported to be, or to have potential to be, in the project area include white croaker, northern anchovy, shiner perch, starry flounder, speckled sanddab, American shad (*Alosa sapidissima*), bat ray, brown rockfish (*Sebastes auriculatus)*, leopard shark, and striped bass (NOAA, 2007); and green sturgeon and Pacific herring (SFEP, 1992). California halibut (*Paralichthys californicus*), surfperches (*Embiotocidae*), and rockfish (*Sebastes* spp.) may also occur in the project area.

2.4.2 Response to CDFW-2

CDFW's authority and jurisdiction over state-listed special-status species is noted in several places in the EIS/EIR (refer to Section 3.9.2, Regulatory Setting, State, page 3.9-11 of the Draft EIS/EIR; Impact 3.9-1, page 3.9-13; and Impact 3.9-4, page 3.9-17). The Draft EIS/EIR, in the above-referenced sections, states that authorization of potential incidental take of state-listed species would be required, and that WETA and FTA would be required to consult with CDFW prior to project construction. The requirement for consultation with CDFW for impacts to state-listed species would also apply to potential impacts from underwater sound generated during construction is acknowledged in the Draft EIS/EIR under Impact 3.9-5, Potential Adverse Effects to Special-Status Fish and Marine Mammals from Underwater Sound Generated During Pile Driving.

In addition, the Draft EIS/EIR referenced Fish and Wildlife Code Section 2080.1, which sets forth the requirements and procedures for a Consistency Determination between the federal incidental take permit and the requirements under California Endangered Species Act. However, the EIS/EIR has been revised to clarify that for impacts to longfin smelt, a state-listed species, consultation would be required with CDFW for a State Incidental Take Permit under Fish and Wildlife Code Section 2081(b), not Code Section 2080.1.

To clarify CDFW's authority over state-listed special-status species—and that WETA and FTA would also consult with CDFW, in addition to NMFS, on the development of the Hydroacoustic and Biological Monitoring Plan described in Mitigation Measure BIO-2—the following edits have been made to the Draft EIS/EIR.

Page ES-32, Executive Summary, Table ES-2, Summary of Impacts and Mitigation Measures for the Action Alternative, Mitigation Measure BIO-2: Hydroacoustic and Biological Monitoring and Avoidance Measures, first paragraph:

> WETA will minimize sound level exposure from the project to marine mammals and fish. The performance standards for these minimization efforts are described later in this measure. To provide the final implementation level details, WETA will develop a Hydroacoustic and Biological Monitoring Plan in consultation with NMFS and CDFW, prior to the start of construction.

Page 3.9-13, Section 3.9, Biological Resources, Impact 3.9-1, Potential Adverse Effects of Maintenance Dredging on Special-Status or Commercially Valuable Marine Species, Action Alternative, last paragraph:

Green sturgeon and longfin smelt are present in San Francisco Bay all year; therefore, regardless of when maintenance dredging is conducted, authorization of potential incidental take of these species would be required. WETA and FTA are consulting with NMFS, under Section 7 of FESA (for green sturgeon); and would be required to consult with CDFW, under Fish and Game Code Section ~~2080.1~~ 2081(b) (for longfin smelt prior to construction).

Page 3.9-18, Section 3.9, Biological Resources, Impact 3.9-4, Potential Adverse Effect on Special-Status or Commercially Valuable Marine Species from Dredging Activities during Construction, fourth paragraph:

Green sturgeon and longfin smelt are present in San Francisco Bay all year; therefore, regardless of when maintenance dredging is conducted, authorization of potential incidental take of these species would be required. WETA and FTA have initiated consultation with NMFS, under Section 7 of FESA (for green sturgeon); and would be required to consult with CDFW, under Fish and Game Code Section ~~2080.1~~ 2081(b) (for longfin smelt) prior to construction.

Page 3.9-26, Section 3.9, Biological Resources, Impact 3.9-5, Potential Adverse Effects to Special-Status Fish and Marine Mammals From Underwater Sound Generated During Pile Driving, CEQA Determination:[9]

Underwater sound levels from pile driving during construction could exceed thresholds for both injury and behavioral effects on fish and marine mammals. Injury thresholds would be exceeded primarily during impact driving of steel piles (impact driving of concrete pile would only exceed criteria for whales and dolphins, over a small distance [15 feet] from the pile). Mitigation Measures BIO-1 and BIO-2 would be implemented. Mitigation Measure BIO-1 includes measures such as use of bubble curtains to minimize noise during pile driving. In addition, Mitigation Measure BIO-2 requires that hydroacoustic and biological monitoring for fish and marine mammals be conducted during construction, and that corrective measures be implemented, in coordination with NMFS and CDFW, if underwater sound levels exceed the threshold in this analysis. WETA and FTA would be required to consult with CDFW, under Fish and Game Code Section 2081(b) for potential impacts to state-listed species such as longfin smelt. Therefore, with implementation of Mitigation Measures BIO-1 and BIO-2, ~~and~~ adherence to the requirements of NMFS' Biological Opinion, and the CDFW incidental take authorization, impacts to fish and marine mammals from underwater sound would be less than significant with mitigation incorporated.

Page 3.9-28, Section 3.9.4, Mitigation Measures, Mitigation Measure BIO-2, Hydroacoustic and Biological Monitoring and Avoidance Measures, first paragraph:

WETA will minimize sound level exposure from the project to marine mammals and fish. The performance standards for these minimization efforts are described later in this measure. To provide the final implementation level details, WETA will develop a Hydroacoustic and Biological Monitoring Plan in consultation with NMFS and CDFW, prior to the start of construction.

[9] Refer to Section 1.2.1 of this Response to Comments Appendix for a description of other changes made to this text regarding work within the approved LTMS windows.

2.4.3 Response to CDFW-3

As described above in Section 1.2.1 of this Response to Comments Appendix, WETA has committed to conducting all in-water construction activities (including dredging and pile driving) during the LTMS dredging work windows, when the most sensitive life stage of listed fish species and Pacific herring are absent. Therefore, a waiver from CDFW is not expected to be needed. Should something unexpected occur, and construction would be required outside the work window, WETA would initiate consultation with CDFW at least 30 days prior to the close of the work window.

2.4.4 Response to CDFW-4

No nighttime lighting would be required during construction, because nighttime construction is not expected to be required. As described on page 2-28 of the Draft EIS/EIR, in Section 2.3.6, Operating Elements, in the subsection on Lighting and Utility Requirements, the proposed project facilities would include lighting for the safety and security of passengers. This would also include some pedestrian-scale lighting similar to that which currently exists in the project area. To ensure that the lighting is installed in such a way as to minimize nighttime lighting of San Francisco Bay waters, the following clarification has been made in the Final EIS/EIR.

Page 2-28, Section 2.3.6, Operating Elements, subsection titled Lighting and Utility Requirements, end of first paragraph:

> Some additional pedestrian-scale lighting would also be provided within the Embarcadero Plaza. The lighting would be similar in fixture size and light levels to what is currently used in the Ferry Building area<u>, minimizing artificial lighting of San Francisco Bay waters by using shielded, low-mounted, and low light intensity fixtures and bulbs</u>.

BAY AREA
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MANAGEMENT
DISTRICT

July 30, 2013

Mike Gougherty
San Francisco Bay Area Water Emergency Transportation Authority (WETA)
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

Subject: Downtown San Francisco Ferry Terminal Expansion Project Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR)

Dear Mr. Gougherty:

ALAMEDA COUNTY
Tom Bates
Scott Haggerty
Nate Miley
(Vice-Chair)
Tim Sbranti

CONTRA COSTA COUNTY
John Gioia
David Hudson
Mary Piepho
Mark Ross

MARIN COUNTY
Susan Adams

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
John Avalos
Edwin M. Lee
Eric Mar

SAN MATEO COUNTY
Carole Groom
(Secretary)
Carol Klatt

SANTA CLARA COUNTY
Ash Kalra
(Chair)
Liz Kniss
Jan Pepper
Ken Yeager

SOLANO COUNTY
James Spering

SONOMA COUNTY
Teresa Barrett
Shirlee Zane

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

Bay Area Air Quality Management District (District) staff reviewed your agency's Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) for the Downtown San Francisco Ferry Terminal Expansion Project (Project). The Project would expand berthing capacity at the Downtown San Francisco Ferry Terminal (Ferry Building), including construction of three new gates, overwater berthing facilities, supportive landside improvements, such as additional passenger waiting and queuing areas, circulation improvements, and other water transit-related amenities.

Air Quality Analysis

District staff reviewed the Project's DEIS/EIR and have the following comments:

1. The DEIS/EIR states that the screening for the construction and operational risks and hazards analysis is consistent with the District's *Recommended Methods for Screening and Modeling Local Risks and Hazards* (*Recommended Methods*). However, the methodology described in Appendix B differs greatly from the *Recommended Methods*. Overall, the methodology employed in the DEIS/EIR significantly underestimates the potential cancer risk to sensitive receptors. The District recommends that the analysis be revised to include: **BAAMQD-1**

   a. A age sensitivity value consistent with the Office of Environmental Health Hazard Assessment (OEHAA) *Technical Support Document for Cancer Potency Factors: Methodologies for derivation, listing of available values, and adjustments to allow for early life stage exposures* (*Technical Support Document*).
   b. A child breathing rate of 581 L/kg-day for the construction analysis.
   c. A ratio of 0.10 for converting a one hour maximum concentration from SCREEN3 to annual average concentrations.

2. The DEIS/EIR states that the cumulative health risk assessment is consistent with the District's *California Environmental Quality Act Air Quality Guidelines* (*CEQA Guidelines*), but significant mobile sources were excluded from the assessment and the cumulative risks and emissions are likely underestimated. The District recommends that the analysis be revised to include:

   a. Cancer risk and PM2.5 concentrations from roadways with at least 10,000 annual average daily traffic, such as The Embarcadero, Market Street, and Mission Street. **BAAMQD-2**

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b. An analysis of emissions, risk, and criteria pollutants from WETA's planned expansion of water transit routes that were analyzed in WETA's 2003 Program EIR for Implementation and Operations (2003 EIR). Since the 2003 EIR was completed, there have been significant changes in federal ambient air quality standards. The U.S. Environmental Protection Agency lowered the PM2.5 standard in 2006 and designated the Bay Area as nonattainment for the PM2.5 standard in October 2009. **BAAMQD-3**

c. An analysis of the Greenhouse Gas (GHG) emissions from the Project. Since the 2003 Program EIR was completed, the State of California has set forth a series of target dates through Executive Order S-3-05 and Assembly Bill 32 by which statewide GHG emissions would be progressively reduced; and the City and County of San Francisco has adopted a Climate Action Plan. The Project should evaluate its consistency with these statewide goals. **BAAMQD-4**

The DEIS/EIR concludes that Air Quality Impacts 3.6-2, 3.6-5, and 3.6-8 are less than significant, or less than significant with mitigation. However, District staff believe that if the DEIS/EIR is revised as described above there may be significant impacts that will require further mitigation. **BAAMQD-5**

For more information about methodologies, please refer to the District's *Recommended Methods* (May, 2011) and *CEQA Guidelines* (May, 2012), both available through the District's website: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx, and OEHAA's *Technical Support Document* (May, 2009), located at: http://oehha.ca.gov/air/hot_spots/2009/TSDCancerPotency.pdf.

District staff is available to assist in addressing these comments. If you have any questions, please contact Alison Kirk, Senior Environmental Planner, at (415) 749-5169.

Sincerely,

Jean Roggenkamp
Deputy Air Pollution Control Officer

cc: BAAQMD Director John Avalos
BAAQMD Director Edwin M. Lee
BAAQMD Director Eric Mar

2.5 BAAQMD

2.5.1 Response to BAAQMD-1

The comment requests that the Health Risk Assessment (HRA) be revised to adjust several of the input parameters, as recommended in BAAQMD's "Recommended Methods for Screening and Modeling Local Risks and Hazards" (herein referred to as "BAAQMD Recommended Methods"). The Draft EIS/EIR HRA methodology and results are described in detail in Appendix B, Section 3.0, and summarized and presented in Impact 3.6-2 and Impact 3.6-5 of the Draft EIS/EIR.

In response to the requested revisions, the HRA analysis presented in the EIS/EIR has been revised. Specifically, the revised HRA incorporates the age sensitivity factor, daily breathing rate (DBR) values, and conversion rate factor, as requested in BAAQMD's comment letter.

The Draft EIS/EIR HRA was conducted using a "Tier 1" screening modeling approach using the SCREEN3 model. When the HRA was revised to account for the adjustment of input parameters described above, the screening-level assessment indicated that a more detailed assessment should be conducted for the nearby residences and school. Therefore, a more detailed assessment of carcinogenic risks was conducted for these sensitive receptors for construction and operation. The detailed HRA uses US. EPA's AERMOD model and Tier 2 and Tier 3 methodologies described in the BAAQMD Recommended Methods, and incorporates more site-specific detail than the screening level method, such as hourly wind data, locations of emissions sources, locations of receptors, terrain data, and nearby building dimensions.

The revised parameters used in the HRA are summarized below.

- A conversion factor of 0.1 was used to convert the screening hourly concentrations to annual concentrations.
- Age sensitivity factors were incorporated into the analysis. The age sensitivity factor accounts for the increased susceptibility of infants and children to carcinogens, compared to adults. The analysis used an age sensitivity factor of 10 for first trimester until age of two; an age sensitivity factor of 3 for children over the age of two; and an age sensitivity factor of 1.7 for a lifetime exposure.
- A DBR of 581 liters per kilogram per day (L/kg-day) was used for exposed children for the construction analysis. Per BAAQMD guidance, a DBR of 302 L/kg-day was used for the operations analysis.
- Wind data were obtained from the BAAQMD and incorporated into the AERMOD model for the detailed analysis.
- As described in the Draft EIS/EIR, for the purposes of the analysis, it was assumed that the closest residential receptor was 300 feet to northwest, which is the boundary of the nearest residentially zone property but currently does not contain residential structures. The closest current residential structure is 700 feet to the northwest of the project area. However, a new residential development, 8 Washington, is proposed on the portion of this property where there are currently tennis courts (i.e., 300 feet from the proposed project). The Final EIR for the 8 Washington development indicates that air filtration systems will be incorporated into the design in such a way that at least 80 percent of fine particulates would be removed from the air in the habitable areas.[10] Because the health risks for the

[10] From the 8 Washington Final EIR. Available online at: http://www.sf-planning.org/modules/ShowDocument.aspx?documentid=8540: "Mitigation M-AQ-7: Building Design and Ventilation Requirements. The project sponsor shall submit a ventilation plan for the proposed buildings. The ventilation plan shall show that the building ventilation systems remove at least 80 percent of the $PM_{2.5}$ pollutants from habitable areas. The ventilation system shall be designed by an engineer certified by ASHRAE, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. In addition to installation of an air filtration system, the project sponsor shall present a plan that ensures ongoing maintenance for the ventilation and filtration systems. The project sponsor shall also ensure the disclosure to buyers and renters regarding the findings of the analysis and inform occupant's proper use of any installed air filtration system."

proposed project are driven by diesel particulate matter (DPM), the filtration system at 8 Washington is reasonably assumed to decrease calculated risk by 80 percent at this residence. Therefore, this was incorporated into the detailed analysis of carcinogenic risks from construction to the residences at the 8 Washington site. Existing residences, 700 feet to the northwest, were assumed to be present and with no air filtration systems.

The revised analysis results in health risks to residences, schools, medical facilities, and commercial land uses that are below the BAAQMD's significance thresholds for both operations and construction.

The Draft EIS/EIR has been revised to include the results of the updated HRA modeling as follows:

Page ES-19, Executive Summary, Table ES-2, Summary of Impacts and Mitigation Measures for the Action Alternative, Impact 3.6-5, Expose Sensitive Receptors to Substantial Construction-Related Pollutant Concentrations, last two columns:

NEPA Determination	CEQA Determination
Not adverse ~~for DPM.~~ ~~Not adverse for $PM_{2.5}$~~ after implementation of mitigation.	~~Less than significant for DPM.~~ Less than significant with mitigation ~~for $PM_{2.5}$.~~

Page 3.6-10, Section 3.6, Air Quality and Global Climate Change, subsection titled Sensitive Receptors:

Sensitive receptors refer to those segments of the population most susceptible to poor air quality: children, the elderly, and those with pre-existing serious health problems affected by air quality. Examples of receptors include residences, schools and school yards, parks and play grounds, daycare centers, nursing homes, and medical facilities. Consistent with BAAQMD guidelines, the health risk assessment for the project considered the closest sensitive receptors (within 1,000 feet of the project construction area), as shown on Figure 3.6-1 (BAAQMD, 2011). For the purposes of this analysis, the closest residential receptor was considered the closest edge of a residentially zoned property. The closest such property is approximately 300 feet to the northwest of the project area, as shown on Figure 3.6-1; however, it should be noted that this portion of the residentially zoned property does not contain any residential structures. The distance to the nearest existing residences is 700 feet from the project area. However, new residential development (i.e., 8 Washington) is proposed on the residentially zoned property 300 feet from the project area. ~~, and the distance to the nearest residences is 700 feet from the project area.~~ The nearest school is approximately 300 feet to the south. In addition, commercial areas with outdoor seating and open spaces used for recreation in the vicinity of the project area were considered in the health risk analysis; those areas are located immediately adjacent to the project construction zone.

Page 3.6-11, Figure 3.6.1 has been revised to show the location of the nearest existing residential receptors, as well as the location of the proposed new residential development.

Page 3.6-21, Section 3.6.3, Impact Evaluation, second full paragraph on page:

~~It is the BAAQMD's policy that the adopted new risk and hazards thresholds apply to projects for which a Notice of Preparation is published, or environmental analysis begins, on or after the effective date of May 1, 2011 (BAAQMD, 2011). Even though the Notice of Preparation for this project was published in April 2011, a screening level~~ A health risk assessment, consistent with the BAAQMD's "Recommended Methods for Screening and Modeling Local Risks and Hazards"~~the new risk and hazards thresholds~~, was performed for the proposed project. ~~The~~ First,

consistent with BAAQMD's Tier 1 modeling recommendations, a screening-level risk assessment was ~~performed~~conducted, using the U~~.~~S~~.~~ EPA's Screen 3 model, to evaluate the potential risk to existing sensitive receptors in the vicinity of the proposed project's construction and operation areas. For all risks that were below thresholds using the screening modeling approach, no further analysis was performed. If the screening assessment indicated that risks for a sensitive receptor could exceed a threshold, a more detailed analysis was conducted using USEPA's AERMOD, consistent with BAAQMD's Tier 2 and 3 modeling recommendation. Further details regarding the methodology of this analysis are provided in Appendix B.

Page 3.6-26, Section 3.6, Air Quality and Global Climate Change, Impact 3.6-2, Expose Sensitive Receptors to Substantial Pollutant Concentrations, Action Alternative:

As described above under Impact 3.6-1, the proposed project would increase exhaust emissions of criteria pollutants and precursors (ROG, NO_X, PM_{10}, and $PM_{2.5}$) in comparison to the No Action Alternative. However, the proposed project's operational emissions would not exceed the applicable BAAQMD thresholds (Tables 3.6-4 and 3.6-5).

BAAQMD's daily operational emission thresholds for criteria pollutants were developed to indicate whether a project's emissions would have the potential to expose sensitive receptors to substantial pollutant concentrations. The project's operational emissions would be less than BAAQMD's thresholds, and consequently would not expose sensitive receptors to substantial pollutant concentrations.

The primary TAC of concern from diesel-powered equipment is diesel particulate matter (DPM), which is considered to be carcinogenic and poses a chronic health risk. In addition, $PM_{2.5}$ is also considered a health risk. DPM emissions include all PM_{10} exhaust emissions generated by diesel vehicles. A screening analysis was performed, consistent with the BAAQMD's guidelines, to determine whether the project's operational emissions of DPM and $PM_{2.5}$ would exceed recommended screening thresholds. The screening-level analysis methods and thresholds are designed to be substantially conservative. If a project exceeds screening thresholds, then a more detailed analysis would be required. The screening-level risk analysis is described in more detail in Appendix B.

The screening-level risk analysis takes into consideration both the project's estimated emissions and the distance to the air quality sensitive receptors from ~~construction and~~ operations activities. The sensitive receptors nearest to the proposed project are shown on Figure 3.6-1. The closest existing residential structure is 700 feet to the northwest of the project area, and a planned future residential development (i.e., 8 Washington) is 300 feet to the northwest.~~The nearest residential area is approximately 700 feet to the northwest~~. The nearest school is approximately 300 feet to the ~~west~~south. The nearest commercial uses are located adjacent to and/or within the area where construction and operation activities would occur. The nearest medical facility is approximately 4,000 feet from the project area.

Table 3.6-6 summarizes the ~~screening-level~~ health risk analysis results, by sensitive receptor type. The operation of the proposed project would result in minor net DPM emissions (less than 0.1 lbs/day), as shown in Table 3.6-5. The ~~screening-level~~health risk analysis shows chronic or carcinogenic health risks to the nearest sensitive receptors would be substantially less than the BAAQMD's thresholds (Table 3.6-6).

In addition, the project's net increase in $PM_{2.5}$ at sensitive receptors would also be well below the BAAQMD's significance threshold.

Table 3.6-6
Summary of Health Risks on Sensitive Receptors from the Proposed Project's Operational Emissions

Sensitive Receptor Type	Net Operational Risks[a]		
	Chronic Risk from DPM Emission	Carcinogenic Risk from DPM Emission (Expected Risk Per Million)	$PM_{2.5}$ Concentrations ($\mu g/m^3$)
Residential	0.0015~~0.0012~~	4.0[b]~~2.45~~	0.007~~0.006~~
Schools (including day cares)	0.0013 ~~0.0010~~	3.5[b]~~2.68~~	0.006~~0.005~~
Commercial	0.0016~~0.0013~~	4.4~~2.12~~	0.008~~0.006~~
Medical Facility	0.0002	0.6~~0.37~~	0.001
BAAQMD Significance Threshold[c]	**1**	**10 per million**	**0.3 $\mu g/m^3$**

Notes:

[a] Detailed risk estimates and methodology are included in Appendix B. Net Operational Risks represent the risk of the proposed project in comparison to the No Action Alternative.

Risks were estimated for the ~~nearest~~ maximally impacted sensitive receptors to the project area for the above-listed sensitive receptor categories.

[b] The screening level assessment indicated that more detailed analysis of risks for construction should be conducted for these sensitive receptors. The detailed assessment looked at both construction and operation risks, and considered wind direction and more detailed information on the residential receptors. The results of the screening-level analysis of carcinogenic risks from DPM emissions for residential and schools are presented here. The detailed analysis indicated that risks for residential and schools would be 0.6 and 2.4 per million, respectively. Modeling details are presented in Appendix B.

[c] The BAAQMD thresholds are from the BAAQMD's *CEQA Air Quality Guidelines* (2011).

BAAQMD = Bay Area Air Quality Management District
DPM = diesel particulate matter
$\mu g/m^3$ = micrograms per cubic meter
$PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter

NEPA Determination. The project's potential to expose sensitive receptors to substantial pollutant concentrations would not be adverse.

CEQA Determination. The project's potential to expose sensitive receptors to substantial pollutant concentrations would be less than significant.

Page 3.6-28, Section 3.6, Air Quality and Global Climate Change, Impact 3.6-5, Expose Sensitive Receptors to Substantial Construction-Related Pollutant Concentrations:

TACs described for Impact 3.6-4, the exhaust emissions from construction activities, could expose sensitive receptors to an increase in pollutant concentrations. BAAQMD's daily construction emission thresholds for criteria pollutants were developed to demonstrate whether a project's emissions have the potential to expose sensitive receptors to substantial pollutant concentrations.

In addition to the criteria pollutants, construction activities could expose sensitive receptors to TACs. The primary TACs of concern for the project would be DPM and $PM_{2.5}$ generated by

diesel-powered construction equipment. A ~~screening~~ health risk analysis was performed, consistent with the BAAQMD's guidelines, to determine whether the project's construction emissions of DPM and $PM_{2.5}$ would exceed recommended ~~screening~~ thresholds. The ~~screening level~~ health risk analysis analyzed the chronic, carcinogenic, and $PM_{2.5}$ risks at nearby sensitive receptors from the project's construction emissions, as shown in Table 3.6-8.

Construction-related chronic and carcinogenic risks of the project's DPM emissions would not exceed the BAAQMD's thresholds, as shown in Table 3.6-8. ~~Furthermore, the potential chronic and carcinogenic risks shown in Table 3.6-7 would be even lower with implementation of Mitigation Measures AQ-1 and AQ-2, which would further reduce average daily DPM (i.e., PM_{10}) emissions to 1.3 lbs/day~~.

Table 3.6-8
Summary of Health Risks on Sensitive Receptors from the Proposed Project's Construction Emissions

Sensitive Receptor Type	Construction Risks[a]			
	Chronic Risk from DPM Emission	Carcinogenic Risk from DPM Emission (Expected Risk Per Million)	Unmitigated $PM_{2.5}$ Concentrations ($\mu g/m^3$)	Mitigated $PM_{2.5}$ ($\mu g/m^3$)[b]
Residential	0.10~~0.08~~	9.3[c]~~4.77~~	0.50~~0.403~~	0.17~~0.140~~
Schools (including day cares)	0.09~~0.07~~	4.9[c]~~4.12~~	0.44~~0.348~~	0.15~~0.121~~
Commercial	0.11~~0.09~~	6.5~~5.21~~	0.55~~0.440~~	0.19~~0.153~~
Medical Facility	0.02~~0.012~~	0.9~~0.71~~	0.08~~0.060~~	0.03~~0.021~~
BAAQMD Significance Threshold[d]	**1**	**10 per million**	**0.3 $\mu g/m^3$**	**0.3 $\mu g/m^3$**

Notes:

[a] Detailed risk estimates and methodology are included in Appendix B.

Risks were estimated for the ~~nearest~~ maximally impacted sensitive receptors to the project area for the above-listed sensitive receptor categories.

[b] Mitigated $PM_{2.5}$ emissions assume implementation of Mitigation Measures AQ-1 and AQ-2. With implementation of Mitigation Measure AQ-1, mitigated emissions assume no overlap of the two construction periods (38 months of construction under mitigated conditions versus 24 months for the unmitigated scenario). Mitigated emissions also assume a 45 percent reduction in $PM_{2.5}$ below the fleetwide average for offroad and marine emissions. This 45 percent reduction can be achieved using one or more of the options described in Mitigation Measure AQ-2 (e.g., use of late-model engines, or installation of DPM filters, retrofitting engines).

[c] The screening level assessment indicated that more detailed analysis of risks for construction should be conducted for these sensitive receptors. The detailed assessment considered wind direction, implementation of Mitigation Measures AQ-1 and AQ-2, and more detailed information on the residential receptors. The results of the detailed analysis of carcinogenic risks from DPM emissions for residential and schools are presented here. Modeling details are presented in Appendix B.

[d] The BAAQMD thresholds are from the BAAQMD's *CEQA Air Quality Guidelines* (2011).

BAAQMD = Bay Area Air Quality Management District
DPM = diesel particulate matter
$\mu g/m^3$ = micrograms per cubic meter
$PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter

As indicated in Table 3.6-8, the project's construction emissions could result in $PM_{2.5}$ concentrations that exceed BAAQMD's significance thresholds. However, with implementation of Mitigation Measures AQ-1 and AQ-2, the $PM_{2.5}$ concentrations and health risks would be reduced, and would be less than BAAQMD's significance threshold.

NEPA Determination. The project's potential to expose sensitive receptors to substantial pollutant concentrations from construction would not be adverse ~~for DPM. $PM_{2.5}$ emissions have the potential to be adverse; however,~~ with implementation of Mitigation Measures AQ-1 and AQ-2~~,~~; therefore, emissions would be reduced and therefore would not be adverse.

CEQA Determination. The project's potential to expose sensitive receptors to substantial pollutant concentrations from construction would be less than significant ~~for DPM, and less than significant for $PM_{2.5}$~~ with Mitigation Measures AQ-1 and AQ-2.

2.5.2 Response to BAAQMD-2

The comment requests that the cumulative HRA (Impact 3.6-8 of the Draft EIS/EIR) be revised to also include roadways with traffic more than 10,000 trips per day. Within 1,000 feet of the project area, there are three roadways—The Embarcadero, Mission Street, and Market Street—that have more than 10,000 average daily trips. In response to this comment, the cumulative HRA has been revised to include risks from these roadways.

An existing source of cumulative health risks in the project area (i.e., Equity Office/Ferry Building), which was previously included in the cumulative analysis, was also revised. According to BAAQMD methodologies for cumulative HRAs, the potential contribution of an existing emission source can be adjusted based on the distance between the existing source and the maximally impacted receptor. For this project, the receptor that would be maximally impacted by project emissions, based on the results of the HRA, are the residences approximately 700 feet to the northwest of the project area. Therefore, for the Equity Office/Ferry Building, a tool on the BAAQMD methodologies website was used to refine the risks and the concentrations of particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$). The BAAQMD stationary source distance screening tool indicates that at distances greater than 164 feet, the risks from the existing emergency generator at the Ferry Building can be reduced by a factor of two. Therefore, the expected contribution to cumulative health risks for the Equity Office/Ferry Building generator was reduced from 68.9 to 34.5.

In addition, the project's construction and operation health risks were updated based on the revised HRA results, described in **Response to BAAQMD-1**.

The revised analysis indicates that cumulative health risks at nearby residences would still be below the BAAQMD's significance thresholds. In addition, the cumulative cancer risk has been reduced from 91.24 to 71.7, as shown in the revised Table 3.6-9, below.

The Draft EIS/EIR has been revised to include the results of the updated cumulative impact assessment as follows:

Page 3.6-31, Section 3.6, Air Quality and Global Climate Change, Table 3.6-9, Cumulative Health Risks:

Table 3.6-9
Cumulative Health Risks for Maximally Impacted Receptor (Residential)

Cumulative Health Risks	Cancer Risk	Chronic Hazard Index	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Proposed Project Construction	~~2.68~~9.3	~~0.0013~~0.1	~~0.006~~0.17
Proposed Project Operation	0.6	0.0015	0.007
AMB Property	9.29	0.00328	0.00214
Paramount One	0.09	0.001	0.176
Hotel Vitale	2.79	0.01067	0.00289
Davis Cleaners	7.49	0	0
Equity Office/Ferry	34.5~~68.9~~	0.012~~0.024~~	0.061~~0.122~~
The Embarcadero[2,3]	6.59	< 0.02	0.276
Market Street[2,4]	0.51	< 0.02	0.016
Mission Street[2,4]	0.51	< 0.02	0.016
Total Cumulative Impact	**71.7~~91.24~~**	**0.19~~0.040~~**	**0.73~~0.309~~**
Significant Threshold	**100 per million**	**10**	**0.8 $\mu g/m^3$**
Total Cumulative Impact Exceed Significance Threshold?	No	No	No

Sources: BAAQMD, 2011; BAAQMD, 2012b.

[1] Ferry Building risk scaled using BAAQMD "Diesel Internal Combustion (IC) Engine Distance Multiplier Tool" and assuming the residences are more than 164 feet from the Ferry Building.

[2] Roadway volumes estimated as recommended by BAAQMD from: http://www.ehib.org/traffic_tool.jsp.

[3] The Embarcadero is assumed to be a north-south roadway, and more than 10 feet from the residences northwest of the project area.

[4] Market Street and Mission Street are assumed to be north-south roadways, and more than 700 feet from the residences northwest of the project area.

$\mu g/m_3$ = micrograms per cubic meter

$PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter

2.5.3 Response to BAAQMD-3

Refer to Section 1.2.4 of this Response to Comments Appendix for additional information on the Program EIR and its relationship to the proposed project. The analysis in the Program EIR assessed the cumulative emissions from the Program and other modes of travel, and compared them to the cumulative emissions that would occur in the absence of the Program. The conclusions presented in the air quality analysis in the Program EIR examined whether emissions of various pollutants would be higher or lower if water transit was expanded regionally, versus the expected regional emissions without an expanded water transit system (refer to Section 3.6.2.1 of the Program EIR).

As described in the Program EIR, emissions of both particulate matter equal to or less than 10 microns in diameter (PM_{10}) and $PM_{2.5}$ would be less for the Program EIR proposed project (i.e., expansion of water transit service) than for the No Project Alternative. Therefore, even though the USEPA lowered the $PM_{2.5}$

thresholds and designated the Bay Area as nonattainment, implementation of the Program would result in a cumulative reduction of $PM_{2.5}$ emissions in the region. The Draft EIS/EIR for the proposed facility improvements at the Ferry Terminal evaluated the effects of $PM_{2.5}$ (as well as reactive organic gas [ROG], NO_X, and PM_{10}) emissions from water transit vessels at the Ferry Terminal at a project level in Section 3.6, Air Quality and Global Climate Change. This evaluation was based on current ambient conditions for the criteria pollutants, and considered current air quality regulations.

Two criteria pollutants that would increase with implementation of the Program EIR proposed project, as compared to the No Project Alternative, were sulfur dioxide (SO_2) and ROG. ROG is of concern as an ozone precursor. Ozone is created when ROG reacts with NO_X in the presence of sunlight. However, as noted in the Program EIR, even though ROG would increase by 0.02 percent with the implementation of the Program, NO_X would decrease. Therefore, the sum of ROG plus NO_X emissions (i.e., ozone precursors) would be less with implementation of the Program.

With respect to SO_2 emissions, since the certification of the Program EIR, California adopted an ultra-low sulfur diesel fuel standard. The ultra-low sulfur diesel standard, adopted in 2004, required the reduction of sulfur in fuels from 500 parts per million to 15 parts per million (CARB, 2003). This new regulation will substantially reduce the sulfur emissions from water transit vessels, bringing them below the emission levels analyzed in the Program EIR.

In addition, the Program EIR assumed that all WETA water transit vessels would be Tier 2–compliant clean diesel with add-on control devices such as selective catalytic reduction and particulate traps to further reduce NO_X and PM_{10} to 10 percent and 5 percent, respectively, of Tier 2 standards. Since 2003, the USEPA and CARB requirements for marine diesel engines have changed, requiring cleaner engines. By 2014, Tier 4 standards will begin phasing in for all new and repowered marine diesel engines over 600 kilowatts (USEPA, 2013). As described under **Response to USEPA-2**, WETA would procure new vessels (or repowered/refurbished vessels) that meet the current marine engine emissions standards for owners at the time of purchase, which would likely be Tier 4 engines, further reducing emissions of WETA water transit vessels from what was projected in the Program EIR.

Therefore, the conclusions in the Program EIR that implementation of the IOP would reduce emissions of criteria pollutants remain valid. This conclusion is further supported by the fact that the Ferry Terminal Expansion is included in the Regional Transportation Plan and Transportation Improvement Program, which conform to the emissions budget for transportation projects in the Bay Area Air Quality Management Plan (MTC, 2013).

2.5.4 Response to BAAQMD-4

Impact 3.6-10, starting on page 3.6-32 of the Draft EIS/EIR, assesses the project's greenhouse gas (GHG) emissions. The assessment considers (1) the BAAQMD's proposed thresholds for operation-related GHG emissions as well as (2) consistency with San Francisco's Climate Action Plan (see Table 3.6-10). The project would be consistent with plans and policies adopted to reduce statewide GHG emissions, as set forth in Executive Order S-3-05 and Assembly Bill 32.

For clarity, the following text edits have been made to the Draft EIS/EIR.

Page 3.6-21, Section 3.6.3, Air Quality and Global Climate Change, Impact Evaluation, second to last paragraph:

> Because the project would be located within the geographic boundaries of the CCSF, and because CCSF has a BAAQMD-approved GHG Reduction Strategy, the project has been evaluated for compliance with the CAP (2004), and CCSF's Strategies to Address Greenhouse Gas Emissions

(CCSF, 2010b) (refer to Impact 3.6-10). The proposed project has also been evaluated for consistency with the Port's CAP (Port, 2011b).

2.5.5 Response to BAAQMD-5

As described in **Responses to BAAQMD-1 through BAAQMD-4**, the analysis presented in the EIS/EIR has been updated and revised, as appropriate. The proposed project's air quality impacts would remain less than significant or less than significant with the incorporation of mitigation measures identified in the Draft EIS/EIR; therefore, no further mitigation is necessary.

BCDC

Making San Francisco Bay Better

RECEIVED
JUL 25 2013
BY:

July 23, 2013

Mr. Mike Gougherty
WETA Project Manager
San Francisco Bay Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, California 94111

SUBJECT: Draft Environmental Impact Report for the Downtown San Francisco Ferry Terminal Expansion Project; SCH #2011032066 (BCDC File No. MC.MC.7812.1)

Dear Mr. Gougherty:

Thank you for the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Downtown San Francisco Ferry Terminal Expansion Project at the San Francisco Ferry Building. On May 16, 2011, BCDC (Commission) provided comments in response to the Notice of Preparation of the DEIR. We thank you for incorporating the comments of our May 2011 letter into the preparation of the DEIR and including a discussion of the issues we outlined. This letter further supplements the comments provided in our May 2011 letter. Some of these comments we believe could be addressed further in the Final EIR, while others we look forward to working with you on during the pre-application and permitting process. BCDC-1

As discussed in our May 2011 letter and recognized in your DEIR, the Commission is a responsible agency for this project and will rely on the DEIR when it considers the project. Although the Commission itself has not reviewed the DEIR, the staff comments are based on the McAteer-Petris Act, the Commission's *San Francisco Bay Plan* (Bay Plan), the *San Francisco Waterfront Special Area Plan*, the Commission's federally-approved management program for the San Francisco Bay, and the federal Coastal Zone Management Act.

Bay Fill

According to the DEIR, the proposed project would result in a total net increase in Bay fill of approximately 39,935 square feet (15,495 square feet in the North Basin and 24,440 square feet in the South Basin). Of that total, approximately 345 square feet would consist of solid fill, 15,600 square feet would consist of floating fill, and 23,990 square feet would consist of shadow or pile-supported fill. A large portion of the shadow or pile-supported fill would result from the filling of the "lagoon" area near the Agriculture Building for the new Embarcadero Plaza.

As recognized and discussed in the DEIR, the areas proposed to be filled are within open water areas defined by the San Francisco Waterfront Special Area Plan (SAP). Within newly created open water areas at Pier ½ and 2, new fill is limited to certain uses defined in the SAP, including minor pile-supported or floating fill for water transportation uses, areas appropriate for additional ferry terminals, minor fill for improving shoreline appearance or public access to the Bay, or seismic and safety repairs to an existing pier that is not being wholly reconstructed. BCDC-2

During its permitting process, the Commission will need to evaluate whether the fill proposed meets the SAP policies for new fill in these open water areas. In particular, the Commission will need to evaluate the purpose, need and benefit of the fill for the Embarcadero Plaza and its function as a public access space. The Commission will want to ensure that this area has been designed and will be managed to promote its use for public access and will not become an under-utilized public access space such as the Ferry Plaza. The design should include features that prevent vehicles from accessing this area. In addition, as recognized in the DEIR, the Commission will likely require that

BCDC-2 (cont'd.)

fill be removed elsewhere on the waterfront to mitigate for the amount of new fill proposed. We look forward to learning more about the project's fill mitigation proposal.

Based on the amount of Bay fill proposed for the project, the number of people that will be using the space, and the seismic stability work that is proposed at the Embarcadero Plaza, the project will likely require review by the Engineering Criteria Review Board.

Public Access

BCDC-3

As recognized and discussed in the DEIR, Section 66602 of the McAteer-Petris Act states, "...that maximum feasible public access, consistent with a proposed project, should be provided." The SAP directs that the public access be provided free of charge to the public, be generally accessible at any time, emphasize passive recreation, and focus on its proximity to the Bay and on the views and unique experiences that nearness to the Bay affords.

The DEIR states that the proposed project would increase WETA water transit ridership from 5,100 to approximately 25,700 passengers per weekday by 2035, and increase total AM peak-period WETA vessel arrivals from 14 to approximately 52 to 57 vessels (DEIR, p. 3.4-14). The DEIR states that, "WETA passengers would be anticipated to be primarily commuters who typically travel to downtown destinations after disembarking from the vessel and would incidentally use parks and recreation facilities as they pass through them, resulting in an incremental increase in the use of these spaces" and that therefore the project "would result in less-than-significant indirect impacts associated with the potential increased use of parks and recreation facilities" The staff believes that the increased ridership level resulting from the proposed project (approximately five times the current number by 2035) will undoubtedly impact already heavily-used public access spaces and that additional new public access areas will need to be provided to mitigate for these impacts.

On June 6, 2011, the proposed project and other public space improvement considerations for the Ferry Building area between Piers 1 and 14 were brought to BCDC's Design Review Board (DRB) and the Port of San Francisco's Waterfront Design Advisory Committee (WDAC) for review. Some of the proposed public access space improvements that were presented at that meeting included: the North Basin marginal wharf area between Gates A and B; the construction of the East Bayside Promenade connecting Gates E, F and G; the construction of the new Embarcadero Plaza created by the filling of the "lagoon"; and the construction of a new South Bayside Promenade that would improve the southern edge of the Ferry Plaza. Ideas to improve the Ferry Plaza were also presented at that meeting.

The DEIR states that the proposed project would result in 37,600 square feet of public access space in the project area, the majority of which would be new public access space (DEIR, p. 3.4-12). It is unclear exactly how this number was calculated but it appears to include the North Basin marginal wharf, the East Bayside Promenade and the Embarcadero Plaza. The DEIR does not include a discussion of the South Bayside Promenade or possible improvements to the Ferry Plaza. BCDC staff believes that these areas should also be considered by WETA when developing a proposal for public access at the site and that these areas should be evaluated in the EIR in the event that these areas are chosen in the final public access proposal. The South Bayside Promenade and east end overlook in particular would provide a much-needed link to the east side of the Ferry Plaza and tie the proposed Ferry Terminal expansion project to the rest of the surrounding site. More analysis on the project's proposed public access is needed to determine whether the public access meets the Commission's laws and policies. We look forward to working with WETA to develop a public access package for the project that provides maximum feasible public access consistent with the project.

Because there was much discussion and no consensus at the DRB/WDAC meeting about features of the proposed public access improvements, the proposed project will need to return to the DRB and WDAC for review.

Appearance, Design and Scenic Views

The Bay Plan policies on Appearance, Design and Scenic Views state that "all bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay" and that "maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore."

At the June 6, 2011 DRB/WDAC meeting, several design members expressed concern over the weather protection canopies proposed at the site, and the one proposed at Gate B in particular. Several were worried that the canopy proposed at Gate B would obscure the already hidden north entrance to the Ferry Building, detract and be incompatible with the historic façade of the Ferry Building, and become a maintenance issue. In addition, there was concern by staff that the canopies could turn otherwise public, open-air areas into private, reserved areas for queuing Ferry passengers and detract from views to the Bay. BCDC-4

The DEIR includes a discussion on the likely effect of the canopies and concludes that the "assessment of preliminary design does not indicate that an adverse effect is likely" (DEIR, p.3.8-40). However, mitigation measure CUL-6 has been included in the DEIR that requires final design of the weather protection canopies be developed in conjunction with the Port's WDAC and the San Francisco Historic Preservation Commission, and consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties, Standards for Rehabilitation (NPS, 2001).

The DEIR should also recognize that final design of the canopies will need to undergo review and approval by BCDC's DRB and the Commission to ensure that prior concerns regarding the canopies' view and public access impacts have been addressed, and that the canopies meet the Commission's laws and policies. The staff continues to be concerned about the canopy proposed at Gate B and its effect on public use of this popular waterfront promenade. We encourage the project proponent to explore other ways of providing weather protection for passengers waiting to board the ferry, including using areas of the ferry building interior, or managing queues to fit more people under existing or much smaller covered space.

Climate Change and Sea Level Rise

Since our May 2011 letter, BCDC has adopted new Climate Change policies to its Bay Plan that are applicable to the project. The new climate change policies require that a risk assessment be prepared by a qualified engineer for larger shoreline projects such as this one that evaluates the proposed project in light of future sea level rise and current and planned flood protection.

The DEIR includes a discussion of some of the proposed built elevations at the site in relation to future sea level rise and proposed flooding (DEIR p. 2-20 and 3.11-16). Additional analysis on this topic will be needed as part of the permitting process, including a detailed risk assessment. Although the renovation of the Agriculture Building may not be part of the proposed project, the project should consider how proposed improvements can or will be adaptable in the future if and when the Agriculture Building is renovated and/or raised in the future. If the structures cannot be constructed at an elevation high enough to withstand periodic flooding at this time, an explanation on why this cannot be done at this time, and how the structures could be adapted in the future will be needed. BCDC-5

Dredging

According to the DEIR, construction of the project would require new work dredging in the Ferry Terminal area of approximately 29,500 to 33,000 cubic yards of material (DEIR, p. 3.9-17) and maintenance dredging at Gates F and G, every 3 to 4 years, of approximately 5,000 to 10,000 cubic yards of material (DEIR, p. 3.9-13). BCDC-6

All dredging projects should be reviewed by the Dredged Material Management Office (DMMO). While providing sampling and analysis plans and sediment test results to the DMMO is

voluntary, Commission staff highly recommends the review of these documents at the DMMO meeting rather than separately by individual agencies. The EIR should address dredging and disposal issues recognizing that: (1) the DMMO has not taken action on the proposed dredged material quality or disposal options and the Bay Plan policies requires material testing before taking action; and (2) the Commission's policy preference is for beneficial reuse of dredged material, where feasible, particularly for new work dredging. The EIR should analyze the proposed project with respect to the Commission's policy preference for beneficial reuse of dredged material, particularly in the case of deepening projects (as opposed to maintenance dredging) through an alternative disposal site analysis. In particular, the EIR should identify beneficial reuse sites that are currently available and analyze the potential for additional sites to be created for this project's use. In addition, the EIR should include any future maintenance dredging that would be necessary for this project. The current Long Term Management Strategy (LTMS) plan requires that a maximum of 20 percent of the maintenance dredged sediment be placed at in-Bay disposal sites while the remaining 80 percent be beneficially reused or placed out of Bay, again with the preference for beneficial reuse. **BCDC-6 (cont'd.)**

The programmatic biological opinion, pursuant to the Federal and State Endangered Species Act for the LTMS includes programmatic environmental windows for maintenance dredging and disposal in the Bay. As recognized in the DEIR, the current work window for maintenance dredging in the proposed project area is from June 1st to November 30th of any year, with some exceptions granted by the resource agencies if there are no significant impacts to fish species. The project applicant should keep these work windows in mind in developing a project schedule. Any new work dredging is not covered by the programmatic biological opinion, and therefore would require consultation with the resource agencies prior to completing the Commission's application. The U.S. Army Corps of Engineers would coordinate with the federal resource agencies through their permitting process for the new work dredging while the project sponsor should coordinate directly with the California Department of Fish and Wildlife, Marine Region. Any incidental take permits necessary are also required prior to completion of the BCDC application process. **BCDC-7**

Thank you for providing staff with the opportunity to review and comment on the DEIR. We thank WETA for incorporating our comments in the DEIR thus far and look forward to working with you through the permitting stage. Please feel free to contact me at (415) 352-3616, or email me at mingy@bcdc.ca.gov if you have any questions regarding this letter or the Commission's policies and permitting process.

Sincerely,

MING YEUNG
Coastal Program Analyst

MY/ms

cc: James Hurley, Port of San Francisco
Scott Morgan, State Clearinghouse and Planning Unit

2.6 BCDC

2.6.1 Response to BCDC-1

Comments are noted. Although the Draft EIS/EIR recognized BCDC's role in future permitting of the project in Section 2.6, Agency Approvals Required, BCDC has not been previously listed as a responsible agency under CEQA. The following edits have been made to the Draft EIS/EIR to clarify BCDC's role as a responsible agency.

Abstract:

Responsible Agenc~~y~~ies (CEQA): Port of San Francisco
Bay Conservation and Development Commission

Page ES-46, Executive Summary, Consultation and Coordination, third paragraph:

Additionally, the Port and the Bay Conservation and Development Commission ~~accepted WETA's request to serve as a~~ are responsible agenc~~y~~ies under CEQA.

Page 5-6, Chapter 5.0, Public and Agency Involvement, first paragraph:

Additionally, the Port and the Bay Conservation and Development Commission ~~accepted WETA's request to serve as a~~ are responsible agenc~~y~~ies under CEQA.

2.6.2 Response to BCDC-2

Comments are noted. The Draft EIS/EIR, under Impact 3.3-2, Conflict with Applicable BCDC Plans and Policies, analyzed the project's consistency with BCDC plans and policies, including policies of the Special Area Plan (SAP) that specifically address Bay fill (refer to the subsection titled *Bay Fill*). The EIS/EIR concludes that with the implementation of Mitigation Measure LU-1, the project would be consistent with BCDC's policies. As stated in Mitigation Measure LU-1 (refer to page 3.3-19 of the Draft EIS/EIR), the location and amount of fill removal will be determined in coordination with BCDC during the Major Permit and Design Review process.

As noted in the Draft EIS/EIR, Section 2.3.3, page 2-19, additional features and design treatments such as seatwalls, steps, benches, planters and other furnishings will be incorporated into the project's Final Design. The features would be placed and designed to enhance public access, guide pedestrian movements, and limit vehicular access to the public access areas. The Final Design of the project will be developed in cooperation and coordination with the Port, BCDC, and SFHPC, as described in Section 2.6, Agency Approval Required, of the Draft EIS/EIR, to ensure that the design and management of the areas within BCDC's jurisdiction are consistent with the purpose, need, and benefit for new fill.

2.6.3 Response to BCDC-3

The proposed project includes both improvements required for water transit service (i.e., water transit gates) and improvements to the project area that would improve circulation for WETA water transit passengers, as well as provide general public access and additional public spaces in the project area. These public access improvements have been proposed to both address BCDC's plans and policies and in recognition that the Ferry Building area is an important public space along San Francisco's waterfront. Public access improvements included in the project description include:

- **Construction of the Gate A Access Pier.** The Gate A Access Pier would be generally accessible to the public, and would provide approximately 8,000 square feet of public space in an area to which the public currently does not have access.

- **North Basin Marginal Wharf Improvements.** Approximately 2,500 square feet (85 linear feet) of deck would be rebuilt, and new railings would be installed along the north basin marginal wharf. These improvements would provide a contiguous publically accessible edge between the Ferry Building and the new Gate A Access Pier. The design of the area (e.g., benches and steps) would be consistent with the improvements made by the Port in this area recently.

- **Construction of the East Bayside Promenade.** After the removal of Pier 2 and the restaurant on Pier 2, the East Bayside Promenade would provide a continuous promenade from the Ferry Building along the western edge of the South Basin to the end of the Agriculture Building. The Promenade would connect Gates E, F, and G, and allow for public access that provides views of Treasure Island and the Bay Bridge, as well as the Ferry Building, Agriculture Building, and downtown San Francisco. The East Bayside Promenade would provide approximately 14,000 square feet of publically accessible new deck area.

- **South Apron of the Agriculture Building Improvements.** Construction of steps, an Americans with Disabilities Act (ADA)-accessible ramp, and new railings along the south side of the Agriculture Building would substantially improve this area for pedestrian access and circulation.

- **Creation of the Embarcadero Plaza.** A new 24,500-square-foot Embarcadero Plaza would be created in the South Basin; the majority of this area would be created by filling the open water area in the South Basin. The plaza would transform this portion of the project area, removing circulation bottlenecks and creating a cohesive aesthetic.

These improvements would result in 37,600 square feet of public access space in the project area, the majority of which would be new public access.[11] In addition, the North Basin Marginal Wharf Improvements and the South Apron of the Agriculture Building Improvements would improve an additional 5,000 square feet in the project area. In addition to the increase in publicly accessible area along the waterfront, the inclusion of seatwalls, planters, benches, lighting, and railings would substantially enhance the public's experience in the project area. Although the proposed project would result in approximately 20,000 additional public transit passengers passing through the project area, the proposed project would improve or create approximately 42,600 square feet of public access space in the project area.

Data collected in the project area indicate that in the morning when water transit passengers arrive, they exit their vessels and pass, in platoons, across the Embarcadero or north or south along The Embarcadero to their final destinations. Few passengers were observed entering the Ferry Building or lingering in the project area. Similarly, passengers departing San Francisco in the afternoon generally arrive 10 to 15 minutes prior to departure, and tend to queue in an orderly, linear fashion in front of their gate. Because WETA would offer primarily commuter service, the queuing period for commuter vessels is only 2½ hours in the late afternoon on weekdays.

The improvements proposed as a part of the project would all be in areas that are not under a long-term lease or control by another entity (e.g., Bay Area Rapid Transit [BART] or the Equity Office Properties [EOP]). The improvements proposed as a part of the project are all on areas under the management and jurisdiction of the Port, outside the boundaries of other leases or areas under the control of others, and would be in areas where WETA would have the authority to make improvements as a part of their future lease agreement with the Port.

[11] All of the pier deck constructed in the North and South Basins would be available for public access. As shown in Table 2-2 of the Draft EIS/EIR, the new deck features include the Gate A Access Pier (8,000 square feet), and a total of 29,600 square feet of new deck that would be constructed in the South Basin, for a total construction of 37,600 square feet. In the South Basin, while the total square footage of the Embarcadero Plaza and East Bayside Promenade is 38,350 feet, this also includes the existing access to Gate E; therefore; only 29,600 square feet of deck and piles would need to be constructed to create the Embarcadero Plaza and East Bayside Promenade.

WETA recognizes that the project area is an important public space in San Francisco, and that additional improvements in the area could generally improve circulation, public access, uses of space, and aesthetics. For this reason, as described in detail in Section 1.4.5, Ferry Building Area Planning and Development Program, WETA and the Port entered into a memorandum of understanding (MOU) to ensure that planning efforts for the area were coordinated. As detailed in this MOU, WETA would have responsibility over those elements of facility improvements that would be necessary to support the development of WETA's water transit service in the project area. For other long-term projects and improvements in the project area that the Port has envisioned, such as the rehabilitation of the Agriculture Building and Ferry Plaza improvements, the Port has the responsibility of defining and developing the project, and undertaking separate environmental review and permitting at the appropriate time of that project's development.

Although WETA has defined and presented what it believes to the maximum feasible public access that is consistent with the proposed project, WETA will consider additional improvements in the project area that could be feasibly implemented, and that are generally consistent with the types and location of the improvements analyzed in the Draft EIS/EIR. During the Major Permit and Design Review process, public access improvements that would be considered could include features such as additional railing and seatwall improvements along the southern edge of the Ferry Plaza, or installation of additional planters, lighting, and/or signage to improve the public's experience in the project area. However, any improvements outside of the "Construction Zone" boundary shown on Figure 2-9 of the Draft EIS/EIR would be in areas that would be beyond WETA's control, and would be subject to the cooperation and approval of the other agencies that have control or long-term leases in those areas.

To confirm WETA's commitment to providing public access improvements in the project area, as described in the description of the proposed project and as developed in coordination with BCDC, the following modifications have been made to the Draft EIS/EIR, including the inclusion of Mitigation Measure REC-1, Public Access Improvements, as described below.

Page ES-19, Executive Summary, Table ES-2, Summary of Impacts and Mitigation Measures for the Action Alternative, Impact 3.4-2: Conflict with Recreation and Public Access Plans and Policies:

Impact 3.4-2: Conflict with Recreation and Public Access Plans and Policies With implementation of Mitigation Measure REC-1, the project would be consistent with applicable recreation and public access plans and policies.	~~No mitigation necessary.~~ **Mitigation Measure REC-1: Public Access Improvements** To demonstrate that the proposed project includes public access improvements consistent with BCDC's plans and policies, WETA will develop a public access improvements plan in coordination with BCDC as a part of the Major Permit and Design Review process. The public access improvements plan will detail the public access features included in the project's Final Design, including details on the location, square footage, and expected benefit of the improvements. Public access improvements described in the plan would include, at a minimum, the Gate A Access Pier, North Basin Marginal Wharf Improvements, East Bayside Promenade, Embarcadero Plaza, and South Apron of the Agriculture Building Improvements. Other minor improvements such as seatwalls, planters, lighting, minor resurfacing, and/or railing replacements, not described here but in the project area, may be considered in this public access improvement plan. The feasibility of additional improvements outside of the Construction Zone shown on Figure 2-9 will be determined at the time of permitting, because feasibility will be dependent on the cooperation of other entities that have control or long-term leases (and therefore jurisdiction) over these other areas.	Not adverse after implementation of mitigation.	Less than significant with mitigation.

	WETA would construct public access improvements in accordance with applicable regulatory permits (as described in this EIS/EIR). Mitigation measures and regulatory requirements described in this EIS/EIR for proposed project activities (i.e., surface improvements) would also apply to the construction of public access improvements elsewhere in the project area. These would include Mitigation Measures AQ-2, Implement BAAQMD-Recommended Best Management Practices; TRANS-3, Construction Circulation Management; NOISE-1, Construction Notification; NOISE-4, General Construction Equipment Measures to Minimize Vibration; CUL-4, Plan for Protection Against, and Response to, Inadvertent Damage; HAZ-1, Prepare a Hazardous Materials Management Plan.		

Page 3.4-1, Section 3.4, Parklands and Recreation, Section 3.4.1, Introduction to the Analysis:

This section describes the existing parks and recreation environment, including recreation resources in the project area; discusses applicable regulations; and evaluates the potential impacts of implementation of the No Action Alternative and the Action Alternative. In addition to parks and open space areas, public access to San Francisco Bay, provided by both trails and viewing areas of San Francisco Bay, are key components of the parks and recreation analysis because they serve an important recreation function in the immediate project area. As described below, with the implementation of mitigation measures, the proposed project's impacts on parklands and recreation would not be adverse, and would be less than significant.

Page 3.4-12, Section 3.4, Parklands and Recreation, Impact 3.4-2, Conflict with Recreation and Public Access Plans and Policies, subsection titled Action Alternation, discussion under BCDC, last two paragraphs:

The proposed project would be generally consistent with the public access and recreation policies of the Bay Plan, because it supports public access to San Francisco Bay. Public access would provide views of San Francisco Bay and San Francisco, and would be designed to provide amenities consistent with the public access and siting/design policies of the SAP.

~~The proposed project would not conflict with the policies of the McAteer-Petris Act, the Bay Plan, or the SAP. The proposed project would require review and approval by the BCDC Design Review Board, which would ensure project consistency with BCDC policies, including BCDC's Public Access Design Guidelines. Therefore, the proposed project would not conflict with BCDC plans and policies.~~

Pursuant to the policies of the McAteer-Petris Act, the Bay Plan, and the SAP, BCDC would be required to make a finding that WETA has provided the maximum feasible public access consistent with the proposed project. Implementation of Mitigation Measure REC-1 requires that WETA prepare a public access improvements plan in coordination with BCDC during the Major Permit and Design Review Process. The plan will detail the public access features included in the project's Final Design, including details on the location, square footage, and expected benefit of the improvements. Public access improvements described in the plan would include, at a minimum, the Gate A Access Pier, North Basin Marginal Wharf Improvements, East Bayside Promenade, Embarcadero Plaza, and South Apron of the Agriculture Building Improvements. Other minor improvements, such as seatwalls, planters, lighting, minor resurfacing, and/or railing replacements not described here and outside of the "Construction Area" but in the project area, may be considered in this public access improvement plan. However, such additional

improvements would be in areas under control or long term leases by other entities, and could only be considered with the cooperation and approval of those agencies.

Page 3.4-13, Section 3.4, Parklands and Recreation, Impact 3.4-2, Conflict with Recreation and Public Access Plans and Policies, NEPA Determination:

NEPA Determination. The project would not conflict with ABAG, City and County of San Francisco, or Port of San Francisco applicable plans and policies pertaining to parks and recreation. The proposed project would be consistent with the applicable BCDC public access plans and policies with implementation of Mitigation Measure REC-1, and therefore impacts would not be adverse.

Page 3.4-13, Section 3.4, Parklands and Recreation, Impact 3.4-2, Conflict with Recreation and Public Access Plans and Policies, CEQA Determination:

CEQA Determination. The proposed project would have less-than-significant direct impacts related to conflicts with ABAG, City and County of San Francisco, or Port of San Francisco applicable plans and policies pertaining to parks and recreation. The proposed project would be consistent with the applicable BCDC public access plans and policies with implementation of Mitigation Measure REC-1; therefore, impacts would be less than significant with mitigation incorporated.

Page 3.4-16, Section 3.4.4, Mitigation Measures:

~~Mitigation measures are not required for parks and recreation.~~

Mitigation Measure REC-1: Public Access Improvements

To demonstrate that the proposed project includes public access improvements consistent with BCDC's plans and policies, WETA will develop a public access improvements plan in coordination with BCDC as a part of the Major Permit and Design Review process. The public access improvements plan will detail the public access features included in the project's Final Design, including details on the location, square footage, and expected benefit of the improvements. Public access improvements described in the plan would include, at a minimum, the Gate A Access Pier, North Basin Marginal Wharf Improvements, East Bayside Promenade, Embarcadero Plaza, and South Apron of the Agriculture Building Improvements. Other minor improvements such as seatwalls, planters, lighting, minor resurfacing, and/or railing replacements, not described here but in the project area, may be considered in this public access improvement plan. The feasibility of additional improvements outside of the Construction Zone shown on Figure 2-9 will be determined at the time of permitting, because feasibility will be dependent on the cooperation of other entities that have control or long-term leases (and therefore jurisdiction) over these other areas.

WETA would construct public access improvements in accordance with applicable regulatory permits (as described in this EIS/EIR). Mitigation measures and regulatory requirements described in this EIS/EIR for proposed project activities (i.e., surface improvements) would also apply to the construction of public access improvements elsewhere in the project area. These would include Mitigation Measures AQ-2, Implement BAAQMD-Recommended Best Management Practices; TRANS-3, Construction Circulation Management; NOISE-1, Construction Notification; NOISE-4, General Construction Equipment Measures to Minimize Vibration; CUL-4, Plan for Protection Against, and Response to, Inadvertent Damage; HAZ-1, Prepare a Hazardous Materials Management Plan.

2.6.4 Response to BCDC-4

As described in Section 1.2.3 of this Response to Comments Appendix, WETA has decided not to include the weather protection canopy proposed at Gate B in the project's Final Design. As noted in Section 2.6, Agency Approvals Required, and under Impacts 3.3-2, 3.4-4, 3.10-1, and 3.10-2 of the Draft EIS/EIR, WETA and FTA recognize that the Final Design of the project elements, including the weather protection canopies, would be subject to the Port and BCDC's Design Review processes. Compliance with the Design Review process will ensure that the Final Design of the project elements is consistent with BCDC policies related to public access and protection of views of San Francisco Bay.

The potential effects of the weather protection canopies on the project area—including effects on historic resources, public spaces, visual character and aesthetics—were analyzed and described in several parts of the Draft EIS/EIR. Section 3.8, Cultural and Paleontological Resources, assessed whether the addition of the weather protection canopies to the project area would likely result in a significant impact to the historic resources in the project area (i.e., the buildings individually listed on the National Register of Historic Places [Pier 1, Ferry Building and Agriculture Building] as well as the Port Embarcadero Historic District and the Central Embarcadero Piers Historic District). This analysis, described in Impact 3.8-5, Potential Indirect Effects of Visual or Noise and Vibration Elements on Historic Properties and Resources, concluded that, with the implementation of Mitigation Measures CUL-6, NOISE-3, and NOISE-4, the proposed project elements would not be likely to adversely affect the historic properties or districts in the project area. The assessment concludes that, based on the preliminary design, the project elements would not be likely to adversely affect the historic properties in the project area; however, to ensure that the Final Design of the weather protection canopies is consistent with Secretary of the Interior's Standards for the Treatment of Historic Properties, Standards for Rehabilitation, WETA has committed to Mitigation Measure CUL-6. Mitigation Measure CUL-6 requires that the Final Design of the canopies be developed in consultation with both the Port's Waterfront Design Advisory Committee and the SFHPC, consistent with the Secretary of the Interior's Standards. The State Historic Preservation Officer (SHPO) concurred with this assessment pursuant to Section 106 of the National Historic Preservation Act (refer to Appendix D of the Draft EIS/EIR).

In addition, Section 3.10, Aesthetics and Visual Resources, assessed the project's potential to significantly affect aesthetics and views in the project area, including public views of San Francisco Bay (refer to Impact 3.10-1, Potential to Substantially Alter or Block Views of Scenic Vistas or Resources). Although from some specific vantage points views of San Francisco Bay could be altered, due to the limited width, height, and massing of the new features and the abundance of adjacent views, this change would not be substantial. In addition, the proposed project improvements would result in additional public access areas in the project area (e.g., Gate A Access Pier, Embarcadero Plaza, rehabilitated North Basin Marginal Wharf), which would generally provide the public with more places from which to enjoy the views of San Francisco Bay.

One of the purposes of the weather protection canopies is to organize passenger queuing in the Ferry Terminal to avoid obstructing general public access or pedestrian circulation in the area. The canopies would provide an organizational structure for queuing, keeping other areas free for circulation. Currently, water transit passengers generally arrive 10 to 15 minutes prior to departure, and tend to queue in an orderly, linear fashion in front of their gate. Because WETA would offer primarily commuter service, the queuing period for commuter vessels is only 2½ hours in the late afternoon on weekdays. Because the design of the canopies/queuing areas is minimal and would not require railings, gates, or other features that would obstruct circulation, pedestrians and the general public would be able to freely circulate in these areas during all other times of the day and week.

Several other options for providing queuing areas and weather protection were considered both during Phase I of the Ferry Terminal Improvement Project in 2003 and in the development of the proposed project (refer to Section 2.7.5 of the Draft EIS/EIR). Because water transit passengers tend to arrive just

before departure of their vessel and ticketing is done on-board, a centralized waiting and queuing area, which would likely increase queuing and waiting times for WETA passengers, was not considered desirable. Phase I improvements considered several options to allow queuing for individual gates that included covered arcades or canopies outside of the Ferry Building, including canopies extensions from the Ferry Building to the gates. These were not implemented due to funding limitations at the time. In 2035, during the PM peak period, approximately 8,700 passengers would be expected to depart from the Gates A, B, E, F, and G. Distributed queuing with the weather protection canopies was selected because this configuration would interfere the least with the current operation of the Ferry Building, and circulation by Ferry Building patrons and the general public; would develop WETA facilities in areas outside of other long-term control or leaseholds in the project area; and would continue to allow WETA passengers to arrive shortly before departure of their vessels, and efficiently queue at their gates.

As described in Section 2.3.6, Operating Elements, in the Site Maintenance subsection (refer to page 2-28 of the Draft EIS/EIR), WETA has committed to working with the Port to develop a Site Maintenance Plan that designates responsibility and a schedule for regular maintenance and cleaning of the new facilities (e.g., canopies), as well as general site maintenance.

2.6.5 Response to BCDC-5

The Draft EIS/EIR discusses the built elevation of the proposed facilities on page 2-20 (in Chapter 2.0, Alternatives, subsection titled Sea Level Rise) and pages 3.11-16 and 3.11-17 (in Section 3.11, Hydrology and Water Quality, Impact 3.11-5, Potential Flooding Impacts to New Project Facilities). Per BCDC's policies on sea level rise, the proposed project has been designed to take into account the sea level rise of 16 inches by 2050. As described in the subsections of Draft EIS/EIR referenced above, the proposed facilities would be constructed at least 1.7 feet above the still water level of a 100-year storm, should it occur in 2050 with 16 inches of sea level rise. During the permitting phase of the project, pursuant to BCDC policies, a risk assessment will be prepared for the project, documenting that the project's Final Design is consistent with these flood estimates and BCDC policy.

As noted in the Draft EIS/EIR under Impact 3.11-5, Potential Flooding Impacts to New Project Facilities, the Agriculture Building currently experiences flooding during storm events, and the Agriculture Building and the apron around it are mapped as Special Flood Hazard Areas on preliminary Federal Emergency Management Agency (FEMA) flood maps (refer to page 3.11-16 of the Draft EIS/EIR). No changes to the Agriculture Building are proposed as a part of the project. However, because the Agriculture Building is in the project area, and is a building of local and national historical significance, potential future rehabilitation of the Agriculture Building was considered in the project's preliminary design. The South Basin Ferry Terminal improvements, including the Embarcadero Plaza and East Bayside Promenade extension, have been preliminarily designed (i.e., built elevations, grading, and stormwater management) so they do not exacerbate flooding of the existing Agriculture Building prior to its future renovation. The project has also been designed to accommodate the future renovation and elevation of the Agriculture Building, and to direct stormwater flows away from the building.

2.6.6 Response to BCDC-6

Refer to **Response to USEPA-1.**

2.6.7 Response to BCDC-7

As described above in Section 1.2.1 of this Response to Comments Appendix, WETA has committed to conducting all in-water construction activities (including dredging and pile driving) during the LTMS dredging work windows when the most sensitive life stage of listed fish species and Pacific herring are absent.

Because green sturgeon (federally listed) and longfin smelt (state-listed) are present in San Francisco Bay all year, consultation under the California Endangered Species Act and FESA would be required, as would authorization of incidental take. WETA and FTA completed consultation with NMFS under Section 7 of the FESA for impacts to federally listed special-status species and critical habitat, and for impacts to EFH under the Magnuson-Stevens Fishery Conservation and Management Act. NMFS issued its Biological Opinion, as described in Section 1.2.2 of this appendix. In addition, WETA and FTA would consult with CDFW under Fish and Game Code Section 2081(b) to obtain incidental take authorization.

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
300 Lakeside Drive, P.O. Box 12688
Oakland, CA 94604-2688
(510) 464-6000

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By Hand Delivery

July 30, 2013

Mike Gougherty
WETA Project Manager
San Francisco Bay Area Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, California 94111

Re: Draft Environmental Impact Statement/Environmental Impact Report for the Downtown San Francisco Ferry Terminal Expansion Project

Dear Mr. Gougherty:

This letter provides the comments of the San Francisco Bay Area Rapid Transit District ("BART") on the June 2013 Draft Environmental Impact Statement/Environmental Impact Report ("DEIS/R") for the Downtown San Francisco Ferry Terminal Expansion Project ("Project") proposed by the San Francisco Bay Area Water Emergency Transportation Authority ("WETA"). The project area encompasses the buildings and open spaces between Pier 1 to the north, Pier 14 to the south, The Embarcadero to the west, and San Francisco Bay to the east. The Project would include construction of three new gates and overwater berthing facilities, in addition to supportive landside improvements, such as additional passenger waiting and queuing areas, circulation improvements, and other water transit-related amenities. The Project will encourage transit use and in principle will be a positive addition to the Bay Area's transit system.

BART supports WETA in its efforts to encourage public transit use in the San Francisco Bay Area but notes WETA must thoroughly examine and mitigate potentially significant environmental impacts that the terminal expansion project may have on BART's operation and facilities as described within this comment letter. As indicated below, BART believes many of its concerns may be addressed and avoided or mitigated through close consultation between BART and WETA during the design and construction phase. BART's comments on the DEIS/R and the Project are provided below.

Comment 1 – BART as a Responsible Agency; Supplementation,

BART previously requested that it be consulted and listed in the EIS/EIR as a "Responsible Agency" under CEQA. WETA's January 30, 2012 e-mail to BART stated that the Project will not require use of BART's restricted area or entering that

BART-1

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area for any construction-related purposes associated with the project, including the mooring of vessels, and thus will not require that BART take a discretionary action. WETA's October 30, 2012 e-mail stated that it will not be doing any work, including the mooring or anchoring of vessels, within the restricted area. Moreover, the DEIS/R (p. 3.3-12) expressly states that Project improvements "would not affect, encroach on, or modify any property or access to property under the control of other entities, including transportation easements or rights-of-way held by other entities (e.g., Equity Office Partners or BART)." BART is relying on these representations of the scope of Project activities.

Nevertheless, it is clear that WETA's project will involve entry into and work in the existing access road and fire lane from the Embarcadero to the Ferry Plaza along the south side of the Ferry Building ("Access Road"), in order to perform alterations such as repaving and restriping. As we have previously advised, BART has statutory rights and rights under the Agreement for Joint Exercise of Powers for access to its facilities through the Ferry Platform. Accordingly, WETA must obtain BART's approval the Project to use or directly impact the Access Road. In issuing such an approval, BART would act as a Responsible Agency in reliance on WETA's Final EIS/R. **BART-1 (cont'd.)**

Moreover, if Project refinements or changes during final design result in encroachments or modifications affecting BART that were not evaluated in the DEIS/R, supplemental CEQA review would be necessary before BART could issue an approval. Similarly, if changes in Project construction plans bring construction activity into closer proximity to BART facilities, supplemental CEQA review may be required to determine whether potential impacts on those facilities (including but not limited to onshore and vessel traffic and access impacts, dredging, scouring effects, noise and vibration, and interference with BART's corrosion protection system) may be significant and require mitigation.

Comment 2 - Impacts to Transit Services at the BART/Muni Embarcadero Station.

Impact 3.2-2 provides that, "[i]ncreases in transit demand associated with the project under Existing Conditions would result in an increase to local and regional transit volumes. The only increase that would be adverse and above the thresholds of significance established by the City and County of San Francisco's guidelines and policies would be the addition of riders to the Muni F Market and Wharves in the PM peak hour." Impact 3.2-7 reaches a similar conclusion for cumulative Future (2035) Conditions. However, these analyses fail to take into account the new BART and Muni riders added to the BART/Muni Embarcadero Station (the "Embarcadero Station"). **BART-2**

First, the DEIS/R should have evaluated the impact of the proposed ferry service expansion relative to the station's limited capacity. Even if the added riders do not exceed the significance threshold for overcrowding the transit systems, as the DEIS/R asserts, vehicle overcrowding is not the only form of impact on transit service. Given the proximity of the WETA project to the Embarcadero Station, most or all of these riders will board and exit there. Yet the DEIS/R fails to consider the constraints at the entrances, escalators and stairs, faregates and/or platform, where additional demand could significantly impact the BART System. A lead agency cannot craft its

significance thresholds to ignore sources of significant impact. See *Berkeley Keep Jets Over the Bay v. Board of Port Commissioners*, 92 Cal. App. 4th 1016 (2001) (EIR focused on nighttime average noise, ignoring maximum noise from single nighttime overflight).

The Embarcadero Station currently is operating at 88% of it AM peak hour capacity (11,500 exits compared to a capacity threshold of 13,000 exits) (BART data only, not counting additional Muni Metro riders). By 2030, ridership estimates prepared for the Santa Clara Valley Transportation Authority's Silicon Valley BART Extension show the station's AM peak hour ridership will grow to 114% of capacity. (BART SVRT Core Station Modifications Study (2010): Technical Appendix E - Vertical Circulation Study Results.) That study did not take into account the riders from the WETA Project adding to the demand on access to this single station. The DEIS/R must be revised to include an appropriate analysis of capacity impacts at Embarcadero Station, and to provide feasible mitigation for the Project's fair share of impacts determined to be significant. **BART-2 (cont'd.)**

Second, the DEIS/R's conclusion that vehicle crowding will be less than significant relies on the unrealistic assumption that ferry riders whose origins or destinations are within San Francisco will use only Muni rather than BART. BART reviewed WETA's Transportation Impact Study and found that the Study determined "Transit trips to and from the Project would likely use the nearby Muni bus and rail lines for local trips, and the regional lines such as BART (potentially with transfers to/from Muni) for trips outside San Francisco." (Page 55.) However, this assumption ignores the fact that BART is a significant provider of local trips (60,000 per weekday) within the boundaries of San Francisco, which is approximately 9% of all local San Francisco transit trips, and a much higher percentage of the total trips in the single corridor that BART serves. (E.g., BART's May 2013 Weekday Origin-Destination Ridership Matrix shows 61,005 BART trips between its eight San Francisco stations.) BART's local San Francisco fares are quite competitive with Muni's, and are currently $1.75 per trip compared to Muni's $2 fare. Muni buses, unlike BART, are subject to delay in congested peak traffic conditions, and Muni Metro subways are currently more crowded than BART according to the DEIS/R (Muni Metro lines exceed the capacity utilization standard under existing conditions, p. 3.2-47, but BART does not, p. 3.2-49). BART therefore questions the split of 1,101 AM peak trips between the WETA ferries and Muni and 219 trips between the WETA ferries and BART, which appears to undercount total trips based on the unsupported assumption of no local BART trips. Since the impact analysis and conclusion of insignificant vehicle crowding, in turn, rely on the underestimate of total trips, they are unreasonable and unsupported. **BART-3**

The Transportation Impact Study does not clearly indicate how many of the anticipated 1,101 transfers between ferries and Muni are transfer to Muni Metro and how many are transfer to buses. (Tables 20 and 27 provide breakdowns for bus and Muni Metro lines, but only for inbound AM and outbound PM peaks, counter to the direction for most ferry commuters.) Based on BART data, the ratio of BART riders to Muni Metro riders utilizing Embarcadero Station is approximately 2:1. Therefore, if a total of X ferry passengers are expected to transfer to subway lines in the Embarcadero Station, then approximately 1/3X would be expected to transfer to Muni Metro and approximately 2/3X would be expected to transfer to BART. For example, Muni data collection indicates approximately 13,000 entries and 13,000 exits at Embarcadero

for Muni Metro lines (data from SFMTA Schedules Department, July 2013), collected 2007-2010), while BART recorded approximately 30,500 passengers entering BART and approximately 34,000 passengers exiting BART at Embarcadero (data from 2009). We suggest that the DEIS/R should be revised to include Muni Metro ridership at the station as well as BART ridership, and that an evaluation of the mode split should then be performed to determine likely transfer mode for ferry passengers transferring to rail at Embarcadero, incorporating the actual split of riders at the station. While we do not suggest that these rough comparisons would provide a definitive analysis of origins and destinations, they do demonstrate that the Transportation Impact Study's mode split assumption should be reexamined. BART-3 (cont'd.)

Accordingly, the DEIS/R should be revised to (i) add an analysis of the impact of net new peak hour users of the Embarcadero Station generated by the Project, including both BART riders and Muni riders using the station to access WETA ferries, and (ii) incorporate more realistic assumptions on local BART trips into the analysis of vehicle crowding impacts. If there are significant impacts on the capacity of the Embarcadero station or on the BART system, WETA should contribute a proportionate share of the cost of making capacity improvements. For example, BART SVRT Core Station Modifications Study found that by 2030, the Embarcadero Station will need 476 inches of additional vertical circulation capacity (new stairs and escalators) to meet projected peak period ridership demand, before considering the addition of ferry riders. BART is prepared to provide further information available to it on opportunities for such improvements. BART-4

Proposed Mitigation:
WETA shall contribute a fair share of the cost of capacity improvements to ensure that capacity impacts at the Embarcadero Station and/or on the BART system are reduced to less than significant.

Comment 3 – Revisions to Table 3.1-1

Table 3.1-1, the list of Reasonably Foreseeable Projects Considered in the Cumulative Impact Analysis, describes BART's Ferry Plaza project as being completed in June 2013. The expected completion date is now June 2016. The table should be revised to reflect the changed completion date. The left-most column of the table also should be revised by adding an "s" at the end of the word Project. BART-5

As noted above, this timing has the potential for interference between construction vessels, which should be coordinated and addressed in the Construction Staging Plan. BART-6

Comment 4 - Land-Based Access During Construction

The DEIS/R (p. 3.2-54) states that: "The existing fire lane/driveway south of the Ferry Building would not be obstructed during construction, allowing the other businesses and entities in the Project area (i.e., Ferry Building tenants, Carnelian by the Bay, Golden Gate Transit, BART) to continue their normal operations during construction." BART concurs with the critical need to maintain this access and avoid obstructions. BART maintenance personnel routinely use the BART-7

Access Road. The Access Road must be maintained at its current level of service during construction. As it serves as a fire and emergency access lane, even temporary closure or partial obstruction of the Access Road could result in a significant impact on public safety. Regarding emergency services in general, the DEIR/S (Impact 3.15-9) finds no significant impacts on police, fire and emergency services. Regarding BART in particular, the DEIS/R (p. 3.12-12, Impact 3.12-4) states that: "The proposed project would not be expected to impair implementation of, or interfere with, any emergency operation or evacuation plans in the vicinity of the project site. Existing vehicular access for the fire lane would be maintained. Additionally, BART's evacuation route on the Ferry Plaza would be maintained and would not be impacted."

Accordingly, it is important that WETA has committed, as provided in the DEIS/R (e.g., pp. 3.2-36, 3.2-54), to avoiding obstruction of the Access Road at any time, even temporarily. The DEIS/R mentions no option for alternative access, providing only for avoidance of Access Road impacts throughout construction (and permanently). Any future change to the project description that departed from such avoidance and posed a risk of potentially significant impacts would therefore trigger supplemental evaluation.

BART-7 (cont'd.)

The DEIS/R also includes Mitigation Measure TRANS-3, Construction Circulation Management, requiring WETA to coordinate with City departments, including the Fire Department, regarding construction traffic management. In addition, in the Project Description, the DIES/R (Section 2.4.5) provides that "BART's evacuation route of the Ferry Plaza would be maintained during construction." This section states that a "detailed construction staging plan would be developed during final design that would delineate clear routes for existing water transit passengers and users of the Ferry Building."

To implement this commitment to impact avoidance, we ask that BART be included in the coordination of Mitigation Measure TRANS-3 and development of the construction staging plan. WETA should coordinate with BART to determine the avoidance measures WETA will implement to minimize (a) any traffic congestion affecting the Access Road and (b) potential negative effects of any increased pedestrian and bicycle circulation within the Access Road during construction of the proposed Project.

In addition, we note that the Mitigation Measure TRANS-3 does not actually include taking any implementation action, only meetings to discuss measures that could be implemented. We suggest adding the development and implementation of the construction staging plan, referenced in the Project Description, as an implementation action to TRANS-3.

<u>Proposed Mitigation</u>:
WETA will meet with the Traffic Engineering Division of SFMTA, the SFFD, Muni, the San Francisco Planning Department and BART to determine the best methods and avoidance measures to minimize traffic congestion and potential negative effects to pedestrian or bicycle circulation in the Project area. WETA shall prepare a detailed Construction Staging Plan during final design that will incorporate such avoidance measures and delineate clear routes for existing water transit passengers and users of the Ferry Building and Plaza.

WETA shall obtain BART's approval prior to entry into and construction work in the Access Road. BART-7 (cont'd.)

Comment 5 - Land-Based Access During Operations – Pedestrian/Bicycle Flow in Access Road

For the reasons discussed above, the Project must not negatively impact the Access Road's current level of service once construction is completed and WETA ferry operations commence. As noted above, the DEIS/R commits to avoiding interference with access to property under the control of BART and other entities (Impact 3.3-1), and specifically to avoiding permanent as well as temporary impacts to the Access Road (e.g., Impact 3.2.3 describes existing freight loading and emergency access for BART and other operations and states that the "proposed improvements (including construction activities) would not temporarily or permanently remove, modify, or block access to these locations.") WETA's intent to avoid interference with Access Road use is the predicate for the DEIS/R's conclusion that impacts will be insignificant and no mitigation is necessary.

However, constructing obstructions is not the only source of interference with use of the Access Road. The proposed Project design will encourage pedestrian and bicycle traffic across the road by visually and functionally incorporating it into the unified Embarcadero Plaza. For example, while Figure 2.6 in the DEIS/R Project Description shows pedestrians crossing the Access Road only at the Bayside Promenade, it is inconsistent with Figure 2.7 showing multiple pedestrian paths leading from the proposed Embarcadero Plaza crossing the Access Road at multiple locations. In addition, in sharp contrast to Figure 2.6, the image in Slide 10 presented to the public at the June 25, 2013 meeting on the DEIS/R envisions free movement of substantial numbers of pedestrians across the Plaza and the Access Road. (A copy of Slide 10 is attached for reference.) A clear, stable project description, as a basis for the analysis of project impacts, is a critically important requirement of CEQA. More important, the type of pedestrian and bicycle circulation to and from the planned Embarcadero Plaza that is illustrated in Figure 2.7 and Slide 10 will impede BART's access to its facilities and create a hazardous condition for BART and other drivers as well as for pedestrians and bicyclists in the Access Road. BART-8

The DEIS/R (p. 2-20) asserts that "[b]ecause the project would improve pedestrian flow, pedestrian congestion in the fire lane would be reduced, ensuring that emergency access is maintained." On the contrary, under current conditions, the edges of the Access Road are delineated by a curb and a low but continuous wooden rail (the "bull rail"). Pedestrians crossing the Access Road must step over the bull rail or down the curb, and so are always conscious of being in a road where a truck or emergency vehicle may approach. By contrast, Slide 10 indicates that this demarcation would be eliminated and replaced with less conspicuous, flat markings across which crowds of pedestrians will move freely. It is not credible to assert that impacts will be avoided, pedestrian congestion will be reduced, emergency access will be maintained and there will be no interference with use of BART's property behind the Ferry Building (as the DEIR/S asserts, pp. 2-20, 3.2-36, 3.2-54, 3.3-12, 3.12-12), if crowds are drifting across the Access Road as shown in the slide.

The only Project feature proposed to address this issue is "wayfinding signage at the Ferry Terminal that would improve pedestrian flow, enabling emergency site access, like the fire lane, to remain clear and accessible in the event of an emergency." (Impact 3.2.3). However, while signage is helpful, pedestrians and bicyclists cannot be relied on to respond to signage alone to ensure that the Access Road will "remain clear and accessible", especially with a design that minimizes the distinction between the road and the unified Plaza (see Slide 10). Without some structural demarcation, signage is insufficient to support the conclusion that "the project would have no impact on emergency vehicle access."

Pedestrians and bicyclists must not be encouraged or permitted to circulate within or across the Access Road as proposed on Figure 2.7 and Slide 10, but must be directed to the existing crosswalk and sidewalk crossing the Access Road, as shown in Figure 2.6. WETA must ensure that the Access Road is not visually or functionally incorporated into the proposed Embarcadero Plaza not only by pavement striping, but also by placing adequate physical barriers to restrict crossings to the intended location.

Proposed Mitigation:
WETA shall incorporate the following measures into the Project to discourage the use of the Access Road as a pedestrian or bicycle thoroughfare and avoid impeding BART and other vehicular use of the Access Road:

- Install pavement striping indicating one designated Access Road crosswalk at the Bayside Promenade, as shown on Figure 2-6;
- Install pavement markings identifying the Access Road as a "fire lane;"
- Install adequate physical barriers between the Access Road and the proposed Embarcadero Plaza of sufficient height to prevent pedestrians from freely passing to and from the Embarcadero Plaza across the Access Road except at the designated crosswalk and the sidewalk along The Embarcadero; and
- Post prominent wayfinding signs directing pedestrians to the Access Road crosswalk and Embarcadero sidewalk crossings from both the Embarcadero Plaza and the Ferry Building.
- WETA shall obtain BART's approval prior to entry into and construction work in the Access Road.

If WETA declines to adopt such mitigation, and proceeds to final design of a unified Embarcadero Plaza incorporating the Access Road as illustrated in Slide 10, then the DEIS/R must be revised to recognize that all of the access-related impacts will be significant and unavoidable.

BART-8 (cont'd.)

Comment 6 - Land-Based Access During Operations – Pedestrian Flow in Access Road Crossing

For the reasons discussed above, pedestrian crossing of the Access Road should be limited to the crosswalk at the Bayside Promenade, as shown on DEIS/R Figure 2-6. As a result, when ferries are unloading, a substantial volume of exiting ferry passengers may be expected to cross at this

BART-9

point (rather than the few individuals illustrated in Figure 2-6). However, this crossing was not included among the crossings studied in the DEIS/R. Significantly, Impact 3.2-3 and Impact 3.2-8 note that increases in pedestrian circulation associated with the Project under Existing Conditions and under Future (2035) Plus Project conditions would result in substantial overcrowding for three study area crosswalks (Study Intersections 15A, 15B and 17). The DEIS/R further notes that while "mitigation measures have been identified that could reduce some of these impacts," Impact 3.2-3 is considered a significant, unavoidable impact. (Section 4.3.) BART is concerned that similarly substantial crowding may occur at the designated Access Road crossing shown in Figure 2.6 BART-9 (cont'd.)

Proposed Mitigation:
WETA shall evaluate the designated Access Road crossings and, if necessary, signalize or otherwise control the pedestrian crossings to avoid a significant pedestrian circulation impact.

Comment 7 - Land-Based Access During Operations – Vehicle Flow Across Access Road

The prospect of vehicles using or crossing the Access Road from the proposed Embarcadero Plaza could further impact the safety of BART's use and operations, for the reasons discussed above. The DEIS/R discusses pedestrian and bicycle use but does not mention vehicles. However, as currently designed, it appears that nothing prevents vehicles from crossing the Access Road via the open Embarcadero Plaza as shown in Figure 2.7.

As noted above, the DEIS/R commits to avoiding interference with access to property under BART's control in general and avoiding impacts to the Access Road in particular (e.g., DEIS/R pp. 2-20, 3.2-36, 3.2-54, 3.3-12, 3.12-12). To ensure this result, the impact of vehicles crossing the Access Road from The Embarcadero through the proposed Plaza must be addressed. BART-10

Proposed Mitigation:
WETA shall install adequate physical barriers as determined by BART between the Access Road and the proposed Embarcadero Plaza of sufficient height and strength to limit vehicular traffic to the Access Road and prevent vehicles from passing from the Embarcadero Plaza onto the Access Road. [WETA shall obtain BART's approval of prior to entry into and construction work in the Access Road.

For authorized vehicles entering the Access Road from the Embarcadero, a speed limit of 15 miles per hour should be posted at the entrance to Access Road.

Comment 8 - Water-Based Access and Impacts During Construction

BART requires access to its facilities via the San Francisco Bay for maintenance, repair, replacement, and operation-related activities. The Project Description, Section 2.3.6, commits to avoidance of impacts, providing that: "The proposed facilities would not impede BART-11

the ability of other users in the Project area (e.g. Golden Gate Transit [GGT], the Bay Area Rapid Transit [BART], or emergency responders) to access their facilities from the water side." The DEIS/R also concludes that "there would be no scour impacts on Bay Area Rapid Transit facilities or other structures" from WETA's construction activities. Any proposed use of barges, tugboats, and other vessels by WETA during construction (Table 2-7) must take into account BART's water-based construction activities and access to its facilities. Consultation and coordination with BART will be critical to ensure that construction barges and other vessels and equipment utilized for the WETA and BART projects do not interfere with one another. Selection of barge anchoring locations must also be coordinated to avoid interference with BART facilities and construction activities.

BART-11 (cont'd.)

As discussed above, WETA should incorporate the detailed Construction Staging Plan, referenced in its Project Description, as a mitigation measure and should coordinate with BART and other affected agencies regarding the content of the plan.

Proposed Mitigation:
The Construction Staging Plan shall address the coordination of water-based construction activities and barge anchoring locations.

WETA shall consult with BART regarding water-based construction activities and barge anchoring locations and shall provide to BART a copy of its request to the Coast Guard for permission to anchor outside designated anchorages, to ensure that the anchorage locations will not interfere with BART facilities or access to BART facilities.

Thank you for considering BART's comments. We appreciate the opportunity to comment on the document and look forward to working cooperatively with WETA and other stakeholders on this important transit project in a manner that will address these and other issues of concern to BART as the project moves forward. Please feel free to contact Bernadette Lambert at 510-464-6131 if you require further information or if you have any questions or concerns.

Sincerely Yours,

Carlton D. Allen

Carlton D. Allen
Chief Engineer
San Francisco Bay Area Rapid Transit District

CC:	B. Lambert	P. Smith	C. Quinn
	J. Layton	K. Franklin	T. Horton
			C. Orman

Enclosure

South Basin Conceptual Rendering

WATER EMERGENCY TRANPORTATION AUTHORITY | DOWNTOWN SF FERRY TERMINAL EXPANSION PROJECT

Slide 10 of the presentation shown at the June 25, 2013 public meeting on the DEIS/R

2.7 BART

2.7.1 Response to BART-1

As described in the Draft EIS/EIR, in Section 2.4.5, Construction Staging (page 2-33), and under Impact 3.3-1 (page 3.3-12), the proposed project improvements would not be located on, encroach on, or modify any property or access to property under the control of other entities. Project improvements would be on areas under the control of the Port, and outside the boundaries of BART's jurisdiction in the project area. As a result, the project would not require any approvals or authorizations from BART. WETA and the Port would enter into a lease agreement for the construction of WETA's proposed facilities and ongoing use of the area.

The proposed project does not include any modifications to or encroachments into the fire lane/access road. As described in further detail in **Responses to BART-6 through BART-10**, during construction and operation, the fire lane/access road would remain unobstructed and WETA would work with BART on final project design features (e.g., placements and design of seatwalls, benches, or bollards) to ensure that increased pedestrian activity in the project area does not inhibit BART's ability to access its facilities. Therefore, as stated in the Draft EIS/EIR and in WETA's emails dated January 30, 2012, and October 30, 2012, the proposed project does not include components that require BART approval, and therefore for the purposes of CEQA, BART is not considered a Responsible Agency.

As described in **Response to BCDC-3** and in Mitigation Measure REC-1, a detailed Public Access Improvements Plan will be developed as a part of the permitting process for the proposed project. The plan would be coordinated with BART and EOP, as necessary, if improvements in areas under their control are considered. Additional improvements that could be considered would not affect BART's ability to access its facilities, including the fire lane/access road.

2.7.2 Response to BART-2

The Transportation Impact Study for the project was prepared in accordance with the City and County of San Francisco's (CCSF's) Transportation Impact Analysis Guidelines for Environmental Review (CCSF, 2002). The guidelines include methodology and thresholds for assessing transit impacts in San Francisco. The analysis presented in the Transportation Impact Study for the project (WETA, 2013) was prepared in close coordination with the San Francisco Planning Department. The guidelines for assessing transit impacts focus on ridership of the system and whether additional passengers would be expected to result in overcrowding of transit lines, or groups of transit lines (i.e., screenlines). As presented in the Draft EIS/EIR under Impacts 3.2-2 and 3.2-7, the proposed project would not result in the overcrowding of BART trains.

The expansion of water transit at the Ferry Terminal would result in water transit passenger use of the Embarcadero Station, either exiting this station during the afternoon peak period to walk to the Ferry Terminal or entering the station during the morning peak period to take a transit connection to their final destination. Because of the direction of travel, water transit passengers are typically traveling in the opposite direction of the majority of commuters in San Francisco (e.g., entering the Embarcadero Station in the morning while most commuters are exiting). In 2035, during the AM peak hour, it was estimated that 214 water transit passengers would be entering the Embarcadero Station to access BART.[12] The comment notes that this station currently operates with 11,500 BART rider exits during the AM peak hour, which is 88 percent of the station's capacity. According to the BART Silicon Valley Rapid Transit

[12] An additional 84 water transit passengers would be accessing Muni subways (J, K, L, M, N, and T) at the Embarcadero Station during the AM peak hour.

Core Modification Study Technical Appendix E, the total BART riders (including both entries and exits) for the AM peak hour in 2030 would be expected to be 16,120 (VTA, 2010).

WETA water transit passengers would only be 1.3 percent of the total riders using the BART at the Embarcadero Station in 2030-2035,[13] i.e., 214 passengers out of 16,120 in the AM peak hour. The project's contribution to future use of the Embarcadero Station would be a small percentage of total future ridership (i.e., 1.3 percent of future users). Therefore, the proposed project's impacts on the Embarcadero Station would not be significant, and no mitigation is required.

In addition, the expansion of water transit services at the Ferry Terminal would provide an alternative mode of transit in the San Francisco Bay Area, resulting in passengers arriving to and departing from San Francisco through the Ferry Terminal, instead of arriving or departing using the Bay Bridge (by bus or by car), other area highways, or by transit (e.g., BART). As noted in the Program EIR for WETA's Implementation and Operation Plan (refer to page 3.12-5 of the Program EIR), a portion of the future water transit passengers (0.5 percent) would be expected to have made a shift from riding BART to taking water transit, and thus would reduce demand on the BART system. (See also **Response to BART-3).**

The following modifications have been made to EIS/EIR to include this assessment of the Embarcadero Station:

Page 3.2-50, Section 3.2, Transportation and Circulation, Impact 3.2-2, Potential Impacts to Transit in Existing Conditions, inserted after first paragraph on page:

The proposed project would result in WETA water transit riders accessing BART at the Embarcadero Station. The Embarcadero Station is one of the busiest stations in the BART system, and currently operates at 88 percent of its capacity, with approximately 11,500 exits during the AM peak hour (BART, 2013). Approximately 219 and 238 WETA water transit passengers would be expected to use the Embarcadero Station to access BART in the AM peak hour and PM peak hour, respectively. This is roughly 1.9 to 2.1 percent of total riders using the station. The addition of water transit passengers to Embarcadero Station would not result in the station exceeding its capacity, and would only add a small percentage of users to the station (approximately 2 percent). Therefore, the WETA water transit passengers would not significantly or adversely affect the operation and safety of the Embarcadero Station.

In addition, the expansion of water transit services at the Ferry Terminal would provide an alternative mode of transit in the San Francisco Bay Area, resulting in passengers arriving to and departing from San Francisco through the Ferry Terminal, instead of arriving or departing using the Bay Bridge (by bus or by car), other area highways, or transit (e.g., BART). As noted in the Program EIR for WETA's Implementation and Operation Plan (refer to page 3.12-5 of the Program EIR), a portion of the future water transit passengers (0.5 percent) would be expected to have made a shift from riding BART to taking water transit, and thus would reduce demand on the BART system.

Page 3.2-63, Section 3.2, Transportation and Circulation, Impact 3.2-7, Potential Cumulative Impacts to Transit in Future (2035) Conditions, inserted after fourth paragraph:

The proposed project would result in WETA water transit riders accessing BART at the Embarcadero Station. The Embarcadero Station is one of the busiest stations in the BART system, and in 2030 would be expected to operate at 114 percent of its capacity (BART, 2013). Approximately 214 and 231 WETA water transit passengers would be expected to use the

[13] BART future ridership data are for 2030, whereas WETA future ridership data are for 2035.

Embarcadero Station to access BART in the AM peak hour and PM peak hour, respectively. BART data indicate that in 2030, between 16,100 and 16,400 riders would use Embarcadero Station during the AM peak hour and PM peak hour, respectively (VTA, 2010). Although the station would be expected to operate over its capacity, WETA water transit passengers would make up a small percentage of future riders (1.3 to 1.4 percent of total future riders). Therefore, the WETA water transit passengers would not significantly or adversely affect the operation and safety of the Embarcadero Station.

In addition, the expansion of water transit services at the Ferry Terminal would provide an alternative mode of transit in the San Francisco Bay Area, resulting in passengers arriving to and departing from San Francisco through the Ferry Terminal, instead of arriving or departing using the Bay Bridge (by bus or by car), other area highways, or transit (e.g., BART). As noted in the Program EIR for WETA's Implementation and Operation Plan (refer to page 3.12-5 of the Program EIR), a portion of the future water transit passengers (0.5 percent) would be expected to have made a shift from riding BART to taking water transit, and thus would reduce demand on the BART system.

2.7.3 Response to BART-3

The analysis for the project did allocate local transit trips (i.e., trips for passengers whose destinations and origins were within San Francisco) to both BART and the San Francisco Municipal Railway (Muni). As described in the Transportation Impact Study (WETA, 2013) for the project, the transportation analysis for the project was based on a ridership model developed by Cambridge Systematics for WETA in 2002, and updated in 2011. The WETA ridership model includes (1) mode splits estimating the percentage of WETA passengers who would walk, bike, or use transit in San Francisco; and (2) origins and destinations for water transit riders in San Francisco for each TAZ. Using the mode split data for each TAZ, based on the transit availability in that TAZ, the analysis allocated riders to individual BART and Muni lines. It was assumed that transit riders going to or leaving from a destination in San Francisco (i.e., TAZ) within ¼ mile of a BART station would use BART. For TAZs where BART was not available, riders were allocated to the Muni lines (trains and buses) that would serve that area.

For example, referring to the Existing Conditions Plus Project analysis of the Draft EIS/EIR, Table 3.2-13 indicates that during the AM Peak Hour, 1,320 WETA water transit passengers would use transit to travel to their destination from the Ferry Terminal. Of the 1,320 transit riders in the AM peak hour, 219 were assumed to use BART, 84 were assumed to use Muni subway trains (i.e., J, K, L, M, N, and T), and the remaining 1,017 passengers would use Muni buses or the F Market and Wharves. The same methodology was applied to the analysis of the Future (2035) Conditions. This allocation of local riders between BART and Muni using Embarcadero Station is consistent with the data, including the ratio of Muni to BART riders, reported by the commenter. In addition, Muni offers WETA passengers a $0.50 transfer discount on tickets, so that in local trips where passengers could choose between BART or Muni, Muni fares would be $1.50, compared to $1.75 for BART; considering this, the analysis for the project may overestimate the number of passengers who would use BART.

Therefore, no change to the estimated number of riders is necessary.

2.7.4 Response to BART-4

Refer to **Response to BART-2** and **Response to BART-3.**

2.7.5 Response to BART-5

The expected completion date of BART's Ferry Plaza Physical Barrier Projects has been updated to June 2016, as described in Section 1.2.10 of this Response to Comments Appendix. This change means that

now there is a possibility that WETA's construction schedule could overlap with BART's work at the Ferry Plaza. Therefore, the cumulative impact analysis presented in the Draft EIS/EIR has also been updated as necessary, as shown in Section 1.2.10 of this Response to Comments Appendix.

2.7.6 Response to BART-6

Refer to **Response to BART -7** and **Response to BART-11**.

2.7.7 Response to BART-7

All project construction activities would be confined to the areas in the Construction Zone, shown on Figure 2-9 of the Draft EIS/EIR. The Construction Zone does not encroach on the fire lane/access road on which BART relies for its operations.

To recognize BART's interest in the project area and to clarify WETA's intent to coordinate construction staging and circulation in the project area, Mitigation Measure TRANS-3 has been updated as follows, to include additional aspects of construction staging coordination.

Page ES-13, Executive Summary, Table ES-2, Summary of Impacts and Mitigation Measures for the Action Alternative, Mitigation Measure TRANS-3, second column:

Mitigation Measure TRANS 3: Construction Circulation Management

WETA will meet with the Traffic Engineering Division of SFMTA, the SFFD, Muni, and the San Francisco Planning Department to determine the best methods and avoidance measures to minimize traffic congestion and potential negative effects to pedestrian or bicycle circulation in the project area during construction of the proposed project. Additional avoidance measures that could be implemented include encouraging carpooling and transit use for construction workers, managing construction traffic on Mission Street to avoid peak-period congestion, informing the public of construction schedules and activities, and posting of wayfinding signage in the project area for pedestrians and bicycles.

<u>WETA will also develop a construction staging plan that will be coordinated with the Port of San Francisco and other entities with interest in the project area (e.g., BART and Equity Office Partners). The construction staging plan will ensure that ingress and egress to the existing gates and businesses would be maintained; vehicular access along the fire lane would be maintained; water side and land side access to other facilities on the Ferry Plaza would not be impeded; and construction would not block or prevent passage along The Embarcadero. Wayfinding signage would be posted as necessary.</u>

Page 3.2-67, Section 3.2.4 Mitigation Measures, Mitigation Measure TRANS-3:

Mitigation Measure TRANS 3: Construction Circulation Management

WETA will meet with the Traffic Engineering Division of SFMTA, the SFFD, Muni, and the San Francisco Planning Department to determine the best methods and avoidance measures to minimize traffic congestion and potential negative effects to pedestrian or bicycle circulation in the project area during construction of the proposed project. Additional avoidance measures that could be implemented include encouraging carpooling and transit use for construction workers, managing construction traffic on Mission Street to avoid peak-period congestion, informing the public of construction schedules and activities, and posting of wayfinding signage in the project area for pedestrians and bicycles.

WETA will also develop a construction staging plan that will be coordinated with the Port of San Francisco and other entities with interest in the project area (e.g., BART and Equity Office Partners). The construction staging plan will ensure that ingress and egress to the existing gates and businesses would be maintained; vehicular access along the fire lane would be maintained; water side and land side access to other facilities on the Ferry Plaza would not be impeded; and construction would not block or prevent passage along The Embarcadero. Wayfinding signage would be posted as necessary.

2.7.8 Response to BART-8

Figure 2-6 of the Draft EIS/EIR reflects the proposed project improvements in the South Basin. As shown on this figure, and consistent with the rest of the Draft EIS/EIR, no modifications or changes would be made to the fire lane/access road as a part of the proposed project. Figure 2-6 conceptually depicts the new project features (e.g., the Embarcadero Plaza and new Gates F and G), and shows the fire lane as it existed at the time the Draft EIS/EIR was prepared (with bull rails). The "Slide 10" referred to in the comment is an outdated version of a conceptual rendering of the project area that was used to gather public input during the preliminary design phase of the project, and does not represent the proposed project improvements as described in the Draft EIS/EIR. Figure 2-7 of the Draft EIS/EIR appears to contradict the circulation patterns shown on Figure 2-6. As shown on the labels of the gates on Figure 2-7, this figure was intended to depict "desire lines," not actual circulation patterns. These lines depict the routes that pedestrians would desire to travel. The actual circulation patterns in the project areas will be based on physical improvements and features, such as bull rails, seatwalls and benches, which will guide pedestrian movements. This clarification has been made to Figure 2-7 by adding a note to the figure and changing the figure title to "Pedestrian Desire Lines."

Data collected in support of the Draft EIS/EIR on pedestrian flow in the project area determined that passengers exiting from water transit vessels as they arrive in the morning generally travel along direct routes from their gate to The Embarcadero. Several existing bottlenecks affecting pedestrian circulation were observed in the project area (refer to Section 1.5.2 of the Draft EIS/EIR), including along the fire lane/access road (refer to Figures 1-5 and 1-6 of the Draft EIS/EIR). The proposed project improvements have been designed to remove these bottlenecks and improve passenger flow. As shown on Figure 1-5, the current options for circulation—especially in the South Basin—are limited; passengers accessing water transit gates generally use three distinct, fairly narrow corridors between The Embarcadero and the gates. The proposed project improvements would result in the creation of the Embarcadero Plaza in the South Basin, which would remove the current bottleneck at the southern side of the Ferry Building, and also make it easier passengers to access The Embarcadero from Gates E, F, and G from a variety of points without affecting the fire lane/access road (and vice versa). In addition, the improvements along the South Apron of the Agriculture Building would improve this southern route for passenger use. The addition of approximately 24,500 square feet of open area (i.e., the Embarcadero Plaza) would substantially improve the movement of passengers in the project area, and provide passengers direct routes to their gates that would not affect the fire lane/access road.

As noted in the Draft EIS/EIR, Section 2.3.3, page 2-19, additional features and design treatments such as seatwalls, steps, benches, planters and other furnishings will be incorporated into the project's Final Design. The features would be placed and designed to guide pedestrian movements, to ensure that the fire lane/access road is unobstructed; and also could be placed to limit vehicular access across the Embarcadero Plaza (refer to **Response to BART-10**). BCDC also has an interest in ensuring that the Final Design prevents vehicular access to public access areas (refer to **Response to BCDC-2**). The Final Design of the project will be developed in cooperation and coordination with the Port, BCDC, and SFHPC, as described in Section 2.6, Agency Approval Required, of the Draft EIS/EIR; and in Mitigation Measure CUL-6. No further mitigation is necessary.

The following modifications have been made to the text of the Draft EIS/EIR to clarify how the project improvements would be expected to affect circulation in the South Basin.

Page 2-20, Section 2.3.4, Circulation Improvements, third paragraph:

> In the South Basin, the East Bayside Promenade and associated canopy would organize passenger queuing and reduce use conflicts. The creation of the Embarcadero Plaza would greatly enhance passenger circulation to Gates E, F, and G, allowing free movement, and eliminating the current pedestrian bottlenecks and use conflicts at the southeastern corner of the Ferry Building. Figure 2-7~~ depicts the paths of anticipated pedestrian circulation through the project area~~ depicts the desired paths of pedestrian circulation with the project improvements. The actual circulation patterns in the project areas will be based on physical improvements and features, such as bull rails, seatwalls, and benches, which will guide pedestrian movements. The details of project elements placed to guide pedestrian flow and limit vehicular access would be determined during the project Final Design. The Final Design details will be developed in coordination with the Port, BCDC, and the SFHPC. Because BART has facilities in the project area, the design of circulation improvements would also be coordinated with BART. ~~Because t~~The project would improve pedestrian flow~~,~~; therefore, pedestrian congestion in the fire lane would be reduced, ensuring that emergency access is maintained.

2.7.9 Response to BART-9

As described in **Response to BART-8**, the proposed project would not modify the current fire lane and access road. Data collected on water transit passenger use of the project area indicate that when passengers arrive in the morning, they exit their arriving water transit vessels and walk directly toward The Embarcadero (refer to Figure 1-5). Few passengers were observed entering the Ferry Building or lingering in the project area. In addition, when water transit passengers arrive for their afternoon water transit departure, they tend to arrive 10 to 15 minutes before departure and queue directly in front of their gates. Passengers using WETA's existing gates (Gates B and E) generally were not observed accessing the Ferry Plaza area. Based on these observed patterns of water transit passenger circulation, on the expected circulation patterns for future passengers (described in detail in **Response to BART-8**), and on the fact that the project improvements have been designed to alleviate the current circulation bottleneck that exists at the southeast corner of the Ferry Building, no significant increase in pedestrian flow would be expected in this area. The Draft EIS/EIR concluded that increases in pedestrian circulation in the project area would not significantly impede access or public safety for emergency purposes; therefore, further analysis of the pedestrian flow in this area is not warranted.

2.7.10 Response to BART-10

WETA's operation activities would not require regular vehicle access at the project site. Should WETA require vehicular access to their gates, such access would be coordinated with the Port, as determined in the lease agreement between WETA and the Port. The proposed project improvements would not provide for parking or vehicular access anywhere in the South Basin. A vehicle accessing the Embarcadero Plaza would do so illegally. As described in **Response to BART-8**, project features and design treatments such as seatwalls, steps, benches, planters, and other furnishings will be incorporated into the project's Final Design. WETA will incorporate the placement of such features to limit vehicular access across the Embarcadero Plaza, as necessary, in cooperation and coordination with the Port, BCDC, and SFHPC. BCDC also has an interest in ensuring that the Final Design prevents vehicular access to public access areas (refer to **Comment and Response to BCDC-2**).

2.7.11 Response to BART-11

As stated in the Draft EIS/EIR, WETA's new facilities in the Ferry Terminal area would not impede the ability of other users and leaseholders in the project area to access their facilities. The proposed project would ensure that access is maintained from both the land side and water side, during operations as well as construction. As shown on Figure 2-9 of the Draft EIS/EIR, due to the limited area for construction staging in the project area, the majority of WETA's project construction would be conducted from barges. The barges, tugboats, and other equipment would also be operated within the "construction zone" boundary shown on Figure 2-9, allowing BART to maintain waterside access to its facilities. WETA would also request an anchor waiver from the USCG for the temporary anchoring of construction barges (refer to Section 2.6 Agency Approvals Required).

To recognize BART's interest in the project area, and to clarify WETA's intent to coordinate construction staging and circulation in the project area, Mitigation Measure TRANS-3 has been updated to include additional aspects of construction staging coordination, as described under **Response to BART-7**.

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

July 5, 2013

Mike Gougherty
Water Emergency Transportation Authority
Pier 9, Suite 111
The Embarcadero
San Francisco, CA 94111

Dear Mr. Gougherty,

On June 19, 2013, the Historic Preservation Commission (HPC) held a public hearing and took public comment on the Draft Environmental Impact Statement (DEIS) and Draft Environmental Impact Report (DEIR) for the proposed Downtown Ferry Terminal Expansion Project (SCH #2011032066).

After discussion, the HPC arrived at the comments below:

- Incorporate the earlier comments by the Architectural Review Committee of the Historic Preservation Commission from their review of the proposed project's compliance with the Secretary of the Interior's Standards for Rehabilitation. They were in regards to the new ferry terminal berthing facilities, the new photovoltaic canopies, and the Embarcadero Plaza. See attached memo, dated April 25, 2013; **SFHPC-1**
- Present final design of the proposed canopies and the plaza to the Historic Preservation Commission; and **SFHPC-2**
- Revise figures in the DEIS/DEIR document to ensure consistent and accurate information regarding any and all proposed changes (i.e., Pages 29 and 93). **SFHPC-3**

The HPC appreciates the opportunity to participate in review of this environmental document.

Sincerely,

Karl Hasz, President
Historic Preservation Commission

ATTACHMENT
April 25, 2013 ARC Memo

2.8 SFHPC

2.8.1 Response to SFHPC-1

Please refer to Responses to the Architectural Review Committee's letter (**Responses to SFARC-1 through SFARC-5**)

2.8.2 Response to SFHPC-2

WETA has committed to ongoing coordination with the SFHPC on the project's Final Design. As described in Section 2.6, Agency Approvals Required, of the Draft EIS/EIR, the project's Final Design will be subject to the Port and BCDC's design review process. In addition, the design review process will be coordinated with the SFHPC. Mitigation Measure CUL-6 also specifically requires that final design of the weather protection canopies be developed in consultation with the Port's Waterfront Design Advisory Committee and the SFHPC.

2.8.3 Response to SFHPC-3

As described in Section 1.2.3 of this Response to Comments Appendix, WETA has decided not to include the weather protection canopy proposed at Gate B in the project Final Design. Therefore, Figure ES-2 and Figure 2-1 accurately depict the extent of the improvements proposed for the project.

SFARC

SAN FRANCISCO
PLANNING DEPARTMENT

MEMO

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

DATE: April 25, 2013

TO: Mike Gougherty, San Francisco Bay Area Water Emergency Transportation Authority (WETA)

FROM: Rich Sucré, Historic Preservation Technical Specialist,

(415) 575-9108

REVIEWED BY: Architectural Review Committee of the Historic Preservation Commission

RE: **Meeting Notes -**
Review and Comment at the April 17, 2013 ARC-HPC Hearing
for the Downtown Ferry Terminal Expansion
Case No. 2013.0100F

At the request of the Planning Department and Port of San Francisco, the Architectural Review Committee (ARC) was asked to review and comment on the Downtown Ferry Terminal Expansion Project.

Currently, the proposed project is undergoing environmental review pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

ARC RECOMMENDATIONS/COMMENTS

New Ferry Terminal Berthing Facilities-Gate A, Gate F and Gate G:
Overall, the ARC concurs with the staff determination that the new ferry terminal berthing facilities would be generally compatible with the adjacent historic resources and their character-defining features. The location and design of these new berthing facilities, including their floats, gangways, and access ramps, are located away from nearby historic resources, and are consistent with previously-determined compatible designs. SFARC-1

New Photovoltaic Canopies:
The ARC concurs with the staff recommendations regarding the design of the new canopies and elimination of the canopy extending in front of the north façade of the Ferry Building. Overall, the ARC agrees with the staff determination that the design of all new canopies should be refined to better relate to the adjacent historic resources and the surrounding historic district. Specifically, the ARC questioned the function and efficiency of the new photovoltaic panels on the canopies given their location and orientation. Further, the ARC found that the new canopy design would not appear to sufficiently shield passengers from wind and rain, due to the current design's height and upslope. In addition, the ARC commented on the number of canopies and their impact upon the view of the Ferry Building and the San Francisco Bay. The ARC questioned the SFARC-2

number of varying design expressions introduced into the area, which would be caused by the new photovoltaic canopies in combination with the existing East Bayside Promenade, entry portals to the new berthing facilities, and other existing site elements. The ARC also requested additional information on the queue time for the various ferry terminals and the justification for permanent canopies. The ARC questioned whether the destinations with longer queues could be moved to one of the other berthing facilities with longer canopy elements. Ultimately, the ARC found that the current design is not compatible with the surrounding historic resources. SFARC-2 (cont'd.)

Embarcadero Plaza:

Generally, the ARC concurs with the staff determination that the infill of the lagoon between the Agriculture Building and Ferry Building would be generally compatible and would not impact adjacent historic resources and their character-defining features. SFARC-3 The ARC questioned the elevation of the Embarcadero Plaza and requested more detail on the flooding of the surrounding area and Agriculture Building. SFARC-4 The ARC would also like additional information on the plaza design, materials and finishes before issuing a final opinion on this aspect of the proposed project. SFARC-5

Future Review:

The ARC appreciates the opportunity to review the initial concepts for the Downtown Ferry Terminal Expansion, and welcomes future review of the proposed project.

2.9 SFARC

2.9.1 Response to SFARC-1

Comment is noted.

2.9.2 Response to SFARC-2

As described in Section 1.2.3 of this Response to Comments Appendix, WETA has decided not to include the weather protection canopy proposed at Gate B in the project's Final Design.

Mitigation Measure CUL-6 requires that the Final Design of the canopies be developed in consultation with both the Port's Waterfront Design Advisory Committee and the SFHPC, consistent with the Secretary of the Interior's Standards. Currently, water transit passengers generally arrive 10 to 15 minutes prior to departure, and tend to queue in an orderly, linear fashion in front of their gate. The queuing area was designed to accommodate one vessel's capacity (i.e., 299 passengers) at each gate. Therefore, the queuing requirements for each gate are the same (i.e., 3,500 square feet per gate; refer to Section 2.3.3, Passenger Boarding and Circulation Areas and Amenities). The canopy in the South Basin would be longer than the canopy for Gate A, but the canopy in the South Basin is designed to accommodate the queuing of three gates (Gates E, F, and G). The canopies have been designed to provide an organizational structure for queuing, as well as to provide weather protection, while keeping other areas free for pedestrian circulation. Detailed information on the canopy height, upslope, and ability to provide effective weather protection, as well as photovoltaic configuration and efficiency, will be included in the Final Design.

See also **Response to BCDC-4**.

2.9.3 Response to SFARC-3

Comment is noted.

2.9.4 Response to SFARC-4

Refer to **Response to BCDC-5.**

2.9.5 Response to SFARC-5

Detailed information on the design, materials, and finishes of project elements will be included in the Final Design. WETA will coordinate with SFHPC/SFARC during the Final Design, as described in **Response to SFARC-2**.

EOP

MORRISON | FOERSTER

425 MARKET STREET
SAN FRANCISCO
CALIFORNIA 94105-2482

TELEPHONE:415.268.7000
FACSIMILE:415.268.7522

WWW.MOFO.COM

MORRISON & FOERSTER LLP

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LOS ANGELES, PALO ALTO,
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Writer's Direct Contact
415.268.7145
ZGresham@mofo.com

By Hand Delivery and Electronic Mail

Michael Gougherty
Project Manager
San Francisco Bay Area Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

Re: Comments on the Draft Environmental Impact Report/Environmental Impact Statement for Downtown San Francisco Ferry Terminal Expansion Project

Dear Mr. Gougherty:

Equity Office Properties (EOP)[1] submits these comments on the Draft Environmental Impact Report/Environmental Impact Statement (DEIR) for the Downtown San Francisco Ferry Terminal Expansion Project (Project) proposed by the Water Emergency Transportation Authority (WETA) and the Federal Transit Administration (FTA).

SUMMARY OF CEQA AND NEPA DEFECTS IN DEIR

WETA proposes the expansion of the Downtown San Francisco Ferry Terminal, including the construction of up to three new ferry gates and covering of the current "lagoon" area south of the Ferry Building to provide new ferry service between Richmond, Berkeley, Treasure Island, Hercules, Redwood City, Martinez, and Antioch. FTA would provide significant federal funding for the Project.

EOP-1

The first step in any such development is adequate review under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). Unfortunately, after a close review of the DEIR, it is clear that the Project as designed, and the agencies' environmental review of the Project in the DEIR, is flawed. The DEIR fails to describe essential facts necessary to accurately and completely describe the Project, it fails to

[1] EOP, with respect to the Ferry Building, includes Equity Office Management, LLC, as agent for Ferry Building Associates, LLC, and Ferry Building Investors, LLC.

MORRISON | FOERSTER

425 MARKET STREET
SAN FRANCISCO
CALIFORNIA 94105-2482

TELEPHONE:415.268.7000
FACSIMILE:415.268.7522

WWW.MOFO.COM

MORRISON & FOERSTER LLP

NEW YORK, SAN FRANCISCO,
LOS ANGELES, PALO ALTO,
SACRAMENTO, SAN DIEGO,
DENVER, NORTHERN VIRGINIA,
WASHINGTON, D.C.

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provide a factual basis for critical conclusions contained in the DEIR, it relies on inaccurate and outdated data, and it understates substantially the potential impacts of the Project.

Among the specific omissions and flaws in the environmental analysis:

- The Project Description—the starting point of any analysis of potential environmental impacts of a project—does not fully and properly describe the full scope of the Project.

- The DEIR improperly piecemeals, or segments, the Project, thereby minimizing impacts (such as air quality and transportation and circulation) and avoiding necessary mitigation.

- The DEIR relies upon outdated data for its operations plan and to assess the full impacts of expanded ferry service and ignores the Port of San Francisco's role in the planned development of the Ferry Building under the Port and WETA's 2008 Memorandum of Understanding.

- The DEIR rejects feasible alternatives that would minimize impacts, improve pedestrian circulation and safety, and protect the Ferry Building. As a result, the alternatives discussion fails to provide the public and decision-makers with what CEQA and NEPA requires: a reasonable range of options and trade-offs between the Proposed Project and alternatives that may serve some of the proper objectives of a project.

- The DEIR fails to properly and fully address the Project's specific and cumulative transportation and circulation, resource and cultural, and safety and security impacts. The document also omits several significant "present and probable future projects," calling into doubt the entire cumulative impacts analysis.

- The DEIR identifies significant and unavoidable impacts related to transportation and circulation, yet fails to assess all potentially feasible mitigation measures, or to incorporate all feasible mitigation—or any mitigation—to address these significant issues, leaving them as wholly unmitigated impacts of the Project.

For these reasons, among others, the required analysis of the Project is defective under CEQA and NEPA, undermining reasoned judgment on the Project and failing the required purposes of those environmental and information-gathering statutes. *See Citizens of Goleta Valley v. Bd. of Supervisors*, 52 Cal. 3d 553, 564 (1990) (An EIR's purpose is "to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR protects not only the environment but also informed

EOP-1 (cont'd.)

self-government.") (italics and internal quotation marks omitted); Cal. Code Regs., tit. 14,[2] § 15002(a)(2); *see also Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (noting NEPA's purposes are to ensure the agency will have detailed information on significant environmental impacts when it makes its decisions and to guarantee that this information will be available to a larger audience); 40 C.F.R. §§ 1502.1, 1502.14. Indeed, the Project's DEIR so fundamentally fails to provide the necessary and accurate information required for informed decision-making under CEQA and NEPA that no reasonable conclusions as to the soundness and value of the Project may be drawn from that document.

As a result, at this time EOP is unable to take a position on the Project itself. EOP is supportive of public transportation, and many forms of transit currently serve the Ferry Building and Embarcadero area, including BART, Muni, AC bus linkages and Amtrak. Thus, the Project cannot be analyzed in isolation, particularly when considering feasible alternatives. EOP-1 (cont'd.)

EOP urges WETA and FTA to carefully review the comments below and correct the deficiencies identified before moving forward with any further consideration of the Project. FTA, in particular, must carefully weigh the relative benefits of the Project—based on a full and accurate understanding of the scope and effects of the Project—before committing millions of dollars in federal subsidies for water-based transportation. Indeed, the DEIR itself admits that the Project will result in significant and unavoidable environmental impacts. Before irreversibly committing resources to such a project, WETA and FTA owe the public a full, accurate and well-supported analysis of its environmental impacts.

WETA and FTA must recirculate the corrected document as a new DEIR, so that the public will have the meaningful opportunity to review the Project's potential environmental impacts as CEQA and NEPA requires. A full and open environmental review process is in the best interest of the public, WETA, FTA, and the residents of the San Francisco Bay Area.

EOP, AS THE STEWARD OF THE FERRY BUILDING, HAS A STRONG BENEFICIAL INTEREST IN ENSURING COMPLIANCE WITH CEQA AND NEPA

EOP-2

EOP is the steward of the Ferry Building, as it holds a long-term lease from the City and County of San Francisco (City) for the San Francisco Ferry Building and adjacent Ferry Plaza. The Ferry Building is a City landmark (No. 90), and a gathering place for thousands of San Franciscans and visitors. As a result, it is vital to EOP that the physical, operational

[2] Hereinafter "CEQA Guidelines."

and aesthetic aspects of the Project and its effects on the landmark Ferry Building and EOP's rights are properly and fully identified, analyzed and addressed.

For decades, the Ferry Building was physically separated from the rest of the City by the raised Embarcadero Freeway. After the 1989 Loma Prieta Earthquake, the Ferry Building and its environs were left derelict and damaged. The eventual removal of the Embarcadero Freeway presented a unique opportunity for change and to reunite the Ferry Building with the City it serves. Rather than leave this area to decay, the City entered into an innovative public-private partnership with EOP to revitalize the waterfront. That partnership culminated in 2001 when EOP invested $125 million to rehabilitate the Ferry Building to modern safety standards and U.S. Department of Interior historic preservation guidelines, and restore its public trust uses.

EOP-2 (cont'd.)

More than ten years later, EOP continues to invest substantially to maintain physical structures underlying the Ferry Building, making it one of San Francisco's most visited landmarks, drawing six million visitors a year, and home to world-renowned Ferry Building Farmers Market. Because of this public-private partnership, and EOP's large and continuing investment and award-winning rehabilitation, the Ferry Building today has sparked a renaissance on the waterfront and thrives as one of the most famous examples of a successfully rehabilitated public trust resource.

Accordingly, EOP has a strong interest in the economic vitality of the City's downtown waterfront and supports responsible development that would sustain and enhance San Francisco's iconic Ferry Building. This includes improved and carefully planned transportation to and from the San Francisco waterfront, which is already serviced by BART, MUNI, the Golden Gate Bridge, Highway and Transportation District and many other regional transit services. The Project proposes substantial changes to the waterfront area around the Ferry Building, including the construction of new terminals and the removal of piers. The Ferry Building and the Ferry Plaza would both be significantly affected by the proposed Project. EOP is vitally interested in whether, and if so, how the Project is developed and in ensuring that the Project's environmental impacts are fully considered and actually mitigated to the fullest extent feasible.

THE DEIR FAILS TO ADEQUATELY AND COMPLETELY COMPLY WITH CEQA AND NEPA

1. **The Project Description Does Not Adequately and Completely Describe the Actual Project**

An accurate and complete project description, as required by CEQA and NEPA, enables the public to understand the full scope of the project and its potential effects on the environment.

> A curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal . . . and weigh other alternatives in the balance. An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR.

Cnty. of Inyo v. City of L.A. , 71 Cal. App. 3d 185, 192-93 (1977).

Here, the Project Description is incomplete, grossly inaccurate and under-developed. As a result, it improperly minimizes the potential environmental impacts and artificially narrows the reasonable range of alternatives of the Actual Project.

The Project Description also improperly constrains the scope of the Actual Project by narrowly defining the Described Project's objective to "[a]ccommodate WETA's projected increase in water transit ridership and related vessel arrivals and departures from the Ferry Terminal." (DEIR at 1-2.) By limiting the Described Project's objective to merely providing services at the Ferry Terminal, the DEIR automatically forecloses the possibility of using other waterfront facilities to service the future ferry needs at the San Francisco Waterfront. *See In re Bay-Delta*, 43 Cal.4th 1143, 1163 (2008); CEQA Guidelines § 15124(b). EOP-3

Moreover, although the Project Description recognizes the ongoing planning and programming of the iconic Ferry Building (DEIR at 1-7), the DEIR does not identify the necessary approvals and authorizations the Actual Project will require from EOP and the Port. The Actual Project, as proposed, would not merely affect the Ferry Building, but would effectively take a portion of EOP's leasehold for its operations. This fact is not even acknowledged in the DEIR. EOP-4

As explained above, the Project Description is inconsistent with the informational purpose of CEQA. As such, the DEIR must be revised to accurately and fully describe the Actual EOP-5

Project so that its impacts can be fully examined and addressed based on current and complete information. EOP-5 (cont'd.)

2. The DEIR Improperly Piecemeals and Segments the Project, Thus Minimizing Impacts and Avoiding Necessary Mitigation

The Project Description also fails to adequately describe the full scope of the Actual Project, which ultimately will be to induce ferry operations (and the attendant air, water and noise pollution and impacts from passenger embarkation/debarkation from those points) across the San Francisco Bay. Indeed, part of the Described Project's objective is to "[p]rovide a viable alternative mode of transportation that accommodates projected increases in transbay trips, and helps alleviate congestion over the San Francisco Bay Bridge and through the San Francisco Bay Area Rapid Transit (BART) Transbay Tube." (DEIR at 1-2.) This necessarily requires a description of how ferries would transport riders across the Bay and how riders would arrive to and exit from terminuses. However, the DEIR expressly states that it did not analyze the impacts of such expanded service, relying instead on a decade-old environmental analysis of projected ferry routes, or else leaving it to future environmental review. (DEIR at 2-1.)

EOP-6

WETA may not leave analysis of such impacts to future review. This "piecemeal" approach of chopping a larger project into smaller projects has been repeatedly denounced by the courts as undermining CEQA's basic information disclosure purpose. *See, e.g., Rural Land Owners Ass'n v. City Council of Lodi*, 143 Cal.App.3d 1013, 1025 (1983) ("Responsibility for a project cannot be avoided by limiting the title or description of the project."); *Rio Vista Farm Bureau Ctr. v. Cnty. of Solano*, 5 Cal.App.4th 351, 370 (1992) (The purposes of CEQA are not served "by piecemeal review which results from chopping a large project into many little ones—each with a minimal potential impact on the environment—which cumulatively may have disastrous consequences."). This is because "[a] narrow view of a project could result in the fallacy of division . . . that is, overlooking its cumulative impact by separately focusing on isolated parts of the whole." *McQueen v. Bd. of Dirs. of the Mid-Peninsula Reg'l Open Space Dist.*, 202 Cal.App.3d 1136, 1144 1988) (citations omitted), *disapproved on other grounds, Western States Petroleum Ass'n v. Superior Court,* 9 Cal.4th 559, 570 n.2 (1995). CEQA avoids this result by defining the term "project" broadly, as the "whole of an action." *Citizens Ass'n for Sensible Dev. of Bishop Area v. Cnty. of Inyo*, 172 Cal.App.3d 151, 165 (1985); CEQA Guidelines § 15378(a). Yet, this is exactly what the DEIR does by leaving out of the Project Description the critical discussion of ferry service on the San Francisco Bay. Through such improper piecemealing, the DEIR has ignored significant air quality and transportation and circulation impacts, to name just two, that will necessarily result from running more ferries on the Bay. This is a blatant violation of CEQA and NEPA.

To the extent WETA and FTA claim to be relying on WETA's 2003 EIR for the operations plan for assessing the full impacts of expanded ferry service, that analysis is ten years old and may no longer accurately and comprehensively identify and analyze future ferry use and impacts. Indeed, in the decade since that analysis was prepared, the region has suffered an economic downturn that has significantly affected construction of new housing and commercial and industrial facilities, which, in turn, affect commuting and traffic levels and patterns. The DEIR also fails to take into account significant changes to technology, regulatory requirements, traffic patterns, and operational needs. "[U]sing scientifically outdated information" in a DEIR does not constitute "a reasoned and good faith effort to inform decision makers and the public" about the effects of a project. *Berkeley Keep Jets Over the Bay Comm.v. Bd. of Port Comm'rs*, 91 Cal. App. 4th 1344, 1367 (2001). Yet, there is no discussion in the DEIR of how conditions have changed or whether the former EIR impacts analysis is still accurate. The DEIR merely presumes that this decade-old data are not outdated. This oversight is a critical deficiency in the analysis and must be remedied. EOP-7

The DEIR also cannot rely on the 2003 EIR because that analysis was limited to the environmental impacts of the operating plan for the addition of ferry service for the San Francisco Bay. Every alternative analyzed in 2003 involved ferry service; in other words, no other mass transit options were analyzed. By continuing to rely on the 2003 EIR, the Project DEIR perpetuates that error, once again depriving decision-makers and the public of an opportunity to weigh the environmental impacts, operational values and policy benefits of providing ferry service in lieu of other transportation options. This is a fatal defect in the analysis that must be remedied before any decision can be reached on the Project. EOP-8

The piecemealing does not end there. The Project Description also ignores the Port of San Francisco's role in the planned development under the Memorandum of Understanding (MOU) between the Port and WETA. WETA and the Port entered into a MOU in 2008 to cooperate on the expansion of the Downtown Ferry Terminal and coordinated development of the waterfront. As authorized by the Port in Resolution No. 08-78, the MOU focused on, among other things, ensuring that the design concept for ferry facilities was both complementary to and compatible with other future land use improvements contemplated in the Ferry Building area, such as the historic rehabilitation and adaptive reuse of the Agriculture Building, and efforts to better manage pedestrian traffic and parking needs. Implementation of the Port's development plans for the Ferry Building area could ultimately affect the environment in a way that is cumulatively significant when the impacts from the Actual Project are also considered, and vice versa. In short, WETA and the Port cannot segment their environmental review of what is actually, and what should be, a single coordinated planning process for the Ferry Building area. The Port's development plans are an important part of the Actual Project as a whole for which the DEIR improperly fails to account. EOP-9

3. The DEIR Fails to Analyze a Reasonable Range of Feasible Alternatives

The purpose of the alternatives discussion in an EIR is to identify ways to reduce or avoid significant environmental effects. For this reason, an EIR must focus on alternatives that avoid or substantially lessen a project's significant environmental effects and the alternatives discussed should be ones that offer substantial environmental advantages over the proposed project. Cal. Pub. Res. Code § 21002; CEQA Guidelines § 15126.6(a)-(b); *see also* 40 C.F.R. § 1502.14(a) (NEPA requires the lead agency to "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."); 42 U.S.C. § 4332(C)(iii).

Here, the DEIR's Alternative Analysis fails in its attempt to address CEQA and NEPA requirements. There are only two alternatives analyzed: Project and No Project. (DEIR at 2-2 to -41.) No other alternative is analyzed, despite the fact that the DEIR identified other possible alternatives, such as a different location, different berth configuration, expanded drop-off areas and extended pedestrian circulation plans. (DEIR at 2-43 to -47.) The DEIR improperly rejected each of these alternatives as not providing any benefit to the Project without the reasoned explanation and analysis that both CEQA and NEPA requires. Because each of these "rejected" alternatives would minimize at least some of the environmental impacts of the Project—for example, all of these alternatives would likely provide better and safer pedestrian circulation and queuing—the DEIR's brusque dismissal of them is improper and deprives the public and decision-makers of vital information required for an informed analysis. EOP-10

Indeed, the DEIR's range of alternatives is so restrictive that WETA failed to even include an alternative that would have addressed the Port's part of the Project. Moreover, EOP previously provided in writing to WETA an alternative that would include:

- Activation of the Ferry Plaza as a multi-use space for the Farmers Market and public events as well as limited valet parking;
- More clearly defined public access areas and pedestrian routes;
- Restoration of the Pier ½ area for use as emergency staging, passenger queuing, and parking for the Ferry Building area;
- Filling in of the "lagoon" to the south of the Ferry Building for use as an extension of public access of the waterfront, including the Farmers Market, valet parking area, and emergency staging; and

- Creation of a new, unified waterfront promenade to promote access to the Bay.

EOP's proposal is a feasible alternative that would meet the project objectives, while accommodating the needs of EOP's merchants, farmers, and patrons who need reliable and safe parking and access in order for the Ferry Building Marketplace and Farmers Markets to continue to thrive, providing safer queuing and pedestrian crossings of busy streets, and enhancing the pedestrian experience and increasing access by all the public to the San Francisco Bay shoreline. This alternative would also address transportation and safety impacts related to pedestrian and bicycle use posed by the Project. Yet, the DEIR completely ignores this feasible alternative. Regardless of whether EOP's proposal or a different alternative is analyzed, the DEIR must be revised to include a reasonable range of alternatives, not just a binary choice between Project or No Project. EOP-10 (cont'd.)

4. The DEIR Fails to Properly Analyze Cumulative Impacts

The CEQA Guidelines require one of two approaches to cumulative impacts—either "[a] list of past, present and probable future projects" or "a summary of projections contained in … [a prior] planning document." CEQA Guidelines, § 15130(b)(1)(A)-(B). In addition, under NEPA, an adequate EIS may not consider a proposed action in isolation, but rather must consider its cumulative impacts, including 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." 40 C.F.R. § 1508.7. EOP-11

Here, the DEIR purports to follow the first approach, but omits several significant "present and probable future projects," calling into doubt the entire cumulative impacts analysis. Indeed, the DEIR's description of reasonably foreseeable projects, which forms the heart of the cumulative impacts analysis, fails to include the anticipated activation of the Ferry Plaza for community programming, interim parking and other uses. (DEIR at Table 3.1-1.) This is a critical omission that not only undermines the analysis of cumulative impacts, but directly affects development of the Ferry Plaza (which is part of the Port of San Francisco's plan for the waterfront under the MOU between WETA and the Port). Indeed, the DEIR describes one purpose of the Project as to "[e]nhance the area's public access and open space with design features that create attractive, safe daytime and nighttime public spaces for both water transit passengers and other users of the Ferry Building area." (DEIR at 1-2.) Yet, the Described Project identifies significant impacts that would actually undermine this purpose by interfering with the Ferry Plaza activation plan.

The cumulative impacts analysis also fails to include the proposed 75 Howard project, the Warriors arena complex at Piers 30 and 32, and the San Francisco Giants' expansion project

at Pier 48. These are all major waterfront developments that must be identified and analyzed in the DEIR. These omissions must be remedied and the analysis revised to fully address the cumulative impacts of the Actual Project. EOP-11 (cont'd.)

5. The DEIR Does Not Properly Identify or Describe Significant Impacts of the Project

CEQA requires that an EIR provide sufficient analysis and detail about the proposed project and its potential environmental impacts to enable informed decision-making by the agency and informed participation by the public. See CEQA Guidelines § 15151; *Kings Cnty. Farm Bureau v. City of Hanford*, 221 Cal. App. 3d 692, 712 (1990). An EIR must contain facts and analysis, not just an agency's bare conclusions. *Citizens of Goleta Valley*, 52 Cal. 3d at 568.

Likewise, NEPA requires a "full and fair discussion of significant environmental impacts." 40 C.F.R. § 1502.1; *see also* 42 U.S.C. § 4332 (C); 40 C.F.R. §, 1508.7. This includes analysis of both direct and indirect environmental impacts of the proposed action. 40 C.F.R. § 1508.8. Direct effects are caused by the action and occur at the same time and place. 40 C.F.R. § 1508.8(a). Indirect effects are those caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. *See* 40 C.F.R § 1508.8(b). Both include "effects on natural resources and on the components, structures, and functioning of affected ecosystems," as well as "aesthetic, historic, cultural, economic, social, or health [effects]." *Id.*

Here, however, the DEIR fundamentally fails to address the impacts of the Project on the Ferry Building and the surrounding area, thereby ignoring significant environmental, economic and public trust impacts. Moreover, the DEIR fails to provide a factual basis for many of its most significant assertions and conclusions.

a. Transportation and Circulation

The DEIR identifies several impacts of the Project, but either neglects to adequately address such impacts or to identify feasible mitigation measures. As a result, the transportation and circulation analysis fails as an informational document. Such impacts include the following:

- The DEIR identifies that the people using the ferries will need to be picked up or dropped off at the Embarcadero Curb, although "[t]here are currently no legal pick-up or drop-off zones adjacent to the Ferry Terminal along The Embarcadero." (DEIR at 3.2-40.) And yet, the DEIR does not analyze the obvious traffic and circulation EOP-12

impacts of such illegal use, particularly to Ferry Building operations such as the Farmers Market. EOP-12 (cont'd.)

- The DEIR does not adequately address impacts to bicyclists and/or the space-sharing requirements of bicyclists and pedestrians. Even under current conditions—without the additional riders the Project will bring—there is a safety issue with bicyclists and pedestrians sharing the same space. The Project proposes a "wayfinding signage program . . . that would encourage bicyclists to walk bicycles" in the area. (DEIR at 3.2-53.) This proposal is absurd. There is no support in the record that a signage program would be effective in minimizing conflict between bicyclists and pedestrians, or ensure safety of either group. Given that the Project will encourage more bicycle use (*Id.* at 3.2-55), the DEIR must do a better job of identifying and analyzing these impacts and developing solutions that will actually address the problem. EOP-13

- The DEIR accurately recognizes that the intersection of Steuart Street and Market Street is unsignalized and uncontrolled. (DEIR at 3.2-56.) For this reason, the DEIR, without justification, claims it "cannot be analyzed from a quantitative standpoint." (*Id.*) The Project will add 1,338 pedestrians to the crosswalk, but the DEIR concludes, without any additional analysis, that the size of the crosswalk can accommodate the additional pedestrians. The DEIR merely looks at the physical size of the existing crosswalk to conclude that it can accommodate the additional pedestrians, but fails to analyze what operational impacts (and associated mitigation measures) may result. This cursory conclusion ignores the bigger question—how will this significant increase in foot traffic affect the vehicle traffic at this intersection, particularly at peak travel times? The DEIR merely states the Project will not add vehicle trips, but ends up creating more questions than answers. EOP-14

- The Project involves the construction of facilities on the north side of the Ferry Building that will necessarily result in passenger queuing on Ferry Building property, disrupting visitor use of the Ferry Building, interfering with pedestrian circulation and undermining the safe and orderly coordination of pedestrian and bicyclists in the area. These conditions will only be amplified during Farmers Market days (when foot traffic can increase multi-fold) and during transit crises (such as mass transit strikes—BART is a current example—or breakdowns), not to mention in actual emergency situations where large numbers of potential riders are expected to flock to the waterfront to seek alternative means of transit across the Bay. Yet, the DEIR is devoid of any mention of these physical and operational impacts on the Ferry Building and its uses. EOP-15

b. Resources/Cultural Impacts

There is no dispute that the Project will affect the Ferry Building, an iconic historical landmark and the jewel of the San Francisco waterfront. Yet, the DEIR does not adequately identify and address these impacts, which include the following:

- The DEIR concedes that project elements will affect the aesthetic and cultural nature of the Ferry Building, but promises it "would not result in the introduction of visual elements that diminish the integrity of the property's significant historic features, or adversely affect the historic property." (DEIR at 3.5-7.) This analysis is improperly conclusory, particularly because the DEIR does not even identify what the Project will look like. How can the DEIR conclude that the historical integrity of the area will be maintained when the visual aspects of the Project are completely unknown? This is a fatal deficiency in the DEIR. EOP-16

- By limiting its cultural and resource impact analysis with respect to the Ferry Building to uncertain visual aspects and noise, the DEIR fails to analyze the even bigger impact to the historical resource—the queue needs of the Project. The Project configuration will necessarily result in riders queuing within EOP's Ferry Building leasehold, decreasing the public's ability to enjoy the historical and public trust resource. This impact was not identified and must be included in future analysis. EOP-17

c. Safety and Security

The DEIR fails to directly address the safety impacts of the Project, claiming that,

> Safety and Security is not addressed separately and in detail in this chapter because the proposed project would be located at the existing Downtown San Francisco Ferry Terminal (Ferry Terminal), and would not require new or additional onsite safety and security measures beyond what is described for the project in Chapter 2 (e.g., locked gates, Americans with Disabilities Act-accessible ramps, and lighting of floats and circulation areas).

EOP-18

(DEIR at 3.1-1.) How the vast increase in ferry passengers and ferry traffic can avoid affecting safety and security is not analyzed or explained. This is a significant oversight, particularly given that the Project would create the potential for increased pedestrian and/or bicycle safety risks and create substantial adverse conditions, including boarding and disembarking accidents from berths. Moreover, a purpose of the Project is to improve the

delivery of community safety services and facilitate emergency evacuation—it is critical that the DEIR set out a standard threshold of significance for weighing the abilities of the proposed Project to serve these needs. In addition, the FTA has its own safety standards that may need to be satisfied. Eliminating a "Safety and Security" section from the DEIR undermines the entire document and violates CEQA and NEPA. EOP-18 (cont'd.)

6. The DEIR Does Not Identify All Feasible Mitigation Measures

If a project has a significant and unavoidable effect on the environment, the agency may approve the project only upon finding that it has "[e]liminated or substantially lessened all significant effects on the environment where feasible." CEQA Guideline § 15092(b)(2)(A); *see also* 40 C.F.R. §§ 1502.14(f), 1508.20 (applying same for NEPA). Thus, a project with significant and unavoidable impacts can only be approved if all feasible mitigation is required of those significant impacts.

The DEIR identifies significant and unavoidable impacts relating to transportation and circulation, yet it fails to incorporate all feasible mitigation. Indeed, as discussed above, the DEIR just says that feasible mitigation is "uncertain" and leaves significant impacts unaddressed. Specifically: EOP-19

- The Project will result in significant impacts to the Muni F Market and Wharves Lines, but the DEIR fails to identify or even analyze the feasibility of any mitigation measures. (DEIR at 3.2-47 to -49.) Indeed, the DEIR merely leaves the issue open, claiming it is "unknown" whether measures "are feasible and whether they would fully mitigate the impacts." This conclusion falls far below the level of analysis required under CEQA.

- The Project will cause a significant decrease in level of service at least two pedestrian crosswalks: The Embarcadero Midblock at the Ferry Building Southbound and Northbound, and The Embarcadero and Market Street Southbound. The DEIR states that a change in the signalization at, and physical expansion of, these crosswalks may minimize such impacts, but concedes this is uncertain and, thus, leaves the impact as significant and unavoidable. (DEIR at 3.2-52 to -53.) Again, the DEIR's dismissive response to significant impacts is not allowed under CEQA and NEPA. In addition, even if the proposed mitigation measures would be successful in addressing the circulation problem, the measures may result in other impacts not identified or addressed, such as impacts to traffic flow and safety issues from creating an even larger pedestrian walkway.

Deferring the identification of potential mitigation measures (ostensibly to the final EIR or, perhaps, never) fundamentally undermines the DEIR impacts analysis and mitigation review process. Even if mitigation measures are later identified that may address these admittedly significant and unavoidable environmental impacts, the public has already been put at a disadvantage by not being given the opportunity to review and comment on those (at this stage) hypothetical measures. EOP questions why there is such a rush to release this premature DEIR if the document itself admits that the analysis and identification of viable mitigation measures for the significant and unavoidable impacts of the Project have yet to be completed. These are significant flaws in the DEIR that must be remedied before recirculation. EOP-19 (cont'd.)

CONCURRENCE IN RELATED COMMENTS SUBMITTED BY OTHERS

A number of other individuals and organizations have submitted comments on the inadequacies of the DEIR, which relate to the topics discussed in this comment letter. Rather than restating all the same information and analysis, EOP joins in those comments. EOP-20

RECIRCULATION OF A SUBSTANTIALLY REVISED DRAFT EIR IS REQUIRED

An EIR must be recirculated when significant new information is added, including "changes in the project or environmental setting as well as additional data or other information." CEQA Guidelines § 15088.5(a); 40 C.F.R. § 1506.9. The additional data and information we have provided in this letter, and the additional data and information that WETA and FTA must provide to correct the deficiencies in the DEIR, are significant. The new information may show that previously unanalyzed significant environmental impacts would result from the Project, or that the severity of the identified environmental impacts would be substantially increased unless mitigation measures are adopted. These are all grounds for recirculation. *See* CEQA Guidelines § 15088.5(a)(1),(2); 40 C.F.R. § 1506.9. EOP looks forward to an opportunity to review a substantially revised and recirculated DEIR. EOP-21

* * * * *

Thank you for this opportunity to comment on the DEIR and the Downtown San Francisco Ferry Terminal Expansion Project. Please forward these comments to the decision-making bodies of both WETA and FTA before any action is taken by those respective bodies with respect to the Project.

Very truly yours,

Zane O. Gresham

Enclosures: Ferry Building - Comments for WETA for the purpose of defining the scope and content of the EIS/EIR (May 16, 2011)

EOP Letter Regarding Downtown San Francisco Ferry Terminal Expansion Project Draft Environmental Impact Report (December 19, 2011)

From: Jane Connors
Sent: Monday, May 16, 2011 4:14 PM
To: 'Michael Gougherty'
Cc: Dan Hodapp; elsa.lamb@sfport.com; James.Hurley@sfport.com
Subject: Ferry Building - Comments for WETA for the purpose of defining the scope and content of the EIS/EIR

May 15, 2011

Mike Gougherty
Planner/Analyst
San Francisco Bay Area
Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

RE: Water Emergency Transit Authority (WETA) - Downtown Ferry Expansion Plan – Comments for WETA for the purpose of defining the scope and content of the EIS/EIR.

Dear Michael:

Thank you for the opportunity to comment on the scope and content of the EIS and EIR for WETA's Downtown Ferry Expansion Plan. Equity Office understands the vital importance of the WETA's Downtown Ferry Expansion Plan. As the Ferry Building landlord we have the responsibility to fully evaluate the implementation of this project and minimize the environmental impacts to our tenants needs on the back plaza, while simultaneously supporting WETA's Ferry Expansion Plan. Please address the following Ferry Building concerns in the EIR:

- WETA to consider extending a full plaza from Gate B to Pier 1 rather than finger pier/planks from Embarcadero sidewalk – so that there is abundant queuing area for ferry passengers. Passenger ridership will increase three fold in the next 20 years – so we should take queuing off already congested Embarcadero sidewalks.
- WETA should consider install of solar panels on queuing canopies over berthing areas for night time and emergency lights.
- Determine an area for a back up generator to power dock lights, pier hydraulics, etc.
- Noise and dust impacts on retail and office tenants of the Ferry Building could lead to requests for rent reductions, loss of revenue and possible requests for interim relocation or lease terminations. Equity Office would ask that WETA look for ways to mitigate noise & dust. Or have a method to reimburse EOP if tenant claims are legitimate.
- Study increase in wake/wave activity due to increase of ferry activity and how that may affect the pilings under Ferry Building.
- The queuing canopy by Gate B will obstruct views from Slanted Door's café and restaurant areas. Because queuing only happens seasonally – and often only one ferry ride in mid-afternoon during work week – we ask that this not be included in final design.
- WETA to provide assurances that proves it meets all current ADA standards for egress/ingress near and on the expansion areas.
- WETA to investigate how construction work could affect the settlement or structure to Ferry Building (a historic structure) – or ferry plaza platform as a result of ferry expansion.
- Loss of retail views and outside seating due to construction could lead to reduced retail sales and retailer requests for rent reductions or lease termination. Equity Office requests that

WETA look for ways to enhance barricades with farmers market, ferry transit and local food messaging.

- WETA will mitigate any rodent, pest or bird control issues that may arise due to ferry expansion construction. In EIR please study the potential impacts.
- Please incorporate bird deterrents on any up high structures or ledges.
- Please incorporate a cleaning plan for all up high facilities in designs (accumulation of debris & bird droppings on roof canopies)
- Make sure idling ferry fumes are required BAAQD distance from café areas.
- WETA to keep Ferry Plaza Farmer's Market operating on back plaza during the project. Equity Office asks that WETA look for ways to keep majority of construction site on barges.
- WETA to provide prompt removal of any floating debris from construction immediately. Please consider a marine barrier during construction that would mitigate this need.
- Equity Office requests WETA to hire structural engineer to take initial and subsequent surveys of Ferry Building structure to ensure it remains undamaged by the ferry expansion project.
- WETA to provide a study of ferry passenger circulation that provides stats on ridership numbers, ferry commuter habits, ferry passenger bike commuting and rest room uses on boats and at Ferry Building.
- WETA to reimburse Equity Office fees associated hire a structural or geotechnical engineer to review WETA's plans, as they relate to the Ferry Building, or monitoring information. Equity Office will need them if we experience excessive noise, vibration or movement.
- During Construction request that WETA use Ferry Building approved vendors for Pest Control, Bird Abatement, cleaning and/or other areas that require mitigation of impact on Ferry Building Property..
- Specifically request air quality testing for the interior of building in accordance with ASHRAE 62.1-2007
- Request addition of restroom, storage, and bike storage facilities to plaza build-out.

Thank you for consideration and we look forward to working with WETA. Should you require further information or have any questions, please contact me at (415) 983-8001.

Sincerely,

Jane Connors
Equity Office Properties
Senior Property Manager
The Ferry Building

Equity Office

December 19, 2011

Michael Gougherty
Project Manager
San Francisco Bay Area Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, CA 94111

Re: Downtown San Francisco Ferry Terminal Expansion Project Draft Environmental Impact Report

Dear Mr. Gougherty:

We write to request that WETA include an additional alternative in the Draft Environmental Impact Report (DEIR) for the Downtown San Francisco Ferry Terminal Expansion Project (Project), and to request that it include the "Port Project Components" in the environmental review for the Project.

We met with WETA's Planning and Development Manager, John Sindzinski, on August 22, 2011 to discuss our mutual interests in the Project. As the long-term leaseholder of the Ferry Building and Ferry Plaza, Equity Office Properties (EOP) holds a vital stake in the planning process for this area. We appreciate WETA's openness to working with EOP and sharing ideas.

Since our meeting with Mr. Sindzinski, we have developed a comprehensive design proposal for the Ferry Plaza and adjacent environs. We shared our proposal with the Mayor's Office of Economic and Workforce Development, and received a very positive reaction to it. To supplement the comments we submitted on May 16, 2011 during the CEQA scoping process for the Project, we request that WETA include the attached design proposal as a Project alternative for evaluation in the DEIR. Our proposal incorporates the following suggestions for WETA's consideration:

- Activation of the Ferry Plaza as a multi-use space for the Farmers Market and public events as well as limited valet parking
- More clearly defined public access areas and pedestrian routes
- Restoration of the Pier ½ area for use as valet parking for the Ferry Building

- Filling in of the "lagoon" to the south of the Ferry Building for use as an extension of the Farmers Market, valet parking area, and emergency staging area

- Creation of a new, unified waterfront promenade to promote access to the Bay

This proposal is a feasible alternative that would meet the project objectives described in the Notice of Preparation, while accommodating the needs of our merchants, farmers, and patrons who need reliable and safe parking and access in order for the Ferry Building Marketplace and Farmers Markets to continue to thrive, and enhancing the pedestrian experience and increasing access by all the public to the San Francisco Bay.

We also stress the legal necessity to include the whole project, including, for example, the "Port Project Components," as described in the Memorandum of Understanding (MOU) between WETA and the Port dated February 22, 2010, in the environmental review for the Project. To move forward with a DEIR that only evaluates portions of what the MOU terms the "cooperative planning processes for the Ferry Building area" would appear to violate CEQA's prohibition on "piecemealing." A project, for CEQA purposes, means the whole of an action. CEQA Guidelines § 15378(a). As explained in the CEQA Guidelines:

> The term "project" refers to the activity which is being approved and which may be subject to several discretionary approvals by governmental agencies. The term "project" does not mean each separate governmental approval.
>
> . . . .
>
> Where the lead agency could describe the project . . . as a development proposal which will be subject to several governmental approvals . . . the lead agency shall describe the project as the development proposal for the purpose of environmental analysis.

CEQA Guidelines § 15378(c),(d). It would be unfortunate and inappropriate for WETA and the Port to take the opposite approach, and attempt to segment the environmental review for the WETA Project Components and the Port Project Components. CEQA mandates that these components be considered a single "project" and evaluated in a single CEQA document.

To defer review of the Port Project Components could also result in understating the cumulative impacts of the Project. "A narrow view of a project could result in the fallacy of division . . . that is, overlooking its cumulative impact by separately focusing on isolated parts of the whole." *McQueen v. Bd. of Dirs. of the Mid-Peninsula Reg'l Open Space Dist.*, 202 Cal. App. 3d 1136, 1143 (1988). Implementation of the Port's development plans for the Ferry Building area could impact the environment in a way that is cumulatively significant when the impacts from this Project are also considered, and vice versa. In short, WETA and the Port cannot segment their environmental review of what is actually, or what should be, a single coordinated planning process for the Ferry Building area.

We would be happy to discuss our design proposal for the Ferry Plaza and environs at your earliest convenience. Our goal is to work with WETA to implement a comprehensive plan for the Ferry Building area that serves the needs of its many stakeholders. Thoughtful development of this area will lead to the continued success of both the Bay Area ferry system and the Ferry Building Marketplace.

Sincerely,

Harout Hagopian
Vice President Operations
Equity Office Properties
Northern California
2655 Campus Drive
San Mateo, California
94403

cc: John Sindzinski, WETA

2.10 EOP

2.10.1 Response to EOP-1

Refer to **Responses to EOP-2 through EOP-21**.

2.10.2 Response to EOP-2

Comments noted. The Draft EIS/EIR recognized the history of the Ferry Building, the history of planning in the Ferry Building area, and its importance as an iconic building and public space in San Francisco (refer to Sections 1.4.4 and 1.4.5 of the Draft EIS/EIR). The Draft EIS/EIR also describes the site's history as a ferry terminal since 1887, in Section 3.8, Cultural and Paleontological Resources; and Section 3.12, Hazards and Hazardous Materials. The Draft EIS/EIR acknowledged that there are several other entities with long-term leases or control in the project area, including BART, EOP, and Golden Gate Transit, who would have an interest in the project (e.g., refer to Section 3.2, Pedestrian Conditions; Section 3.2.3, Impact Evaluation; Impact 3.2-5, Potential Impact of Construction-Related Activities on Transportation and Circulation; Section 3.3.2, Project Area; Impact 3.3-1, Substantially Affect Existing Land Uses and Land Use Patterns; Impact 3.16-1, Potential to Cause Adverse Changes in the Character and Cohesion of or Physically Divide or Disrupt an Established Neighborhood; Impact 3.16-3, Potential to Indirectly Economically Impact the Businesses in the Project Area; and Impact 3.16-4, Potential to Impact Businesses in the Project Area and Regional During Construction).

2.10.3 Response to EOP-3

As described in Section 1.2.4 of this Response to Comments Appendix, the EIS/EIR has been revised to clarify the project purpose and need, and the relationship of the proposed project to WETA's IOP and the Regional Transportation Plan (*Plan Bay Area*). The purpose and need for the proposed project is to support the implementation of WETA's IOP by improving water transit facilities in San Francisco, to accommodate the increase in water transit service to San Francisco. Based on the purpose and need for the proposed project, two alternatives were considered in the EIS/EIR.

Section 2.7, Alternatives Considered, describes other alternatives considered for a water transit facility in San Francisco to accommodate future service expansion. Section 2.7.1 describes alternatives withdrawn from detailed consideration, including a ferry terminal in San Francisco at alternative locations.

As stated in Section 2.7.1 of the Draft EIS/EIR, development of a ferry terminal at another location would not reduce any of the significant environmental impacts of the project. Only three significant impacts were identified for the Action Alternative. All three impacts were related to transportation and circulation issues. The Draft EIS/EIR concluded that the addition of pedestrians to the project area could result in significant impacts to two area crosswalks (Impact 3.2-3 and Impact 3.2-8). In addition, the Draft EIS/EIR concluded that the addition of WETA passengers to the F Market and Wharves in the PM peak hour under Existing Conditions could be significant. The Ferry Terminal is well served by public transit, with local and regional public transit in walking distance. The Ferry Terminal is also centrally located, near employment centers in San Francisco, allowing the majority of water transit passengers to walk to and from their destinations in San Francisco. A Ferry Terminal either farther north or south along San Francisco's waterfront would reduce transit options available to passengers, and would likely result in either further reliance on the F Market and Wharves (if north), or could result in potential overcrowding of other transit lines, like the T Third Street or N Judah (if south). The sidewalks, promenades, and crosswalks adjacent to the project area are designed for large numbers of pedestrians (e.g., Embarcadero Promenade, Harry Bridges Plaza, Justin Herman Plaza, and Market Street). There are five crosswalks crossing The Embarcadero directly in front of the project area. Should the Ferry Terminal be situated at another location along San Francisco's northeastern waterfront, pedestrians crossing The Embarcadero could result in overcrowding of other crosswalks.

In addition, construction and operation of a Ferry Terminal at another location in San Francisco would likely result in new, significant environmental impacts associated with the additional landside and waterside improvements that would be required. Other locations would likely require significant demolition or repair of piers and pier sheds, additional dredging, and development of additional transportation and circulation infrastructure. This would potentially result in greater impacts related to Air Quality, Cultural and Paleontological Resources, Biological Resources, Hazards and Hazardous Materials, as well as Transportation and Circulation, and Land Use and Land Use Planning. In addition, locating the Ferry Terminal where it is not adjacent to a navigable channel would conflict with the San Francisco Bay Plan (Bay Plan). Transportation Policy 5 of the Bay Plan states that "Ferry terminals should be sited at locations near navigable channels…wherever possible, terminals should be located near higher density, mixed use development served by public transit" (BCDC, 2008).

As stated in Section 2.7.1 of the Draft EIS/EIR "[d]evelopment and expansion of water transit service at the Ferry Terminal is consistent with CCSF's and BCDC's vision and plan for waterfront development, and is the culmination of decades of waterfront and transit planning." In addition, the project area has served as a hub for water transit and water transportation since 1887 (refer to Section 3.12, Hazards and Hazardous Materials, page 3.12-1, of the Draft EIS/EIR). In fact, the Ferry Building, constructed from 1895 to 1903, was one of the busiest transportation points on the Pacific Coast until the decline of water transit traffic following the completion of the Bay Bridge in 1937 (refer to Section 3.8, Cultural and Paleontological Resources, page 3.8-21, of the Draft EIS/EIR). One of the reasons that the Ferry Building qualified for the National Register of Historic Places was its role in water transportation.

For all of these reasons, alternatives at other locations in San Francisco were withdrawn from consideration.

The following clarifications have been made to the text of the Draft EIS/EIR regarding the alternatives considered.

Page 2-43, Section 2.7, Alternatives Considered, insert after second paragraph:[14]

> As described in Section 1.3, the Action Alternative supports regional transit mobility in the region and the Regional Transportation Plan. Section 1.4.3 and Appendix E describe the alternatives for regional water transit service that were considered during the development of the IOP and the Program EIR for the IOP. In addition, as described in Section 1.4.4, the proposed project is included in the Regional Transportation Plan, *Plan Bay Area*, and its EIR considered a variety of regional mobility alternatives.
>
> The following sections summarize the other alternatives that were considered for a Ferry Terminal facility in San Francisco consistent with these regional plans.

Page 2-43, Section 2.7.1, Alternative Locations:

> The Ferry Terminal is centrally located and adjacent to the City's Downtown hub of transit services (e.g., Bay Area Rapid Transit and Muni). This is the historic location of water transit service in San Francisco because of its proximity to both employment centers downtown and open water channels in San Francisco Bay. The Ferry Terminal is well served by public transit, with local and regional public transit in walking distance. The Ferry Terminal is also centrally located, near employment centers in San Francisco, allowing the majority of water transit passengers to walk to and from their destinations in San Francisco. Development of expanded

[14] Sections 1.4.3 and 1.4.4, referenced below, refer to new sections of the EIS/EIR, detailed in Section 1.2.4 of this Response to Comments Appendix.

water transit either farther north or south along San Francisco's waterfront would reduce transit options available to passengers, and would likely result in either further reliance on the F Market and Wharves (if north); or could result in potential overcrowding of other transit lines, like the T Third Street or N Judah (if south). The sidewalks, promenades, and crosswalks adjacent to the project area are designed for large numbers of pedestrians (e.g., Embarcadero Promenade, Harry Bridges Plaza, Justin Herman Plaza, and Market Street). There are five crosswalks crossing The Embarcadero directly in front of the project area. Should the Ferry Terminal be situated at another location along San Francisco's northeastern waterfront, pedestrians crossing The Embarcadero could result in overcrowding of other crosswalks. ~~Development of expanded water transit service in another location (i.e., at another pier along the waterfront north or south of the Ferry Terminal) would require substantially more improvements to both the landside (e.g., development of transit connections or shuttle services, demolition/reconstruction of pier sheds) and water side (e.g., more dredging) than are proposed for this project, increasing the potential for environmental impacts.~~ In addition, construction and operation of a Ferry Terminal at another location in San Francisco would likely result in new, significant environmental impacts associated with the additional landside and waterside improvements that would be required. Other locations would likely require significant demolition or repair of piers and pier sheds, additional dredging, and development of additional transportation and circulation infrastructure. This would potentially result in greater impacts related to Air Quality, Cultural and Paleontological Resources, Biological Resources, Hazards and Hazardous Materials, Transportation and Circulation, and Land Use and Land Use Planning. In addition, locating the Ferry Terminal where it is not adjacent to a navigable channel would conflict with the San Francisco Bay Plan (Bay Plan). Transportation Policy 5 of the Bay Plan states that "Ferry terminals should be sited at locations near navigable channels…wherever possible, terminals should be located near higher density, mixed use development served by public transit" (BCDC, 2008).

Development and expansion of water transit service at the Ferry Terminal is consistent with CCSF's and BCDC's vision and plan for waterfront development, and is the culmination of decades of waterfront and transit planning, as described in Section 1.4. Therefore, consideration of alternative locations would not meet the purpose and need for the project ~~and would not be considered feasible~~.

2.10.4 Response to EOP-4

As described in detail in Section 1.4.5, Ferry Building Area Planning and Development Program, of the Draft EIS/EIR, WETA and the Port entered into an MOU to ensure that planning efforts for the area were coordinated. As detailed in this MOU, WETA would have responsibility over those elements of facility improvements that would be necessary to support the development of WETA's water transit service in the project area. For other long-term plans and improvements envisioned by the Port for the area near the Ferry Building, such as the rehabilitation of the Agriculture Building, the Port would have the responsibility of defining and developing their plans for their facility improvements, and undertaking separate environmental review at the appropriate time of those developments. At the time of filing the Notice of Preparation (NOP) for WETA's proposed project, the Port had not developed any specific plans for improvements in the area.

The Port manages the entire project area in the Public Trust; and WETA's project was designed to not encroach on or interfere with the other leaseholds in the project area. As described in Section 1.2.3 of this Response to Comments Appendix, the proposed project design has been revised to remove the weather protection canopy that was proposed for Gate B. Therefore, the project improvements would be on an area under the control of the Port, and outside the boundaries of EOP's lease. Therefore, the project

would not require any approvals or authorizations from EOP. WETA and the Port would enter into a lease agreement for the construction of WETA's proposed facilities and ongoing use of the area.

As described in **Response to BCDC-3**, BCDC has requested that WETA consider additional public access improvements in the project area. WETA recognizes that all areas outside of the "Construction Zone" shown on Figure 2-9 of the Draft EIS/EIR (i.e., the area where all project improvements would be located) are under long-term leases by other entities, including EOP. See **Response to BCDC-3** and Mitigation Measure REC-1, regarding public access improvements in the project area; these improvements would be implemented in cooperation with EOP, ensuring that they do not interfere with EOP's activities in the project area.

2.10.5 Response to EOP-5

The level of detail contained in Chapter 2.0, Alternatives, for the No Project Alternative and the Action Alternative is consistent with Preliminary Design, and contains information on the proposed design, footprint, projected operations, construction methods, and materials that is adequate to assess environmental impacts pursuant to CEQA and NEPA. The content of Chapter 2.0 meets the requirements of Section 15124(c) of the CEQA Guidelines, which states "a general description of the project's technical, economic, and environmental characteristics considering the principal engineering proposals if any and supporting public service facilities" should be provided in an EIR project description.

2.10.6 Response to EOP-6

In accordance with the CEQA Guidelines, WETA certified a Program EIR that assessed the potential environmental impacts from implementation of WETA's IOP. The CEQA Guidelines authorize agencies to prepare a Program EIR evaluating the impacts of a series of actions (CEQA Guidelines, § 15168). Agencies may use the Program EIR to, among other uses, focus an EIR on a subsequent project to permit discussion solely of new impacts. The Program EIR approach, as described in Section 15168 (b) of the CEQA Guidelines, provides the opportunity for comprehensive consideration of effects and alternatives than would be practical for an EIR on an individual action; to ensure comprehensive consideration of cumulative impacts; and to "avoid duplicative reconsideration of basic policy considerations." The California courts have held that these provisions of the CEQA Guidelines authorize agencies to narrow the scope of the analysis of impacts in site-specific EIRs (*Rio Vista Farm Bureau v. County of Solano* (1992) 5 Cal. App. 4th 351, 372; citing *Laurel Heights Improvement Assn. v. Regents of the Univ. of Calif.* (1988) 47 Cal. 3d 376, 399).

For each new route or expanded water transit terminal project developed to implement the IOP, project-level environmental review (CEQA and NEPA, as applicable) is undertaken. These project-level, site-specific environmental reviews are consistent with CEQA guidance on the use of Program EIRs to narrow the scope of project-specific environmental evaluations. As each project is developed, the specific location, size, and design of the origin terminal is evaluated and the environmental document assesses the site-specific impacts associated with that new route and the water transit terminal at the origin.

Both NEPA and CEQA encourage the incorporation of previous analysis by reference in environmental documents to reduce redundancy and reevaluation of project issues. The NEPA Council on Environmental Quality (CEQ) regulations require federal agencies "to the fullest extent possible to reduce duplication between NEPA and state and local requirements" (40 CFR Section 1506.2(b). CEQ regulations (40 CFR Sections 1500.4 and 1502.21) also state that agencies shall incorporate material by reference when the effect will be to reduce bulk without impeding agency and public review of the project alternatives. The incorporated material shall be cited, and its content summarized. Under CEQA, incorporation by reference is authorized (California Public Resources Code, Sections 21093 and 21094; State CEQA Guidelines Section 15150). As described in Section 1.2.4 of this Response to Comments Appendix and clarified in the EIS/EIR for the proposed project, portions of the Program EIR that are

relevant to the Downtown San Francisco Ferry Terminal Expansion Project are incorporated by reference and summarized in Appendix E. The relevant portions of the Program EIR incorporated by reference include alternatives considered and a summary of impacts and mitigation identified for the Program. The relationship of the Program impacts to this project is indicated in Appendix E.

All of the new routes envisioned in the IOP would provide service to San Francisco (destination terminal); therefore, the proposed project that is the subject of this EIS/EIR is a facility improvement project. The proposed project includes the facility improvements that would be required at the Ferry Building to accommodate the LOS described in WETA's IOP, as shown in Table 1-2 of the Draft EIS/EIR and described in more detail in Section 1.2.4 of this Response to Comments Appendix. As also described in Section 1.2.4, the improvements at the Ferry Terminal would be constructed using a phased approach that would be based on the actual growth in ridership and approval and construction of future water transit routes. The Program EIR evaluated the regional impacts of the IOP, including ferry service expansion and alternatives to the expansion of ferry service. Therefore, the combination of the Program EIR and project-level environmental evaluation in this EIS/EIR provides a comprehensive assessment of the potential impacts of the Downtown San Francisco Ferry Terminal Expansion Project, including the cumulative impacts of the IOP projects.

2.10.7 Response to EOP-7

Refer to **Response to EOP-6** for further discussion of the Program/Project approach under CEQA.

The analysis presented in the Draft EIS/EIR is based on current regulatory requirements and existing conditions in the project area, including pedestrian circulation and traffic patterns, when the environmental analysis began (i.e., March 2011). In addition, the operations and ridership forecasts presented in the Draft EIS/EIR have been updated since the Program EIR. The analysis in the Draft EIS/EIR includes updated estimated 2035 water transit ridership data, including headways, and daily and peak-period ridership.

WETA's IOP includes planned routes and frequencies of the routes based on WETA's ridership forecast model. WETA's ridership model was developed in 2002 by Cambridge Systematics, and is linked to the regional travel forecasting model maintained by the MTC, and to socioeconomic data forecasts published by ABAG. The WETA model was updated in 2011 to include the most recent data available from the MTC and ABAG for the year 2035. The updated projections incorporated into WETA's ridership model are consistent with the data that were used by the MTC in the development of the most recent RTP (*Plan Bay Area*) (ABAG and MTC, 2013). This project EIS/EIR used the information included in the 2011 update to the WETA model. The updated ridership model estimates take into account changes in demographics and commuting patterns that have occurred since 2002, as well as updated projections for future trends. In the 2002 ridership model, it was estimated that future (2025) weekday daily ridership at the Ferry Terminal (for all services, including non-WETA–operated services) would be approximately 35,000 passengers. The updated ridership model estimates that in 2035, average weekday daily ridership at the Ferry Terminal would be approximately 32,000 passengers. These estimates are presented in Table 1-2 of the Draft EIS/EIR. The future ridership estimates for some services decreased from what was predicted in 2002, and the projected ridership of other services increased from the 2002 estimates.

As described in more detail in Section 1.2.4 and Appendix E to the Final EIS/EIR, where the proposed project could contribute to impacts identified in the Program EIR, the impacts have been analyzed in this EIS/EIR with project-specific information, current regulations, and current baseline data.

2.10.8 Response to EOP-8

As described in **Response to EOP-3**, **Response to EOP-6,** and in Section 1.2.4 of this Response to Comments Appendix, the CEQA Guidelines authorize the use of Program EIRs to narrow the scope of

subsequent project-specific environmental evaluations. The Program EIR evaluated five water transit options at a regional scale that would "increase Bay Area regional mobility and transportation options by providing new and expanded water transit services and related ground transportation terminal access in the San Francisco Bay Area" (refer to Section 1.2 of the Program EIR). In addition, the Program EIR (Program EIR, Section 2.5) describes six alternatives to water transit service that were evaluated but eliminated from further evaluation based on considerations that included cost, feasibility, and environmental effects.

The MTC is the regional transportation planning agency responsible for regional mobility analysis. *Plan Bay Area* is the primary state and federal transportation plan governing the evaluation of transportation alternatives at a regional scale (ABAG and MTC, 2013). The expansion of WETA's services, and specifically the Downtown San Francisco Ferry Terminal Expansion Project, are included in the RTP, and were included in the analysis in the EIR for the RTP.[15]

FTA regulations link regional transportation planning efforts and environmental assessment requirements to ensure consistency and reduce redundancy in the evaluation of regional alternatives in transportation plans and project-level NEPA documents (23 CFR § 430.318; 23 CFR Part 450, Appendix A.) These regulations authorize the use of regional transportation planning studies as part of the overall project development process consistent with NEPA. The RTP evaluated transportation alternatives at a regional level to address the mobility needs of the region, and concluded that the expansion of water transit service as reflected in the IOP was necessary to achieve the region's mobility and land use objectives. The inclusion of the Downtown San Francisco Ferry Terminal Expansion Project and WETA's other projects (e.g., new Berkeley to San Francisco and Richmond to San Francisco water transit service) in the RTP demonstrates that the project is consistent with the mobility goals for the region, and has been assessed against other regional alternatives.

As WETA continues to implement its IOP, careful consideration is given to each new route individually, weighing the environmental impacts of developing the route against operational considerations, such as ridership. For each new route, at the time it is evaluated, the public would have the opportunity to weigh in on the purpose and need for that individual service.

2.10.9 Response to EOP-9

As described in **Response to EOP-4**, WETA and the Port entered into an MOU to coordinate planning efforts in the project area. WETA is responsible for those project elements that would be required to expand WETA water transit services in the project area. Other planning objectives for the Port, like rehabilitation of the Agriculture Building, are independent of and would serve a separate purpose and need than the Downtown San Francisco Ferry Terminal Expansion Project. Should the Port move forward with development plans in the area, the Port would be responsible for conducting environmental analysis for those plans.

Reasonably foreseeable projects occurring within the vicinity of the Downtown San Francisco Ferry Terminal Expansion Project were examined in the cumulative impacts analysis. At the time of the Draft EIS/EIR for WETA's project, the Port had not proposed improvements or projects in the area that would be considered reasonably foreseeable so as to be considered in the cumulative impact analysis for the Draft EIS/EIR. However, because of its location in close proximity to WETA's proposed berthing facilities, and its local and national historical importance, potential future rehabilitation of the Agriculture Building was considered in the cumulative impact analysis for the proposed project (refer to Table 3.1-1, Reasonably Foreseeable Projects Considered in the Cumulative Impact Analysis). This consideration was

[15] The Downtown San Francisco Ferry Terminal Expansion Project is project 22006 in the RTP.

made to ensure that WETA's proposed improvements would not preclude future rehabilitation of the Agriculture Building.

2.10.10 Response to EOP-10

Refer to **Response to EOP-3** for additional discussion of the alternatives WETA considered. Section 2.7, Alternatives Considered, of the Draft EIS/EIR describes the alternatives to the proposed project that have been considered; and contains an explanation, as required by CEQA and NEPA, of why each alternative was not included as a part of the proposed project or was not carried forward for detailed analysis as an alternative to the proposed project. In most cases, the alternative would not reduce significant environmental impacts, and/or would result in new or greater environmental impacts than the proposed project.

Chapter 5.0 of the Draft EIS/EIR summarizes the comments that were received during the scoping process that were considered in the development of the Draft EIS/EIR, including comments received on the range of alternatives to be considered in the Draft EIS/EIR. In December 2011, EOP provided a letter outlining a proposal for alternatives to be included in the Draft EIS/EIR. These comments were considered in the Draft EIS/EIR, and are summarized in Table 5-1. The suggested improvements to the Port facilities may assist EOP with meeting some of their desired development goals of the project area; however, the suggested improvements go beyond the purpose and need of the project. In addition, the Action Alternative would result in only three significant impacts, all related to transportation and circulation. None of the alternatives suggested by the commenter would alleviate these impacts, but would rather increase the project footprint and construction activity required, and therefore the construction impacts and environmental impacts of the project.

As noted below, several of the suggestions contained in EOP's December 2011 letter were incorporated into the proposed project. The only element of EOP's proposed alternatives that has not been included in the proposed project is the inclusion of parking in the project area. As described in Section 1.5.2, Water Transit Operations, Circulation, and Access Constraints at the San Francisco Ferry Terminal, and in Section 3.2.3, Conditions for Analysis of the Draft EIS/EIR, WETA's ridership model, updated in 2011, provides estimates of ridership and mode splits for WETA's water transit services. The model is based on regional forecasts as well as passenger surveys and observed travel patterns. The model indicates that that WETA water transit services at the Ferry Terminal do not generate any new parking demand in the project area. All passengers would depart from or arrive to the Ferry Terminal by walking, biking, or taking transit (refer to Tables 3.2-13 and 3.2-17 of the Draft EIS/EIR). In addition, the proposed project would enhance accessibility to transit in the project area which could reduce EOP's parking demand. In response to the commenter's specific suggestions:

- **Activation of the Ferry Plaza for Farmer's Market, public events, and valet parking.** The proposed project improvements include several enhancements to other public areas in the project area, such as construction of the Gate A Access Pier, improvement of the North Basin marginal wharf, and creation of the East Bayside Promenade and Embarcadero Plaza in the South Basin. The public access improvements included in the project description are those improvements that would enhance public access but would also serve to support WETA's water transit service and emergency response objectives. As described in **Response to BCDC-3**, in coordination with BCDC, WETA will develop a public access improvements plan that includes improvements that are feasible, consistent with WETA's proposed project, and meet the requirements of BCDC's plans and policies. These improvements will generally activate the project area and provide public benefit.

- **More clearly defined public access areas and pedestrian routes.** The proposed project includes several improvements that would increase public access in the project area (e.g., creation of the Gate A Access Pier, the East Bayside Promenade, and the Embarcadero Plaza). In addition to these physical improvements, as described in Section 2.3.4, Circulation Improvements, the proposed

project includes a passenger wayfinding and information signage program, which would be designed in detail during the Final Design of the project. The wayfinding signage program would serve to provide clear information for passengers arriving at and departing from Downtown San Francisco.

- **Restoration of Pier ½ area.** Pier ½ has already been removed. The removal of Pier ½ was completed as a part of the America's Cup project pursuant to the San Francisco BCDC's SAP amendments adopted in April 2012 (refer to page 2-2, Chapter 2.0, Alternatives, of the Draft EIS/EIR). The project enhances pedestrian circulation and access to water transit, including providing areas for passenger queuing and emergency staging. The project would not generate any new parking demand in the project area, and provision of parking is therefore beyond the purpose and need for the project.

- **Use of the area south of the Ferry Building as an extension of public access to the waterfront.** The proposed project would create the Embarcadero Plaza in the South Basin. This area would serve as a public space (likely to include features like benches); would create open pathways for water transit passenger circulation, allowing unconstrained access to Gates E, F, and G; and would be critical in emergency staging in the event that emergency service is required.

- **Creation of a new, unified waterfront promenade to promote access to San Francisco Bay.** The proposed project includes several improvements that would increase public access in the project area, create a cohesive aesthetic, and improve circulation in the project area (e.g., creation of the Gate A Access Pier, the East Bayside Promenade, and the Embarcadero Plaza). The improvements would encourage public access, and provide both physical and visual connections with San Francisco Bay. WETA has coordinated extensively with BCDC throughout this process to ensure that the public access provided meets their plans and policies for providing connections to San Francisco Bay. The new project elements would be a continuation of the design elements that were constructed in the Port's first phase of the project in 2003. The new gates would match the design of the existing Gates B and E, and would include features such as seat walls, steps, and planters.

2.10.11 Response to EOP-11

As described in Section 3.1, Introduction, the Draft EIS/EIR uses the "list approach" in assessing cumulative impacts. The list of projects that were considered were those reasonably foreseeable projects that were known at the time the NOP was filed. The NOP for this project was filed on March 24, 2011. Projects that had been defined and would have been considered reasonably foreseeable at that time that were also in geographic proximity or that were likely to result in similar environmental impacts were considered in the cumulative impact analysis, and are shown on Figure 3.1-1 and listed in Table 3.1-1 of the EIS/EIR. WETA consulted with the Port and the San Francisco Planning Department in development of this list.

The MOU between WETA and the Port does not specifically commit either agency to the implementation of specific projects. Rather, the MOU sets the framework for which the two agencies would coordinate planning and project development efforts. At the time of filing the NOP for WETA's proposed project, the Port had not proposed any specific projects or improvements in the project area. However, to recognize the Port and EOP's 2013 discussion of a plan to activate the Ferry Plaza, updates have been made to Table 3.1-1 of the Draft EIS/EIR, and to the cumulative analysis, to include this as a potential future project. As shown on Figure 2-1 of the Draft EIS/EIR, the proposed project improvements would not be located on the Ferry Plaza. Pedestrian circulation patterns in the project area also indicate that WETA water transit passengers would neither use nor pass through the Ferry Plaza (refer to page 3.2-27, Ferry Terminal Pedestrian Conditions, third paragraph; and to page 3.2-52, second paragraph). Therefore, WETA's proposed project improvements would not impede access to the Ferry Plaza, and would not preclude future improvements to the Ferry Plaza. Modifications to the EIS/EIR are shown in Section 1.2.10 of this Response to Comments Appendix.

At the time that the environmental analysis began for the proposed project, the 75 Howard Street project, Warrior's Complex, and the Seawall Lot 337 and Pier 48 Mixed-Use Project had not been adequately defined for specific inclusion in the cumulative analysis (i.e., listed in Table 3.1-1). The NOPs for 75 Howard Street project and the Warrior's Complex (referred to as Event Center and Mixed Use Development) were not filed until December 2012. An NOP for the Seawall Lot 337 and Pier 48 Mixed-Use Project was issued in December 2013. The most likely cumulative impact that would result from the implementation of the proposed project and these three projects would be cumulative impacts to transportation and circulation. The transportation analysis for the proposed project was developed in close coordination with the San Francisco Planning Department and SFMTA. The methodology used to project future circulation in the project area includes projected future growth in transit use and vehicular traffic. These projections are not limited to the projects listed in Table 3.1-1, but rather developed by the San Francisco Planning Department based on a variety of plans, policies, and growth trends. Therefore, future projects that would cumulatively affect the transportation and circulation network were considered in the Future (2035) Conditions analysis presented in the Draft EIS/EIR. For other resource areas, it would not be expected that an adverse cumulative impact would result from the implementation these projects in combination with the proposed project. In fact, the proposed project would increase access to transit for new developments in the study area, benefiting the development of nearby projects. However, because environmental review is now underway for these projects, updates were made to Table 3.1-1 of the Draft EIS/EIR, and to the cumulative analysis, to include these as potential future projects. Refer to Section 1.2.10 of this Response to Comments Appendix for updates to the cumulative impact analysis.

2.10.12 Response to EOP-12

As described in **Response to EOP-10,** WETA passengers are anticipated to depart from and arrive to the Ferry Terminal by walking, bicycling, or transit, as shown in Table 3.2-13 and Table 3.2-17 of the Draft EIS/EIR. In Section 3.2, Transportation and Circulation, the subsection titled Conditions for Analysis, on page 3.2-40 (first paragraph) of the Draft EIS/EIR, explains that some passengers may occasionally use taxis; however, the volume and regularity of this type of access/egress is small. In addition, because there are no legal pick-up or drop-off zones adjacent to the Ferry Terminal, designated taxi stands on Market Street would likely be used occasionally by taxis. Taxis stopping along the curb in front of the Ferry Terminal would be stopping illegally. As noted in the Draft EIS/EIR, if the curbside restrictions continue to be strictly enforced, stopping of private vehicles along the curb could be minimized.

2.10.13 Response to EOP-13

Refer to **Response to USEPA-6**.

2.10.14 Response to EOP-14

As described on page 3.2-5 of the Draft EIS/EIR in Section 3.2, Transportation and Circulation, Affected Environment subsection, the intersection of Steuart and Market is unsignalized; therefore, a quantitative evaluation of the intersection using level-of-service calculations was not performed. However, the intersection was analyzed and the impacts of additional pedestrians were considered in coordination with the San Francisco Planning Department and SFMTA. Based on data collected for this project, the intersection does not experience a large volume of vehicle traffic (only 212 and 250 vehicles per hour in the AM and PM peak hours, respectively). Because the road makes a 90-degree turn in this location, vehicle, bicycle, and transit traffic through this intersection moved slower. The existing volume of pedestrians passing through this intersection is relatively high: 800 to 1,250 pedestrians during the peak hour. Conflicts at this intersection were rarely observed during data collection. Although the project would be expected to add between 1,300 and 1,450 pedestrians to this intersection during the peak hour, because the crosswalk is 42 feet wide; the crossing is short (i.e., the crossing is only approximately 50 feet long); the vehicle volumes are low; and vehicles are traveling at slow speeds, this would not be expected to result in significant impact to vehicle flow.

2.10.15 Response to EOP-15

As described in Section 1.2.3 of this Response to Comments Appendix, the weather protection canopy proposed for Gate B (on the northern side of the Ferry Building) has been removed from the project design. Therefore, the proposed project improvements would not change the design or use of the area on the northern side of the Ferry Building.

The existing gate on the northern side of the Ferry Building—Gate B—provides service to Vallejo. Blue and Gold also currently uses Gate B to provide service to Tiburon. Water transit passengers using Gate B currently queue along the railing at the northern side of the Ferry Building. Passenger queuing typically occurs only 10 to 15 minutes before scheduled departure of the ferry. The proposed project would not change these existing queuing patterns. Passengers accessing the new gates—Gates A, F, and G—would not queue near the Ferry Building, and would not interfere with the circulation of pedestrians accessing the Ferry Building. The WETA ridership model predicts that by 2035, ridership on WETA services is projected to increase from 5,100 to 25,700 passengers per weekday. The proposed project improvements would also result in approximately 28,000 square feet of additional pedestrian circulation area to accommodate this increase, and to ensure that pedestrian circulation and access to the businesses in the project area is unimpeded. The increase in the number of passengers using the project area is likely to benefit businesses in the project area, entailing an increase in visibility and foot traffic for businesses.

Additionally, because WETA water transit primarily provides commuter service, bringing passengers who live in the East and South bays to San Francisco for work, the peak queuing times would be between 4:00 PM and 6:30 PM Monday through Friday. This does not overlap with Farmers Market hours of operation (i.e., 10:00 AM to 2:00 PM Tuesdays and Thursdays; and Saturdays from 8:00 AM to 2:00 PM). Refer to **Response to BCDC-4** for additional discussion of pedestrian circulation and queuing at the Ferry Terminal.

In addition, the proposed project includes several components to enhance WETA's ability to respond in an emergency. The Embarcadero Plaza that would be created in the South Basin would provide open pathways for water transit passenger circulation, allowing unconstrained access to Gates E, F, and G; and would be critical in emergency staging in the event that emergency service is required. In the North Basin, both the Gate A Access Pier and North Basin marginal wharf could also accommodate waiting and queuing of a substantial number of people in the event of an emergency. These improvements would not physically affect the Ferry Building or its uses. In the event of a large-scale evacuation due to an emergency situation, it is anticipated that normal operations at the Ferry Building would also be disrupted due to the emergency, and that all businesses operating in the area would coordinate to facilitate the safe and orderly management of the emergency.

2.10.16 Response to EOP-16

Section 3.8, Cultural and Paleontological Resources, of the Draft EIS/EIR evaluated the potential for the proposed project to impact historic architectural resources in the project area, including the Ferry Building. The analysis concludes that there would be no direct impact to the Ferry Building (refer to Impact 3.8-3: Cause a Direct Adverse Effect or Impact to Historic Properties or Resources, pages 3.8-33 through 3.8-37 of the Draft EIS/EIR). The analysis also concludes that indirect impacts (visual, noise, and vibration) would be less than significant with the implementation of mitigation (refer to Impact 3.8-5 Potential Indirect Effects of Visual or Noise and Vibration Elements on Historic Properties or Resources, pages 3.8-38 through 3.8-54). Pursuant to Section 106 of the National Historic Preservation Act, the SHPO also concurred with these findings (refer to Appendix D of the Draft EIS/EIR).

The analysis was based on the Preliminary Design as described in Chapter 2.0 of the Draft EIS/EIR, which includes details on the project components, such as expected location, height, and scale. As described in Section 1.2.3 of this Response to Comments Appendix, WETA has decided to remove the

weather protection canopy at Gate B from the project's Final Design; therefore, no new project elements would be constructed adjacent to the northern side of the Ferry Building.

The Draft EIS/EIR also recognizes that the Final Design of the proposed project improvements would be subject to the design review process and requirements of the Port's Waterfront Design Advisory Committee; BCDC's Design Review Committee; and the SFHPC (refer to page 2-41). The public is welcome to participate in the design review meetings. This process would further ensure that the aesthetic and historic setting of the Ferry Building is not adversely impacted.

2.10.17 Response to EOP-17

Refer to **Response to EOP-16** for a discussion of the analysis of the project's potential impacts to the historic integrity of the Ferry Building. Refer to **Response to EOP-15** for a discussion of the project's queuing needs and proposed circulation improvements.

In addition, as noted in **Response to EOP-3**, the project area has served as a hub for water transit and water transportation since 1887. One of the reasons that the Ferry Building qualified for the National Register of Historic Places was its role in water transportation. Passenger queuing and use of the Ferry Terminal are activities associated with the historical water transportation uses in the project area, and are not activities that would impact the historic setting of the Ferry Building. Section 3.3 and Section 3.4 of the Draft EIS/EIR further discuss the project's compatibility with local and regional plans that promote economic activity, access to transit, and enhanced enjoyment of the Ferry Building area and northeastern waterfront.

2.10.18 Response to EOP-18

The Draft EIS/EIR addressed safety and security in several places. As stated on page 3.1-1 of the Draft EIS/EIR:

> Safety and Security is not addressed separately and in detail in this chapter because the proposed project would be located at the existing Downtown San Francisco Ferry Terminal (Ferry Terminal), and would not require new or additional onsite safety and security measures beyond what is described for the project in Chapter 2.0 (e.g., locked gates, Americans with Disabilities Act-accessible ramps, and lighting of floats and circulation areas). The potential for the project to affect police and fire service is evaluated in Section 3.15, Utilities and Public Services. In addition, a discussion of emergency access is included in Section 3.2, Transportation and Circulation.

One of the purposes of the project is to construct facility improvements that would support WETA's emergency operations (refer to Section 2.3.7, Emergency Planning). The new deck and piles would be constructed to Essential Facilities standards,[16] creating approximately 50,000 square feet of area for passenger staging and waiting in the event of a large-scale evacuation. In addition, with the existing and new gates (five gates total), WETA would have the capacity to evacuate up to 9,000 passengers per hour.

The proposed facilities have been designed to meet with ADA accessibility requirements (e.g., site slopes and railings). The proposed berths will be also designed in a manner consistent with other berths operated by WETA at the Ferry Terminal, and will likewise adhere to provisions and regulations set forth by the

[16] As defined by the California Building Code 2010 and the International Building Code 2009, Essential Facilities are buildings and other structures that are intended to remain operational in the event of extreme environmental loading from flood, wind, snow, or earthquakes.

USCG, ADA, and CCSF's Mayor's Office on Disability, to ensure the safety of ferry passengers boarding and disembarking from berths.

In addition, the Transportation and Circulation analysis also addressed pedestrian and bicycle safety under Impacts 3.2-3, 3.2-4, 3.2-8, and 3.2-9.

2.10.19 Response to EOP-19

The Draft EIS/EIR concluded that the addition of pedestrians to the project area could result in significant impacts to two area crosswalks (Impact 3.2-3 and Impact 3.2-8). Feasible mitigation measures to reduce these potential impacts have been identified, and were presented in the Draft EIS/EIR; WETA and FTA have committed to implementing these measures.

The analysis indicates that an increase in pedestrian traffic in the area could result in a decrease in pedestrian LOS at two crosswalks (Impacts 3.2-3 and 3.2-8).: The Embarcadero Midblock at the Ferry Building (Intersection Nos. 15A and 15B); and The Embarcadero and Market Street Southbound (Intersection No. 17). Refer to Figure 3.2-1 of the Draft EIS/EIR for their locations. As stated in the last paragraph of page 3.2-52 of the Draft EIS/EIR:

> [M]itigation measures could reduce project impacts. For The Embarcadero Midblock at the Ferry Building Southbound and Northbound (No. 15A/15B), Mitigation Measure TRANS-1 requires that WETA enter into an agreement with SFMTA to modify the pedestrian crosswalk timing, which would improve pedestrian flow without resulting in a drop in intersection LOS. For The Embarcadero and Market Street Southbound (No. 17), Mitigation Measure TRANS-2 requires that WETA enter into an agreement with SFMTA to widen the crosswalk to 72 feet, which would improve pedestrian flow. Both of these mitigation measures are discussed in more detail in Section 3.2.4, Mitigation Measures. Implementation of these measures could reduce the potential impacts at these crosswalks to a not adverse and less-than-significant level. However, SFMTA and the San Francisco Department of Public Works (SFDPW) would need to examine the signal timing progression, pedestrian crossing time requirements, and plans for crosswalk widening in greater detail prior to implementation of the mitigation measures, to determine if the impacts would be fully mitigated. Due to this uncertainty, for the purposes of the EIS/EIR, these impacts would still be considered significant and adverse.

In addition, the effect of implementation of these mitigation measures was evaluated. As stated above and in Section 3.2.4 of the Draft EIS/EIR, implementation of these changes would not result in a drop in vehicular LOS. WETA is committed to implementing Mitigation Measures TRANS-1 and TRANS-2, which require WETA to enter into an agreement with SFMTA to implement these changes, because SFMTA has discretion over the specific signal timing adjustments, and over the timing of implementation of any changes affecting the transportation network. WETA has coordinated with the San Francisco Planning Department and SFMTA on these impacts and the mitigation measures identified in the EIS/EIR.

As described in Section 1.2.7 of this Response to Comments Appendix, the analysis of potential impacts to transit has been updated. The updated analysis indicates that there would be no significant or adverse impacts to transit, and no mitigation is necessary.

2.10.20 Response to EOP-20

Comment is noted.

2.10.21 Response to EOP-21

CEQA Guidelines Section 15088.5(a) states that recirculation of an EIR is required when significant new information is added that deprives the public of a meaningful opportunity to comment on a substantial adverse environmental effect of a project, or a feasible way to mitigate or avoid such an effect. Section 15088.5(a) further clarifies that "significant new information" requiring recirculation includes (1) a new significant environmental impact; (2) a substantial increase in the severity of an environmental impact requiring mitigation measures; or (3) a new feasible alternative or mitigation measure considerably different from what was previously analyzed. Section 15088.5(b) states that "recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modification to an adequate EIR."

Similarly, Section 1502.9(c) of the CEQ regulations for NEPA states that a federal agency should prepare supplements to a draft EIS when the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action and its impacts.

The information provided to address comments received on the Draft EIS/EIR have not altered the conclusions presented in the Draft EIS/EIR. The information added to the Final EIS/EIR in response to comments received serves to clarify the project description, expected effects, and analysis described in the Draft EIS/EIR. No new significant impacts have been identified for the proposed project; there is no substantial increase in the severity of identified impacts. Additionally, there are no substantial changes to the proposed project, or new circumstances resulting in increased environmental impacts. As described in Section 1.2 of this Response to Comments Appendix, updates to the project description (i.e., removal of weather protection canopy at Gate B and commitment to perform in-water construction activities within the LTMS work window) have reduced the potential impacts from the proposed project from what was described in the Draft EIS/EIR. Therefore, recirculation of the Draft EIS/EIR is not necessary.

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Zander Sivyer
Douglas Tom

Mike Buhler
Executive Director

2007 FRANKLIN ST.
SAN FRANCISCO
CALIFORNIA 94109

TEL 415-441-3000
FAX 415-441-3015
www.sfheritage.org

August 28, 2013

Sent by email
Mike Gougherty
San Francisco Bay Area Water Emergency Transportation Authority
Pier 9, Suite 11, The Embarcadero
San Francisco, CA 94111
gougherty@watertransit.org

Re: Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Downtown San Francisco Ferry Terminal Expansion Project (SCH #2011032066)

Dear Mr. Gougherty,

San Francisco Heritage, a non-profit 501(c)(3) membership organization charged to preserve and enhance San Francisco's unique architectural and cultural identity, reviewed the Preliminary Design Concept Plan for the Downtown Ferry Terminal Expansion Project on March 15, 2011 and subsequently submitted comments to the project sponsor. Enclosed you will find our original letter submitted to the project sponsor in May of 2011. While we acknowledge the deadline for the public comment period on the DEIS/DEIR has passed, we ask that our letter dated May 5, 2011 be included in the final EIS/EIR for the project. Should you have any questions, please do not hesitate to contact me at (415) 441-3000 x15 or mbuhler@sfheritage.org.

Sincerely,

Mike Buhler
Executive Director

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Zander Sivyer
Christopher VerPlanck
David P. Wessel

Mike Buhler
Executive Director

2007 FRANKLIN ST.
SAN FRANCISCO
CALIFORNIA 94109

TEL 415-441-3000
FAX 415-441-3015
www.sfheritage.org

May 5, 2011

Sent by email
Boris Dramov
ROMA Design Group
1527 Stockton Street
San Francisco, CA 94133
borisd@roma.com

Re: Preliminary Design Concept Plan for the Downtown San Francisco Ferry Terminal Expansion Project

Dear Boris:

On behalf of San Francisco Architectural Heritage, thank you for your March 15 presentation to the Issues Committee on the proposed Downtown San Francisco Ferry Terminal Expansion Project. San Francisco Architectural Heritage ("Heritage") is a non-profit 501(c)(3) membership organization charged to preserve and enhance San Francisco's unique architectural and cultural identity. Based on the committee's review, we offer comments on the following three aspects of the project: the new terminal layout and expansion, design of the new public area structures, and possible future changes to the Agricultural Building.

At the outset, we have no issue with the new terminal layout and expansion as proposed. We understand that the ferry terminal operation requires changes to meet emergency management needs. Because Piers ½ and 2 are not contributors to the Port of San Francisco Embarcadero National Register Historic District, their proposed removal and infill to build additional gates will not adversely impact the integrity of the district. We also agree that the expansion of authentic ferry terminal activity will reinforce the historic meaning and role of the Ferry Building area as a transportation hub. **SFAH-1**

With regard to the proposed new canopy structure at the north end of the Ferry Building, we question the need to locate this element so close to the historic building. As a contributor to the historic district, and one of the city's most iconic landmarks, the utmost attention should be given to the canopy's interaction with the Ferry Building. It is our opinion that the structure as currently designed is too substantial and detracts from the historic building. While the canopy would provide shade and enable orderly queuing, its proposed location would further constrict an area that is already often crowded. Accordingly, we urge the design team to relocate this structure and/or re-evaluate its design so as not to encroach on the Ferry Building. **SFAH-2**

While the committee does not object to a contemporary canopy structure, we encourage the design team to explore possible cues that can be taken from historic features within the district and existing precedents for shade structures along the

waterfront. Our main recommendations are that the structure be light in massing and better incorporated into the historic nature of the area. SFAH-2 (cont'd.)

While the Agriculture Building is not part of this ferry terminal expansion program, the committee appreciates the consideration given to the potential effects on this historic resource. We are comfortable with the general concept of lifting the building with plinth. However, because no project has been proposed, and the scope of work has yet to be determined, the committee is unable to comment on the potential removal of historic fabric if the building were to be raised. We encourage the design team to continue to treat the Agriculture Building with great sensitivity, and reference it stylistically, as new design and circulation features are introduced in the vicinity. Heritage welcomes the opportunity to review this phase of the project when undertaken by the Port. SFAH-3

Because this project was presented to the Issues Committee prior to environmental review under the California Environmental Quality Act, Heritage may issue additional comments should new information be revealed about the project's potential impacts on historic resources.

Thank you again for the opportunity to comment on Preliminary Design Concept Plan for the Downtown Ferry Terminal Expansion Project. It is our hope that the project will meet the needs of residents and accomplish the goals set forth by the Port of San Francisco and the Water Emergency Transportation Authority, while complementing the waterfront's existing historic character.

Sincerely,

Mike Buhler
Executive Director

cc:
Mike Gougherty, Water Emergency Transportation Authority
Mark Paez, Port of San Francisco
Jay Turnbull, Page & Turbnull

2.11 SFAH

2.11.1 Response to SFAH-1

Comment is noted.

2.11.2 Response to SFAH-2

As described in Section 1.2.3 of this Response to Comments Appendix, WETA has decided not to include the weather protection canopy proposed at Gate B in the project's Final Design.

Refer to **Response to BCDC-4** and **Response to SFARC-2.**

2.11.3 Response to SFAH-3

No changes to the Agriculture Building are proposed as a part of the project. However, because the Agriculture Building is in the project area, and is a building of local and national historical significance, potential future rehabilitation of the Agriculture Building was considered in the project's preliminary design. The proposed project has been designed to accommodate the future renovation and elevation of the Agriculture Building, and to direct stormwater flows away from the building. In addition, The Draft EIS/EIR considered potential impacts of the proposed project improvements on the historic integrity of the Agriculture Building, and concluded that impacts would be less than significant with the implementation of mitigation measures identified in the Draft EIS/EIR (refer to Impact 3.8-5).

mail, by email, or you can present a verbal comment following our presentation or fill out one of our comment cards and leave it here with us today.

So with that, that concludes or presentation. Again, if anybody wants to make a comment, we ask that you fill out a speaker card, and if not, please submit any written comments you may have by July 30th. Thank you.

MR. GOUGHERTY: Are there any speaker cards out there?

MS. CONNORS: Not speaker cards, but comments and I can pull it out.

MR. GOUGHERTY: Okay. Do you want to come up to the microphone?

MS. CONNORS: Yeah, or actually here. I'm pretty --

MR. GOUGHERTY: Yeah. If you want to, just for the court reporter, say your name.

MS. CONNORS: Yeah, yeah. I'm Jane Connors, I'm the senior property manager at the Ferry Building.

First and foremost everybody at the Ferry Building is excited about the ferry service expansion in the Ferry Building area. We have been waiting anxiously for this and we're super excited that this is

CONNERS-1

coming down the pike. And the Ferry Building and the Ferry Building farmer's market will be submitting written documents.

We just hope that the draft EIR, we haven't been able take a full look at it, but we hope it takes into full account the impact of the project and all mitigation measures necessary to avoid any problems on such closely adjacent resources within the Ferry Building area. We expect the project will enhance the wonderful public access now existing in the Ferry Building area, and we look forward to working collaboratively with WETA and other stakeholders and regulators to insure a compatible and beneficial enhancement to the waterfront.

CONNERS-1 (cont'd.)

MR. GOUGHERTY: Thank you. Do we have anyone else that would wish to make a comment today?

MS. CHEW: Can we ask a question?

MR. GOUGHERTY: Yeah, absolutely. Please do, and if you could also state your name and affiliation.

MS. CHEW: I just live close by on Golden Gate Way, and I am always in favor of getting more public transportation and getting people out of their cars. And I'm just curious as to what is your communication with San Mateo or Santa Clara counties to

CHEW-1

see if they are also undertaking a similar project to encourage people to not drive into the city but to take ferry service. Do you know if there are similar projects that are being undertaken in the South Bay?

MR. GOUGHERTY: Well, Kevin would you like to speak to this one?

Kevin is the manager of planning and development at WETA, so he kind of really has a broad sense of everything that we do.

MR. CONNOLLY: Yes, we're always in communication and there's a regular group of Bay Area transit agencies that meets on a regular basis. Just specifically to San Mateo County and ferries, there's one terminal we have opened in the last year in South San Francisco, there's another that's being considered in Redwood City.

As far as ferries in Santa Clara County, there's certainly nothing that we have considered, but Santa Clara County is a significant contributor to the Caltrain system, both with volume of people and funding. And Santa Clara County is also building a BART extension. There's a lot in terms of going on in reaching the Bay Area and there's a big emphasis on reducing autos into San Francisco.

MS. CHEW: I think the public needs to be

CHEW-1 (cont'd.)

CHEW-1 (cont'd.)

encouraged to get out of their cars.

MR. GOUGHERTY: Anyone else wish to make a comment today on the draft EIS or the accuracy of the environmental analysis?

We're going to take a break from the microphone here and will continue to be here until the conclusion of the meeting at 7:00. If anyone would like to make any other comments, please let me know and we'll come back up to the microphone and give you a chance to make a comment on the EIR/EIS. Thank you.

(Recess taken.)

(Off the record at 6:58 p.m.)

2.12 PUBLIC MEETING TRANSCRIPT

2.12.1 Response to CONNORS-1

Comments are noted.

2.12.2 Response to CHEW-1

Comments are noted.

3.0 REFERENCES

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APPENDIX G

MITIGATION MONITORING AND REPORTING PROGRAM

DOWNTOWN SAN FRANCISCO FERRY TERMINAL EXPANSION PROJECT

Environmental Impact Statement/Environmental Impact Report
Mitigation Monitoring and Reporting Program
SCH No. 2011032066

Prepared for
San Francisco Bay Area Water Emergency Transportation Authority
Pier 9, Suite 111, The Embarcadero
San Francisco, California 94111

Prepared by
URS Corporation
One Montgomery Street, Suite 900
San Francisco, California 94104-4538

September 2014

Mitigation Monitoring and Reporting Program

INTRODUCTION

The California Environmental Quality Act and National Environmental Policy Act (NEPA) require the adoption of feasible mitigation measures (MMs) to reduce the severity and magnitude of potentially significant environmental impacts associated with project development. Under NEPA regulations, a monitoring and enforcement program shall be adopted and summarized for any mitigation identified to reduce adverse effects (40 Code of Federal Regulations [CFR] Section 1505.2(c) and 23 CFR 771.27A). The Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Downtown San Francisco Ferry Terminal Expansion Project (the proposed project), SCH No. 2011032066, recommends that the San Francisco Bay Area Water Emergency Transportation Authority (WETA) adopt a range of MMs that will mitigate to the extent feasible the environmental effects that could result from the implementation of the proposed project.

Monitoring of the implementation of adopted MMs is required by Public Resources Code Section 21081.6. This document identifies MMs and project requirements (PRs) of the EIS/EIR, and describes the process whereby the MMs and PRs would be monitored following certification of the EIS/EIR and adoption of this Mitigation Monitoring and Reporting Program (MMRP) by WETA.

PURPOSE

The purpose of this MMRP is to ensure compliance with all MMs to mitigate or avoid potentially significant adverse environmental impacts resulting from the proposed project that were identified in the EIS/EIR. Implementation of this MMRP shall be accomplished by WETA. Project-specific MMs will be implemented (1) as part of design development of the project; (2) prior to or during project construction; or (3) as part of project operations.

RESPONSIBILITIES AND DUTIES

In general, monitoring will consist of demonstrating that MMs were implemented, and that the responsible unit monitored the implementation of the measures. The responsible unit for determining compliance with all MMs will be WETA. Monitoring will consist of determining whether:

- The specific issues identified in the MMs were considered in the design development phase
- Construction contracts included the provisions specified in the MMs
- The required actions specified in the MMs occurred prior to or during construction
- Ongoing administrative activities included the provisions identified in the MMs

Although WETA would ultimately be responsible for compliance with the MMs and PRs, compliance with and/or implementation of many of these MMs and PRs will also be the responsibility of the Construction Contractor, and would be included in the construction contract requirements.

The project improvements will be constructed in an area under the jurisdiction of the Port of San Francisco (Port). WETA and the Port will enter into a lease agreement for the modification to existing and construction of new facilities under their jurisdiction. In accordance with the lease agreement, construction would be closely coordinated with the Port; however, any concerns between monitors and construction personnel shall be addressed by WETA.

LIST OF MITIGATION MEASURES

All project-specific MMs included in the EIS/EIR for the project would be monitored as described above. These measures are listed in Table 1.

The mitigation monitoring matrix on the following pages is formatted to parallel the format of the Executive Summary table contained in the EIS/EIR. The matrix identifies the required MMs; the primary responsible monitoring party (whether WETA or WETA's Construction Contractor); the time frame for monitoring; and any responsible monitoring agencies other than WETA and WETA's Construction Contractor. In addition, requirements to report implementation to outside agencies are noted where applicable.

LIST OF PROJECT REQUIREMENTS

Table 2 includes a list of project-specific requirements included in the EIS/EIR. These requirements would be monitored by WETA and are included in this MMRP to assist WETA in tracking the implementation of these commitments.

Table 1
Mitigation Monitoring and Reporting Program Matrix

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
Transportation and Circulation						
MM TRANS-1	**Impact 3.2-3: Potential Impacts to Pedestrian Facilities in Existing Conditions** Increases in pedestrian circulation associated with the project under Existing Conditions would result in substantial overcrowding for three study area crosswalks. Preliminary analysis indicates that Mitigation Measures TRANS-1 and TRANS-2 could reduce the potential impacts, however, the impacts may not be fully mitigated.	**Mitigation Measure TRANS-1: Implement The Embarcadero Midblock at the Ferry Building Southbound and Northbound (No. 15A/15B) Intersection Adjustments** WETA will enter into an agreement with SFMTA to modify the intersection signal timing for The Embarcadero Midblock at the Ferry Building Southbound and Northbound (No. 15A/15B), to remove the northbound-southbound movement (No. 9); and distribute the time to the northbound movement (Turning Movement No. 2/Turning Movement No. 5) and southbound movement (Turning Movement No. 10), to allow for longer crossing times for pedestrians. This adjustment would result in the LOS for the crosswalk to be improved to LOS D for the respective AM and PM peak hours, without causing intersection LOS to drop to an unacceptable level. SFMTA has discretion over the specific timing adjustments, and the timing of the implementation of any changes affecting the transportation network in San Francisco.	Prior to project operations	WETA	SFMTA	
MM TRANS-2		**Mitigation Measure TRANS-2: Implement The Embarcadero and Market Street Southbound (No. 17) Crosswalk Adjustments** WETA will enter into an agreement with SFMTA to widen the pedestrian crosswalk at The Embarcadero and Market Street Southbound (No. 17) to a minimum of 72 feet. This adjustment would result in the LOS for the crosswalk to be improved to LOS D, without causing a drop in intersection LOS for traffic. The existing crosswalk at this location is 42 feet in width; therefore, it would require a 30-foot widening (for a minimum width of 72 feet). However, there are a number of signs, poles, and other street furniture located north and south of the crosswalk on either side of the roadway that could have to be relocated to allow the crosswalk to be widened. These include: ▪ Along the western side of The Embarcadero, 2.5 feet north of the crosswalk, there is a traffic signal; and 15 feet north of the crosswalk, there is a manhole. ▪ Along the western side of The Embarcadero, south of the crosswalk, there is a pedestrian crossing signal 2 feet from the crosswalk; a newspaper vending box 8 to 16 feet from the crosswalk; a street light 20 feet from the crosswalk; a "no parking" sign 24 feet from the crosswalk; and a traffic signal 30 feet from the crosswalk. A tree is located approximately 44 feet south of the crosswalk. ▪ Along the eastern side The Embarcadero, a traffic signal and pedestrian call button are located 1 foot north of the crosswalk. ▪ Along the eastern side The Embarcadero, a pedestrian crossing signal is located at the southern edge of the crosswalk, a decorative spherical bollard is 23 feet south of the crosswalk, and a traffic signal is 32 feet south of the crosswalk. SFMTA has discretion over the specific adjustments and the timing of the implementation of any changes affecting the transportation network in San Francisco, and SFDPW will be required to review and approve any relocation of manholes.	Prior to project operations	WETA	SFMTA	

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
MM TRANS-3	**Impact 3.2-5: Potential Impact of Construction-Related Activities on Transportation and Circulation** The majority of construction would be conducted from barges in the project area. In addition, the construction workforce would be small (between 4 and 25 construction workers). Between 15 and 20 trucks would access the site for construction-related activities on a given day. While the project would not result in adverse impacts, to further reduce the potential temporary disruptions to transportation and circulation, consistent with construction management best practices, WETA will implement Mitigation Measure TRANS-3, Construction Circulation Management.	**Mitigation Measure TRANS-3: Construction Circulation Management** WETA will meet with the Traffic Engineering Division of SFMTA, the Fire Department, Muni, and the Planning Department to determine the best methods and avoidance measures to minimize traffic congestion and potential negative effects to pedestrian or bicycle circulation in the project area during construction of the proposed project. Additional avoidance measures that could be implemented could include encouraging carpooling and transit use for construction workers, managing construction traffic on Mission Street to avoid peak-period congestion, informing the public of construction schedules and activities, and posting of wayfinding signage in the project area for pedestrians and bicycles. WETA will also develop a construction staging plan that will be coordinated with the Port and other leaseholders in the project area (e.g., BART and Equity Office Partners). The construction staging plan will ensure that ingress and egress to the existing gates and businesses would be maintained; vehicular access along the fire lane would be maintained; water side and land side access to other facilities on the Ferry Plaza would not be impeded; and construction would not block or prevent passage along The Embarcadero. Wayfinding signage would be posted as necessary	Prior to and during construction	WETA and Construction Contractor	SFMTA, SFFD, San Francisco Planning Department, and Port	
	Impact 3.2-8: Potential Cumulative Impacts to Pedestrian Facilities in Future (2035) Conditions Increases in pedestrian circulation associated with the project under Future (2035) Conditions would result in substantial overcrowding for three study area crosswalks. Preliminary analysis indicates that Mitigation Measures TRANS-1 and TRANS-2 could reduce the potential impacts; however, the impacts may not be fully mitigated.	**Mitigation Measure TRANS-1: Implement The Embarcadero Midblock at the Ferry Building Southbound and Northbound (No. 15A/15B) Intersection Adjustments**	See Impact 3.2–3	See Impact 3.2–3	See Impact 3.2–3	See Impact 3.2–3
		Mitigation Measure TRANS-2: Implement The Embarcadero and Market Street Southbound (No. 17) Crosswalk Adjustments	See Impact 3.2–3	See Impact 3.2–3	See Impact 3.2–3	See Impact 3.2–3

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
Land Use and Land Use Planning						
MM LU-1	**Impact 3.3-2: Conflict with Applicable BCDC Plans and Policies** With implementation of Mitigation Measure LU-1, the project would not conflict with applicable BCDC land use plans and policies adopted to avoid or mitigate environmental effects. As a result of BCDC's review and permitting for the proposed project, the project would be implemented in a manner consistent with BCDC plans and policies, and would be consistent with the Coastal Zone Management Act.	**Mitigation Measure LU-1: Removal of Fill in San Francisco Bay** To offset the new fill in San Francisco Bay created by the proposed project improvements, WETA will remove fill elsewhere in San Francisco Bay. Fill removal location and amount will be determined in coordination with BCDC during the Major Permit and Design Review process. The amount of fill to be removed is anticipated to be no more than the amount of new fill created by the project. Sites that would be considered for fill removal include dilapidated piers, wharfs, and remnant pilings that were constructed with creosote-treated wood; have no current maritime uses; and are not in areas with sensitive biological resources, such as eelgrass beds. In addition, the removal of fill will be coordinated with NMFS per the requirements of the Biological Opinion for the project. As outlined in the Biological Opinion, if the fill removed is in Central San Francisco Bay and is in-kind open-water enhancement (i.e., removal of existing shading), it would be removed at a 1:1 ratio. The mitigation ratio will be 2:1 if the mitigation action is outside Central San Francisco Bay and is in-kind open-water enhancement. If the mitigation action is in Central San Francisco Bay, but out-of-kind habitat enhancement, the mitigation will be 2:1. This mitigation would be funded prior to completion of construction of the project. WETA would conduct removal activities in accordance with applicable regulatory permits (as described in this EIS/EIR), and would cut or break the piles off at least 2 feet below the mudline. WETA would minimize sediment disturbance during removal, use a floating boom around the work area to contain and capture debris; and have absorbent pads available in the event that a petroleum sheen develops during removal of the structures. Mitigation measures and regulatory requirements described in the EIS/EIR for proposed project activities (i.e., demolition and removal of piles and piers) would also apply to the demolition and removal of fill elsewhere in the Bay; these would include Mitigation Measures AQ-1, Implement BAAQMD-Recommended Best Management Practices; CUL-1, Inadvertent Discovery Measures; CUL-2, Stop Construction if Buried Paleontological Resources are Discovered; HAZ-1, Prepare a Hazardous Materials Management Plan; and BIO-1, Dredging and Pile Driving Measures.	Funded prior to the completion of construction, or sooner as mandated by BCDC permit requirements	WETA	BCDC and NMFS	As required by the Major Permit issued by BCDC As required by the Biological Opinion and Incidental Take Statement issued by NMFS

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
Parklands and Recreation						
MM REC-1	**Impact 3.4-2: Conflict with Recreation and Public Access Plans and Policies** With implementation of Mitigation Measure REC-1, the project would be consistent with applicable recreation and public access plans and policies.	**Mitigation Measure REC-1: Public Access Improvements** To demonstrate that the proposed project includes public access improvements consistent with BCDC's plans and policies, WETA will develop a public access improvements plan in coordination with BCDC as a part of the Major Permit and Design Review process. The public access improvements plan will detail the public access features included in the project's Final Design, including details on the location, square footage, and expected benefit of the improvements. Public access improvements described in the plan would include, at a minimum, the Gate A Access Pier, North Basin Marginal Wharf Improvements, East Bayside Promenade, Embarcadero Plaza, and South Apron of the Agriculture Building Improvements. Other minor improvements such as seatwalls, planters, lighting, minor resurfacing, and/or railing replacements, not described here but in the project area, may be considered in this public access improvement plan. The feasibility of additional improvements outside of the Construction Zone shown on Figure 2-9 will be determined at the time of permitting, because feasibility will be dependent on the cooperation of other entities that have long-term leases (and therefore jurisdiction) over these other areas. WETA would construct public access improvements in accordance with applicable regulatory permits (as described in this EIS/EIR). Mitigation measures and regulatory requirements described in this EIS/EIR for proposed project activities (i.e., surface improvements) would also apply to the construction of public access improvements elsewhere in the project area. These would include Mitigation Measures AQ-2, Implement BAAQMD-Recommended Best Management Practices; TRANS-3, Construction Circulation Management; NOISE-1, Construction Notification; NOISE-4, General Construction Equipment Measures to Minimize Vibration; CUL-4, Plan for Protection Against, and Response to, Inadvertent Damage; HAZ-1, Prepare a Hazardous Materials Management Plan.	During development of the project design	WETA	BCDC	Documented as a part of the Major Permit (BCDC)
Section 4(f)						
	The project would not require the use of any Section 4(f) park or recreation property. The project would result in a *de minimis* impact to Pier 1, the Port Embarcadero Historic District, and the Central Embarcadero Piers Historic District.	Mitigation measures identified for Noise (NOISE-3) and Cultural Resources (CUL-3, CUL-4, CUL-6), discussed below.	See Impact 3.7–3, Impact 3.8–3, and Impact 3.8–5	See Impact 3.7–3, Impact 3.8–3, and Impact 3.8–5	See Impact 3.7–3, Impact 3.8–3, and Impact 3.8–5	See Impact 3.7–3, Impact 3.8–3, and Impact 3.8–5

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
Air Quality and Global Climate Change						
MM AQ-1	**Impact 3.6-4: Construction-Related Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ that Could Exceed Applicable Air Quality Standards** If construction activities in the North and South Basins overlapped, the project's unmitigated ROG, PM_{10}, and $PM_{2.5}$ construction-related emissions would not exceed the BAAQMD's average daily emission standards for construction activities; however, the project's unmitigated construction-related NO_X emissions could exceed the BAAQMD standards. Implementation of Mitigation Measures AQ-1 and AQ-2 would reduce the project's construction NO_X emissions below BAAQMD's thresholds.	**Mitigation Measure AQ-1: Construction Phasing** WETA will phase construction activities in such a way that onsite emission-generating construction activities for the North Basin and South Basin improvements do not overlap.	During development of the project design	WETA		
MM AQ-2		**Mitigation Measure AQ-2: Implement BAAQMD-Recommended Best Management Practices** The following BAAQMD-recommended best management practices will be implemented to reduce exhaust emissions: ▪ Minimize the idling time of diesel-powered construction equipment to 2 minutes. ▪ The contractor will demonstrate at various phases of construction (e.g., 25 percent, 50 percent, and completion) that the off-road equipment (more than 50 horsepower) and marine vessels to be used during construction (i.e., owned, leased, and subcontractor vehicles) would achieve a project-wide fleet-average 20 percent NO_X reduction, and a 45 percent PM reduction compared to the most recent CARB fleet average, to the extent feasible. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options that may become available. The contractor will document efforts taken to achieve the specified goals, explain why meeting the goals was not feasible (if applicable), and indicate what emissions reduction and equipment use goals were achieved. ▪ Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NO_X and PM. ▪ Require that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines.	During construction	Construction Contractor		
	Impact 3.6-5: Expose Sensitive Receptors to Substantial Construction-Related Pollutant Concentrations The project's construction emissions could result in $PM_{2.5}$ concentrations that exceed BAAQMD's significance thresholds for exposure of sensitive receptors to this pollutant. With implementation of Mitigation Measures AQ-1 and AQ-2, the project's construction emissions would be less than BAAQMD's thresholds, and consequently would not expose sensitive receptors to substantial pollutant concentrations.	**Mitigation Measure AQ-1: Construction Phasing**	See Impact 3.6–4	See Impact 3.6–4	See Impact 3.6–4	See Impact 3.6–4
		Mitigation Measure AQ-2: Implement BAAQMD-Recommended Best Management Practices	See Impact 3.6–4	See Impact 3.6–4	See Impact 3.6–4	See Impact 3.6–4

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
Noise and Vibration						
MM NOISE-1	**Impact 3.7-2: Potential Impact of Construction and Demolition Equipment other than Impact Tools on Adjacent Noise-Sensitive Land Uses** General construction noise would adversely impact noise-sensitive receivers in the project vicinity. Impacts would be reduced with implementation of Mitigation Measures NOISE-1 and NOISE-2.	**Mitigation Measure NOISE-1: Construction Notification** Prior to the start of construction, the owners and occupants of Pier 1, the Hotel Vitale, the Ferry Building, the Carnelian by the Bay, and the Agriculture Building (i.e., those noise-sensitive receivers listed in Table 3.7-7) will be notified of the project schedule, and that noise- and vibration-generating construction activities are anticipated. Prior to the start of the job, these businesses will be provided with the phone number of the construction foreman, or another responsible party who can be reached for noise- and vibration-related questions and concerns.	Prior to construction	WETA		
MM NOISE-2		**Mitigation Measure NOISE-2: Use of Smaller and Quieter Construction Equipment within 15 Feet of the Agriculture Building** When construction activities would occur within 15 feet of the Agriculture Building during a time when the building is occupied, equipment will be selected to minimize the noise generated from construction. The contractor will use smaller and quieter construction equipment with lower noise-emission ratings.	During construction	Construction Contractor		
	Impact 3.7-3: Potential Impact of Pile Driving During Project Construction on Adjacent Noise-Sensitive Land Uses Construction noise from pile-driving activities would be potentially adverse when conducted within 55 feet of the Ferry Building, the Agriculture Building, and Pier 1. This impact would be reduced with implementation of Mitigation Measures NOISE-1 and NOISE-3.	**Mitigation Measure NOISE-1: Construction Notification**	See Impact 3.7–2	See Impact 3.7–2	See Impact 3.7–2	See Impact 3.7–2
MM NOISE-3		**Mitigation Measure NOISE-3: Pile-Driving Technique Selection, and Monitoring; and Corrective Measures to Minimize Noise and Vibration at Nearby Buildings** To reduce the effect of noise and vibration on adjacent land uses and structures, the following measures will be implemented during construction: ▪ Within 55 feet of a building (i.e., the Ferry Building, the Agriculture Building, or Pier 1), vibratory pile driving will be employed to reduce noise levels at the building to below 100 dBA. ▪ When vibratory pile driving occurs within 32 feet of an occupied building (i.e., the Ferry Building, the Agriculture Building, or Pier 1), noise monitoring will be conducted to ensure that noise levels at the building do not exceed 100 dBA. If necessary, noise-reducing measures will be employed to reduce noise levels at the building to below 100 dBA. ▪ When impact pile driving occurs within 540 feet of the Hotel Vitale, vibration monitoring will be performed to ensure that the vibration levels at the hotel do not exceed 75 VdB (the threshold for annoyance for residential land uses). ▪ When vibratory pile driving occurs within 315 feet of the Hotel Vitale, vibration monitoring will be performed to ensure that the vibration levels at the hotel do not exceed 75 VdB (the threshold for annoyance for residential land uses).	During construction planning and construction	Construction Contractor and noise/vibration monitor, as required		

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
		▪ When pile driving occurs within 290 feet of the Hotel Vitale, techniques to reduce vibration, such as selection of vibratory pile driving, will be applied to ensure that vibration levels at the hotel do not exceed 75 VdB (the threshold for annoyance for residential land uses). ▪ To ensure that vibration from construction activities does not result in damage to any of the Vibration Category II structures in the project area (the Ferry Building, the Agriculture Building, Carnelian by the Bay, Pier 1, and the seawall), the following measures will be applied: – When impact pile driving occurs within 73 feet of the building, vibration will be monitored to ensure that the vibration levels at the building do not exceed 0.3 PPV. – Within 42 feet of an existing building, an alternative method to impact pile driving will be employed, such as vibratory pile-driving construction. – When vibratory pile driving occurs within 45 feet of the building, vibration will be monitored to ensure that the vibration levels at the building do not exceed 0.3 PPV. – Pile driving will not be implemented within 17 feet of an existing building unless it can be demonstrated that the activity will not generate vibration levels that would exceed 0.3 PPV at the building. ▪ To ensure that vibration from construction activities does not result in damage to the Ferry Plaza (Vibration Category I), the following measures will be applied: – When impact pile driving occurs within 53 feet of the Ferry Plaza, vibration will be monitored to ensure that the vibration levels at the plaza do not exceed 0.5 PPV. – Within 30 feet of the Ferry Plaza, an alternative method to impact pile driving will be employed, such as vibratory pile-driving construction. – When vibratory pile driving occurs within 33 feet of the Ferry Plaza, vibration will be monitored to ensure that the vibration levels at the plaza do not exceed 0.5 PPV. – Pile driving will not be implemented within 13 feet of the Ferry Plaza, unless it can be demonstrated that the activity will not generate vibration levels that would exceed 0.5 PPV at the plaza. ▪ Should the noise and vibration monitoring on site indicate that levels reach or exceed the thresholds indicated here, all impact work will cease, and corrective measures or alternative construction methods will be implemented to minimize the risk to the subject or structure.				

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
	Impact 3.7-4: Vibration from Project Construction that Could Result in Human Annoyance Vibration from pile driving could adversely affect the residential uses at the Hotel Vitale, causing annoyance. This impact would be reduced with implementation of Mitigation Measures NOISE-1 and NOISE-3.	**Mitigation Measure NOISE-1: Construction Notification**	See Impact 3.7–2	See Impact 3.7–2	See Impact 3.7–2	See Impact 3.7–2
		Mitigation Measure NOISE-3: Pile-Driving Technique Selection, and Monitoring; and Corrective Measures to Minimize Noise and Vibration at Nearby Buildings	See Impact 3.7–3	See Impact 3.7–3	See Impact 3.7–3	See Impact 3.7–3
	Impact 3.7-5: Damage to Structures Caused by Vibration from Project Construction Project construction activities could produce vibration that could exceed thresholds designed to protect the seawall, the Ferry Building, the Ferry Plaza, the Agriculture Building, and Pier 1 from structural damage. Impacts would be reduced with implementation of Mitigation Measures NOISE-3 and NOISE-4.	**Mitigation Measure NOISE-3: Pile-Driving Technique Selection, and Monitoring; and Corrective Measures to Minimize Noise and Vibration at Nearby Buildings**	See Impact 3.7–3	See Impact 3.7–3	See Impact 3.7–3	See Impact 3.7–3
MM NOISE-4		**Mitigation Measure NOISE-4: General Construction Equipment Measures to Minimize Vibration** To reduce construction-related vibration that has the potential to damage structures in the project area, the following measures will be implemented during construction: ▪ Vibrating construction equipment should be placed and operated from the construction barge, if feasible. ▪ When working within 20 feet of the Agriculture Building or the seawall (except when on a barge), equipment that produces less vibration when operated will be selected (refer to Table 3.7-13). If vibration-producing equipment is used within 20 feet of the Agriculture Building or the seawall, vibration will be monitored to ensure that it does not exceed 0.3 PPV. Should the onsite vibration monitoring indicate that levels reach or exceed the thresholds indicated here, all impact work will cease, and corrective measures will be implemented to minimize the risk to the subject or structure.	During construction planning and construction	Construction Contractor and noise/vibration monitor, as required		

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
Cultural and Paleontological Resources						
MM CUL-1	**Impact 3.8-1: Substantial Adverse Change to NRHP and/or CRHR Listed, or Eligible to Be Listed, or Unique Archaeological Resources** There are no known archeological resources in the project APE. The inadvertent discovery of archaeological materials during project activities represents a potential project impact; however; implementation of Mitigation Measure CUL-1, would reduce the project's potential to result in impacts to archaeological resources.	**Mitigation Measure CUL-1: Inadvertent Discovery Measures** To avoid any potential adverse effect on inadvertently discovered NRHP- and/or CRHR-eligible or unique archaeological resources as defined in CEQA Guidelines Section 15064.5(a)(c), WETA will distribute an archaeological resource "ALERT" sheet to the project prime contractor, and to any project subcontractor firms involved in soil/ sediment disturbing activities in the project site. The "ALERT" sheet will contain sufficient information to allow contractor personnel to identify conditions that may indicate the presence of archaeological resources. Prior to undertaking any soil-disturbing activities (i.e., dredging, pile installation), each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, and supervisory personnel. Should there be any indication of an archeological resource—including, but not limited to, encountering fragments of bone, stone tools, midden soils, structural remains, ship remnants, or historic refuse—during any soil-disturbing activity of the project, WETA will immediately suspend any soil-disturbing activities in the vicinity of the discovery. In the event of such a discovery, WETA will retain the services of a qualified archaeological consultant. The archaeological consultant will advise WETA as to whether the discovery is an archaeological resource that retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archaeological resource is present, the archaeological consultant will identify and evaluate the archaeological resource. The archaeological consultant will make a recommendation to WETA as to what action or additional measures, if any, are warranted, including coordination with appropriate agencies, such as the California State Lands Commission. Measures might include preservation *in situ* of the archaeological resource; an archaeological monitoring program; or an archaeological evaluation program. If an archaeological resource cannot be avoided by project activities, the archaeologist will prepare an Archaeological Evaluation Plan (AEP). The AEP will create a program to determine the potential of the expected resource to meet the CRHR criteria—particularly Criterion 4, the resource's potential to address important research questions identified in the AEP—and the archaeologist will submit this plan to WETA for approval. The archaeologist will then conduct an evaluation consistent with the WETA-approved AEP. The methods and findings of the evaluation will be presented in an Archaeological Evaluation and Effects Report, which will be submitted to WETA for review on completion.	During construction	Construction Contractor and qualified archaeological consultant, if required	Port and California State Lands Commission	If resource is discovered, documentation and reporting of the discovery will be coordinated with the Port and California State Lands Commission, as required

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
	Impact 3.8-2: Disturbance of Human Remains, Including those Interred Outside of a Formal Cemetery There are no known human remains in the project APE. The inadvertent disturbance of human remains during construction represents a potential project impact; however, implementation of Mitigation Measures CUL-1 and CUL-2 would reduce the project's potential to result in impacts to human remains.	**Mitigation Measure CUL-1: Inadvertent Discovery Measures**	See Impact 3.8–1	See Impact 3.8–1	See Impact 3.8–1	See Impact 3.8–1
MM CUL-2		**Mitigation Measure CUL-2: Treatment of Human Remains** The treatment of human remains and associated or unassociated funerary objects discovered during any soil-disturbing activity will comply with applicable state laws. In the event the discovery is composed entirely of, or includes, human skeletal remains, in addition to implementation of Mitigation Measure CUL-1, Inadvertent Discovery Measures, construction activities will immediately cease and WETA's project representative will immediately contact the San Francisco County coroner to evaluate the remains, following the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. If the coroner determines that the remains are Native American, WETA will contact the NAHC, who will appoint a Most Likely Descendant (MLD), in accordance with Health and Safety Code Section 7050.5, subdivision (c), and PRC 5097.98 (as amended by AB 2641). In accordance with PRC 5097.98, WETA and the Port (as landowner/administrator) will ensure that, according to generally accepted cultural or archaeological standards or practices, the immediate vicinity of the Native American human remains is not damaged or disturbed by further development activity until WETA and the Port have discussed and conferred with the MLD, as prescribed in this section (PRC 5097.98), regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. WETA, the Port, and the MLD will make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects (CEQA Guidelines Sec. 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. PRC allows 48 hours to reach agreement on these matters. If the MLD and the other parties do not agree on the reburial method, the project will follow Section 5097.98(b) of the PRC, which states, "the landowner or his or her authorized representative will re-inter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."	During construction	Construction Contractor	Port and San Francisco County Coroner; NAHC and Most Likely Descendant, if required	If human remains are discovered, documentation and reporting of the discovery will be coordinated with the Port and San Francisco County coroner's office, as required

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
MM CUL-3	**Impact 3.8-3: Cause a Direct Adverse Effect or Impact to Historic Properties or Resources** Should it be determined that the fendering along Pier 1 requires replacement, the project could directly affect historic properties or resources. During the Final Design of the project, the existing fendering along the southern edge of Pier 1 would be inspected to determine whether replacement is necessary. Implementation of Mitigation Measures CUL-3 and CUL-4 require application of measures during construction to avoid inadvertent damage; implementation of a response and repair plan, should any inadvertent damage occur during construction; and replacement of the fendering along Pier 1, in a manner consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties, Standards for Rehabilitation*.	**Mitigation Measure CUL-3: Replacement in Accordance with Secretary of Interior Standards for Rehabilitation** If replacement of the existing pile fendering attached to the southern side of Pier 1 is deemed necessary, the replacement work will be conducted in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (NPS, 2001), specifically adhering to the Standards for Rehabilitation. Project compliance with the Secretary of the Interior's Standards and applicable guidelines will ensure that Pier 1 retains sufficient historic integrity to convey its significance for listing in the NRHP and CRHR, therefore avoiding and minimizing the adverse effect or significant impact potentially caused by this undertaking. When replacing the pile fendering on the southern side of the building, in-kind replacement materials will be used to the greatest extent feasible. The replacement timber pilings will have a diameter similar to that of the original pilings. The number of replacement pilings will match the number of pilings being removed (33), and the new pilings will be spaced similarly to the originals. The selection of replacement pilings should include input and review from an architectural historian who meets the Secretary of the Interior's Professional Qualification Standards (as defined in 36 CFR, Part 61). The project's compliance with the Standards for Rehabilitation will result in Pier 1 retaining integrity of design, workmanship, materials, feeling, association, and location. Although overall, the project will result in some diminished integrity of material, the elements that comprise the building's significant form, plan, and design, illustrating its important historic function and aesthetic value, will be retained; and the impact would be avoided and minimized.	During development of the project design	WETA	Port	Documented as part of project design (Port)
MM CUL-4		**Mitigation Measure CUL-4: Plan for Protection Against, and Response to, Inadvertent Damage** **Protection and Monitoring to Avoid Effects.** To avoid and minimize adverse effects that would inadvertently cause damage to historic properties during project construction activities, the project construction zone will be clearly delineated using orange construction fencing or other similar suitable materials, and designated as a restricted area. Mitigation Measure NOISE-3 would also help reduce this impact. **Response to and Repair of Inadvertent Damage.** Should project actions cause inadvertent damage to historic properties, project work will cease, and the response plan prepared prior to construction for repair of damage will be implemented. The plan and response will include input and review from an architectural historian who meets the Secretary of the Interior's Professional Qualification Standards (as defined in 36 CFR, Part 61). Inadvertent damage to the historic properties resulting from the project will be repaired in accordance with the Secretary of the Interior's *Standards for Rehabilitation*. The response plan will include photographic documentation of the condition of the portions of historic properties prior to project implementation, to establish the baseline condition for assessing damage. Prior to implementation, WETA will provide the plans for any repairs to SHPO for review and comment, to ensure conformance with the Secretary of the Interior's *Standards for Rehabilitation*.	During construction	Construction Contractor, WETA, and a qualified-architectural historian, if necessary	Port and SHPO	Should inadvertent damage to historic properties occur, the response plan would be provided to the SHPO and Port

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
MM CUL-5	**Impact 3.8-4: Adverse Effects to Unidentified Significant Paleontological Resources** There are no known paleontological resources in the project area. However, the area is considered sensitive for paleontological resources. Implementation of Mitigation Measure CUL-5, would reduce potential impacts to unknown significant paleontological resources.	**Mitigation Measure CUL-5: Stop Construction if Buried Paleontological Resources Are Discovered** In the event that paleontological resources are discovered during construction, sediment-disturbing activities within 50 feet of the find will be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (in accordance with Society of Vertebrate Paleontology [SVP] standards). The paleontologist will document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist will notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the project proponent determines that avoidance is not feasible, the paleontologist will prepare a salvage plan in accordance with the SVP and CEQA Guidelines for mitigating the effect of the project on the qualities that make the resource important. The plan will be submitted to WETA for review and approval prior to implementation.	During construction	Construction Contractor and qualified paleontologist, if required	Port	If resource is discovered, documentation and reporting of the discovery
MM CUL-6	**Impact 3.8-5: Potential Indirect Effects of Visual or Noise and Vibration Elements on Historic Properties or Resources** There is potential for the design of the project's weather protection canopies to affect the adjacent historic properties within the APE. With implementation of Mitigation Measure CUL-6, indirect adverse visual effects from the Final Design of the weather protection canopy element of the proposed project would be avoided. Additionally, there is the potential that vibration from construction could indirectly affect the historic properties or resources in APE. These potential effects would be avoided by implementing Mitigation Measure NOISE-3.	**Mitigation Measure CUL-6: Consultation with Local Agencies Regarding Final Design of Weather Protection Canopies and Secretary of the Interior's Standards for Rehabilitation** The Final Design of the weather protection canopies will be developed in consultation with the Port's Waterfront Design Advisory Committee and the San Francisco Historic Preservation Commission, and consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties, Standards for Rehabilitation* (NPS, 2001). The basic scale and massing of these project features is described in Section 2.3.3 of the EIS/EIR, but the details of their appearance has not been finalized. Mitigation Measure CUL-6 requires consultation regarding Final Design of weather protection canopies, and application of the Secretary of the Interior's Standards to the Final Design. Project compliance with the Secretary of the Interior's Standards and applicable guidelines will ensure that the weather protection canopy element of the proposed project would not adversely affect any of the historic properties in the Architectural APE or Focused Architectural APE. The standards for rehabilitation recommend "designing new exterior additions to historic buildings or adjacent new construction which is compatible with the historic character of the site and which preserves the historic relationship between the building or buildings and the landscape" (NPS 2001, 105). The guidelines also state that new additions, exterior alterations, or related new construction should not destroy historic materials, features, and spatial relationships that characterize the historic property. The new work should be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment. New additions and adjacent or related new construction should be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. These guidelines, and others for historic setting, is and will continue to be incorporated in the design of the project features at the historic Ferry Building and the surrounding historic properties. The consultation and application of the Secretary of the Interior's Standards would ensure that historic integrity is retained, and	During development of the project design	WETA	Port and San Francisco Historic Preservation Commission	Documented as part of project design (Port)

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
		that the properties would remain eligible for listing in the NRHP and CRHR, therefore avoiding potential adverse effects. The Final Design for the project will include consultation and review by the Port's Waterfront Design Advisory Committee and the San Francisco Historic Preservation Commission. Through the design review process, the Waterfront Design Advisory Committee is responsible for ensuring that project improvements comply with the Secretary of the Interior's Standards for Historic Rehabilitation, and that projects would not adversely affect historic properties or districts along the waterfront. Given the resources in the project area, the San Francisco Historic Preservation Commission will be involved in the design review process. The public is also invited to participate in the design review process. WETA will submit the preliminary final design for the weather protection canopies to the Port's Waterfront Design Advisory Committee and the San Francisco Historic Preservation Commission for review and comment; input received during this review will be incorporated in the Final Design plans. This process will ensure that the Final Design would also avoid adverse effects to historic properties or resources in either the Architectural APE or Focused Architectural APE.				
		Mitigation Measure NOISE-3: Pile-Driving Technique Selection, and Monitoring; and Corrective Measures to Minimize Noise and Vibration at Nearby Buildings	See Impact 3.7–3	See Impact 3.7–3	See Impact 3.7–3	See Impact 3.7–3
Biological Resources						
MM BIO-1	**Impact 3.9-1: Potential Adverse Effects of Maintenance Dredging on Special-Status or Commercially Valuable Marine Species** The project's maintenance dredging activities have the potential to impact special-status and commercially valuable marine species, including their habitats. Mitigation Measure BIO-1 includes measures to reduce the impacts on special-status and commercially valuable marine species from maintenance dredging.	**Mitigation Measure BIO-1: Dredging and Pile-Driving Measures** The following measures will be implemented to reduce the impacts of dredging and pile driving on special-status fish and other aquatic species: ▪ During impact pile driving of steel piles, the applicant will use a bubble curtain or other attenuation device to attenuate underwater sound levels; ▪ Impact hammers will be cushioned using a 12-inch-thick wood cushion block, and a "soft start" technique will be used to give fish and marine mammals an opportunity to vacate the area; ▪ Only a single impact hammer will be operated at a time; ▪ When feasible, vibratory hammers will be used to drive piles; and ▪ If a mechanical dredge is used, the applicant will use the smallest possible dredge head to reduce the likelihood of fish becoming entrained in the mechanical dredge. WETA will conduct all piling installation and dredging between approved work windows, between June 1 and November 30, when the likelihood of sensitive fish species being present in the work area is minimal (LTMS, 1998). In addition to the avoidance and minimization measures identified here, the project sponsors will comply with additional measures and requirements identified through consultation with NOAA, NMFS and CDFW.	Consultation prior to construction Implementation of measures during construction	Construction Contractor	NMFS and CDFW	Reporting as required by the Biological Opinion and Incidental Take Statement issued by NMFS, and Incidental Take Authorization issued by CDFW

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
	Impact 3.9-2: Potential Adverse Effects of Permanent Fill in San Francisco Bay on Benthic Habitat and Marine Species The proposed project would result in a net increase of 345 square feet (0.008 acre) of fill in bottom habitat in the North and South Basins. The increased area of shade that would result from the project is relatively small in the context of San Francisco Bay, but could adversely affect fish and their habitat. With implementation of Mitigation Measure LU-1, impacts would be reduced and would not be adverse	**Mitigation Measure LU-1: Removal of Fill in San Francisco Bay**	See Impact 3.3–2	See Impact 3.3–2	See Impact 3.3–2	See Impact 3.3–2
	Impact 3.9-4: Potential Adverse Effect on Special-Status or Commercially Valuable Marine Species from Dredging Activities during Construction The project's construction dredging activities have the potential to impact special-status and commercially valuable marine species, including their habitats. With implementation of Mitigation Measure BIO-1, the impacts of construction dredging on special-status and commercially valuable marine species would be reduced and would not be adverse.	**Mitigation Measure BIO-1: Dredging and Pile-Driving Measures**	See Impact 3.9–1	See Impact 3.9–1	See Impact 3.9–1	See Impact 3.9–1
	Impact 3.9-5: Potential Adverse Effects to Special-Status Fish and Marine Mammals From Underwater Sound Generated During Pile Driving Underwater sound and acoustic pressure resulting from pile driving could affect aquatic resources (e.g., fish and marine mammals) by causing behavioral avoidance of the construction area and/or injury to sensitive species. To minimize the effect of project construction noise on fish and marine mammals (i.e., avoidance behavior, fleeing responses, temporary hearing impairment, or the temporary cessation of feeding), Mitigation Measures BIO-1 and BIO-2 will be implemented.	**Mitigation Measure BIO-1: Dredging and Pile-Driving Measures**	See Impact 3.9–1	See Impact 3.9–1	See Impact 3.9–1	See Impact 3.9–1
MM BIO-2		**Mitigation Measure BIO-2: Hydroacoustic and Biological Monitoring and Avoidance Measures** WETA will minimize sound level exposure from the project to marine mammals and fish. The performance standards for these minimization efforts are described later in this measure. To provide the final implementation level details, WETA will develop a Hydroacoustic and Biological Monitoring Plan in consultation with NMFS and CDFW, prior to the start of construction. This plan will provide details on the methods used to monitor and verify sound levels during pile-driving activities. WETA will make hydroacoustic monitoring data available to NMFS on a real-time basis, will allow NMFS to access the project site, and will provide NMFS with any dead or injured fish, if observed during construction. WETA or FTA will provide a written report to NMFS following	Prior to construction, develop Hydroacoustic and Biological Monitoring Plan During construction, implement monitoring and	WETA Construction Contractor; noise monitor and NMFS-qualified biologist, as required	NMFS and CDFW	Reporting as required by the Biological Opinion and Incidental Take Statement issued by the NMFS, and Incidental Take Authorization issued by

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
		construction, detailing the construction activities and the results of hydroacoustic monitoring. The Hydroacoustic and Biological Monitoring Plan will include specific measures to minimize exposure of marine mammals and fish to high sound levels. At a minimum, avoidance and minimization measures will meet the following performance standards and include the following methods: ▪ Underwater noise levels will be measured during pile-driving activities to determine the distance at which sound levels do not exceed injury thresholds for fish (206 dB and 187 dB SEL) or marine mammals (Level A thresholds [180 dB RMS or 190 dB RMS]). ▪ If an activity produces underwater sound levels that exceed the injury threshold for fish or marine mammals, work will be stopped and sound levels will be reduced through noise control measures such as the installation of NMFS-approved attenuation devices (e.g., bubble curtains) or modification of construction methods (such as using cushioning between the hammer and pile). ▪ An NMFS-approved biological monitor will monitor the installation of at least 10 percent of the 24- to 42-inch-diameter steel piles that will be installed by impact hammer. During initial impact pile-driving efforts, a default exclusion zone at a distance of 500 feet from the pile will be monitored for the presence of marine mammals. The area will be monitored for 30 minutes prior to impact driving. No driving will be conducted until the area has been free of marine mammal sightings for 30 minutes. If no marine mammals are sighted, driving will begin and hydroacoustic monitoring will be conducted.	measures outlined in Plan			CDFW
Aesthetics and Visual Resources						
No mitigation necessary.						
Hydrology and Water Quality						
No mitigation necessary.						
Hazards and Hazardous Materials						
MM HAZ-1	**Impact 3.12-5: Upset and Accidents Involving Hazardous Materials Use and Storage During Construction Activities** Hazardous materials (e.g., diesel fuel, hydraulic oil, lubricants, paints, or other hazardous materials) would be transported and used on site for proposed construction activities. In addition, construction vehicles and equipment would be used on site that	**Mitigation Measure HAZ-1: Prepare a Hazardous Materials Management Plan** WETA will prepare an HMMP for review and approval by the Port prior to moving equipment to the project site for construction and demolition activities. The requirements of the HMMP for the project will govern the onsite management of hazardous materials, including spill prevention; and the offsite disposal of hazardous wastes. The HMMP, at a minimum, will include the following requirements: ▪ **Hazardous Materials Storage and Disposal.** The construction contractor will be responsible for the proper storage and disposal of any hazardous materials or wastes in	Develop plan prior to construction Implement measures during construction	Construction Contractor	Port and SFDPH	The findings of the hazardous materials abatement activities shall be documented by a qualified environmental professional,

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
	could accidentally release hazardous materials, such as oils, grease, or fuels. Demolition activities would require the removal and potential temporary storage of piles that have been treated with creosote, or that contain other potentially hazardous substances. Accidental releases of hazardous materials could result in adverse health effects to construction workers, the public, and the environment. Implementation of Mitigation Measure HAZ-1, Prepare a Hazardous Materials Management Plan, would reduce this impact.	accordance with all federal, state, and local laws and regulations. This may involve obtaining permits from the local regulatory agency for the storage of hazardous materials, and obtaining a Waste Generators Identification Number from the state for disposal of any hazardous wastes generated at the site. The HMMP shall include requirements for appropriate material storage; spill control, containment, and cleanup; vehicle and construction equipment inspections; emergency preparedness; and worker training. ▪ **Lead and Asbestos Management.** Prior to any demolition activities, a lead-based paint and asbestos survey of the structures shall be conducted. Based on the results of the survey, it will be determined if any lead-based paint or asbestos is present that requires abatement prior to demolition of the structures. Results of this survey shall be included in the HMMP. Any abatement required shall be completed in accordance with all federal, state, and local regulatory requirements by properly licensed abatement contractors, before demolition of the structures. ▪ **Wood Waste Management.** Procedures for implementation of DTSC's Alternative Management Standards for Treated Wood Waste will be included in the HMMP, including employee training in waste management, segregation of the wood waste from other wastes, appropriate storage and labeling, and transportation to an authorized treated wood waste facility. ▪ **Universal Waste Management.** A survey of common items that are regulated as "universal wastes" by the State of California (e.g., fluorescent lighting tubes and ballasts, and mercury thermometers) shall also be conducted. Provisions for abatement and removal of these materials prior to demolition in accordance with Cal/OSHA regulations shall be addressed in the HMMP. ▪ **Reporting.** The findings of the hazardous materials abatement activities shall be documented by a qualified environmental professional, and submitted to the Port and the SFDPH prior to the issuance of construction and demolition permits. *[In addition, NMFS's Biological Opinion and Incidental Take Statement specifically require the following practices:* *1. A Spill Prevention Control and Countermeasure Plan must be prepared.* *2. Well-maintained equipment will be used to perform work, and except in the case of a failure or breakdown, equipment maintenance will be performed off site. Equipment will be inspected daily by the operator for leaks or spills. If leaks or spills are encountered, the source of the leak will be identified, leaked material will be cleaned up, and the cleaning materials will be collected and properly disposed.* *3. Fresh cement or concrete will not be allowed to enter San Francisco Bay.]*				and submitted to the Port and the SFDPH prior to the issuance of construction and demolition permits.

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
	Impact 3.12-6: Demolition, Transport, and Disposal of Structures and Dredge Material Containing Hazardous Materials Demolition activities would require the removal and potential temporary storage of piles that have been treated with creosote, or that contain other potentially hazardous substances, and dredging of potentially contaminated sediment. Implementation of Mitigation Measure HAZ-1, Prepare a Hazardous Material Management Plan, would reduce this impact.	**Mitigation Measure HAZ-1: Prepare a Hazardous Materials Management Plan**	See Impact 3.12–5	See Impact 3.12–5	See Impact 3.12–5	See Impact 3.12–5
Geology, Soils, and Seismicity						
No mitigation necessary.						
Energy Consumption						
No mitigation necessary.						
Utilities and Public Services						
MM UTIL-1	**Impact 3.15-6: Potential to Adversely Impact Existing Underground Utilities During Construction Activities** Project construction could disrupt or damage underground utilities in the project area, a potentially significant impact. Implementation of Mitigation Measure UTIL-1 would reduce this potential impact.	**Mitigation Measure UTIL-1: Consultation and Coordination with Utility Providers** Prior to the start of construction activities, WETA will consult with public utility providers who have infrastructure in the immediate vicinity of the proposed project improvements, to determine the exact location and depth of utility lines.	Prior to construction	Construction Contractor		
Socioeconomics						
No mitigation necessary.						
Environmental Justice						
No mitigation necessary.						

Table 1
Mitigation Monitoring and Reporting Program Matrix (Continued)

Reference Number	Impact	Mitigation Measure	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party (WETA/ Construction Contractor)	Other Responsible Monitoring Party (if applicable)	Reporting Requirements (if applicable)
Regional Growth						
No mitigation necessary.						

Notes:

AB = Assembly Bill
AEP = Archaeological Evaluation Plan
APE = area of potential effect
BAAQMD = Bay Area Air Quality Management District
BART = Bay Area Rapid Transit
BCDC = Bay Conservation and Development Commission
Cal/OSHA = California Department of Industrial Relations, Division of Occupational Safety and Health
CARB = California Air Resources Board
CDFW = California Department of Fish and Wildlife
CEQA = California Environmental Quality Act
CFR = Code of Federal Regulations
CRHR = California Register of Historic Resources
dB = decibel
dBA = A-weighted decibel
DTSC = Department of Toxic Substances Control
FTA = Federal Transit Administration
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
HMMP = Hazardous Materials Management Plan
LOS = level of service
MLD = most likely descendant
NAHC = Native American Heritage Commission
NMFS = National Marine Fisheries Service
NOAA = National Oceanic and Atmospheric Administration
NO_X = oxides of nitrogen
NRHP = National Register of Historic Places
PM = particulate matter
PM_{10} = particulate matter less than 10 µm in diameter
$PM_{2.5}$ = particulate matter less than 2.5 µm in diameter
Port = Port of San Francisco
PPV = peak particle velocity
PRC = Public Resources Code
RMS = root-mean-square
ROG = reactive organic gas
SEL = sound exposure level
SFFD = San Francisco Fire Department
SFDPH = San Francisco Department of Public Health
SFDPW = San Francisco Department of Public Works
SFMTA = San Francisco Municipal Transportation Agency
SHPO = State Historic Preservation Office
SVP = Society of Vertebrate Paleontology
VdB = velocity in decibels
WETA = Water Emergency Transportation Authority

Table 2
Project Requirements

Reference Number	Requirement	Reference	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party	Reporting Requirements (if applicable)
PR-1	Provide additional bike rack space in proximity of each of the new gates.	Section 2.3.3 of the EIS/EIR.	During development of the project design.	WETA	
PR-2	Maintain existing vehicular access to the Ferry Plaza south of the Ferry Building; incorporate placement and design of seatwalls, benches, or bollards to ensure that increased pedestrian activity in the project area does not inhibit BART's ability to access its facilities.	Section 2.3.4 of the EIS/EIR and Response to Comments Appendix.	During development of the project design.	WETA	
PR-3	Develop passenger wayfinding and information signage, including directions for cyclists to walk bicycles when on the water side of The Embarcadero.	Section 2.3.4 of the EIS/EIR.	During development of the project design.	WETA	
PR-4	Develop stormwater management plan in compliance with the City and County of San Francisco's and the Port's stormwater management guidelines.	Section 2.3.5 of the EIS/EIR.	During development of the project design.	WETA	Reporting as required by the Port of San Francisco and San Francisco Bay Regional Water Quality Control Board.
PR-5	Incorporate sustainable construction materials and methods as required by the San Francisco Green Building Ordinance, Chapter 13 of the San Francisco Building Code.	Section 2.3.5 of the EIS/EIR.	During development of the project design.	WETA	
PR-6	Procure new or repowered/refurbished vessels that are Tier 2-compliant, with add-on control devices—such as selective catalytic reduction and particulate traps—that reduce NO_X and PM_{10} emissions to 10 percent and 5 percent, respectively, of U.S. EPA Tier 2 levels; or vessels that meet the current marine engine emissions standards at the time of purchase if more stringent than described above.	Section 2.3.6 of the EIS/EIR and Response to Comments Appendix.	At the time of vessel procurement.	WETA	
PR-7	Provide U.S. Coast Guard with information pertaining to project construction and operations that could impact navigation. Apply for Anchor Waiver pursuant to 33 CFR 110.224.	Section 2.3.6 and Section 2.6 of the EIS/EIR.	Prior to construction and during operations,	Construction Contractor	
PR-8	Coordinate dredging and disposal of dredged materials with the San Francisco DMMO.	Section 2.3.6 and Section 2.4.3 of the EIS/EIR.	Prior to construction.	WETA	DMMO application and other reporting as required by dredging permits issued.
PR-9	Minimizing artificial lighting of San Francisco Bay waters by using shielded, low-mounted, and low-light-intensity fixtures and bulbs.	Section 2.3.6 of the EIS/EIR.	During development of the project design.	WETA	

Table 2
Project Requirements (Continued)

Reference Number	Requirement	Reference	Timeframe/ Monitoring Milestone	Primary Responsible Monitoring Party	Reporting Requirements (if applicable)
PR-10	Develop a Site Maintenance Plan. The Plan would designate responsibility and schedule for regular maintenance and cleaning of new facilities, as well as for general site maintenance activities (e.g., wash down, litter removal, and trash receptacle management).	Section 2.3.6 of the EIS/EIR.	Before construction is completed.	WETA and the Port of San Francisco	
PR-11	General best management practices for pollution prevention and construction management would be employed during construction. For example, best management practices would include activities such as maintaining a clean and orderly construction site, and erecting wayfinding signage to assist water transit passengers and other users of the project area in navigating the project area. NMFS's Biological Opinion and Incidental Take Statement specifically require that all construction materials, wastes, debris, sediment, rubbish, trash, fencing, etc., be removed from the site once project construction is complete, and transported to an authorized disposal area.	Section 2.4 of the EIS/EIR, and the Measures to Protect Listed Species and Critical Habitat included in NMFS' Biological Opinion.	During construction.	Construction Contractor	
PR-12	If piles cannot be removed, the pile will be cut at or below the mudline. Specific requirements for cutoff will be determined on a case-by-case basis through coordination between the Applicant, NMFS, and other agencies (i.e., RWQCB and BCDC), and considering the mud line elevation and the presence of contaminants in the sediment.	Section 2.4.1 of the EIS/EIR, and the Measures to Protect Listed Species and Critical Habitat included in NMFS' Biological Opinion.	During demolition.	Construction Contractor	
PR-13	Sediment disturbance during the removal of piers, wharfs, and pilings will be minimized using a floating boom around the work area to contain and capture debris; and absorbent pads will be available and used in the event that a petroleum sheen develops during removal of the structures.	Section 2.4.1 of the EIS/EIR, and the Measures to Protect Listed Species and Critical Habitat included in NMFS' Biological Opinion.	During demolition.	Construction Contractor	
PR-14	Use onsite power, provided by the Port, to power construction equipment where feasible.	Section 2.4.4 of the EIS/EIR.	During construction.	Construction Contractor	
PR-15	Locate all construction equipment and staging within areas shown on Figure 2-9 of the EIS/EIR.	Section 2.4.5 of the EIS/EIR.	During construction.	Construction Contractor	
PR-16	Conduct construction between 7:00 AM and 8:00 PM. No nighttime construction.	Section 2.4.6 of the EIS/EIR.	During construction.	Construction Contractor	

Notes:

BART = Bay Area Rapid Transit
BCDC = Bay Conservation and Development Commission
CFR = Code of Federal Regulations
DMMO = Dredged Material Management Office
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
NMFS = National Marine Fisheries Service
NO_X = oxides of nitrogen
PM_{10} = particulate matter less than 10 µm in diameter
Port = Port of San Francisco
RWQCB = Regional Water Quality Control Board
U.S. EPA = U.S. Environmental Protection Agency
WETA = Water Emergency Transportation Authority

REFERENCES

LTMS (LTMS Agencies), 1998. Long-Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay Region, Final Policy Environmental Impact Statement/Programmatic Environmental Impact Report. Volume I.

NPS (National Park Service), 2001. *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. U.S. Department of the Interior. Available online at: http://www.nps.gov/hps/tps/standguide/ Accessed on August 30, 2012.

APPENDIX H

RECORD OF DECISION

Record of Decision on the
Downtown San Francisco Ferry Terminal Expansion Project
San Francisco, California
By the Federal Transit Administration

Decision

The Federal Transit Administration (FTA) has determined that the requirements of the National Environmental Policy Act of 1969 (NEPA) and related federal environmental statutes, regulations, and executive orders have been satisfied for the Downtown San Francisco Ferry Terminal Expansion Project (the Project) in San Francisco, California.

This environmental Record of Decision (ROD) applies to the Action Alternative, described as the locally preferred alternative (LPA), evaluated in the *Downtown San Francisco Ferry Terminal Expansion Project Final Environmental Impact Statement/Environmental Impact Report* (Final EIS/EIR). The FTA served as the federal lead agency under NEPA, and the San Francisco Bay Area Water Emergency Transportation Authority (WETA) served as the local lead agency under the California Environmental Quality Act of 1970 (CEQA). In addition, the National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NMFS) served as a cooperating agency under NEPA. Several agencies participated in the environmental review process as either responsible agencies under CEQA or participating agencies under NEPA, as detailed on the abstract page and described in Chapter 5.0 of the Final EIS/EIR.

WETA will seek financial assistance from FTA in carrying out the Project final design and construction. If FTA provides financial assistance for the final design or construction of the Project, FTA will require the Project to be designed and built as presented in the Final EIS/EIR and in the ROD. Any proposed change must be evaluated in accordance with 23 Code of Federal Regulations (CFR) Section 771.130, and must be approved by FTA before the agency requesting the change can proceed.

Background

The purpose of the Project is to support existing and future planned water transit services operated by WETA on San Francisco Bay, as detailed in WETA's *Implementation and Operations Plan* (IOP), and in accordance with regional and City and County of San Francisco policies that encourage transit use. Furthermore, the Project would support WETA and the Port of San Francisco's (Port's) emergency operation needs and water transit operations at the Downtown San Francisco Ferry Terminal (Ferry Terminal), located at the San Francisco Ferry Building (Ferry Building). The Project would enhance water transit passenger access and circulation, and create attractive public spaces for both water transit passengers and other users of the Ferry Building.

Planning for the Project

On April 7, 2011, FTA published, in the *Federal Register*, the Notice of Intent to prepare an EIS for this Project. The scoping process concluded on May 16, 2011. The Notice of Availability (NOA) of the Draft EIS/EIR was published in the *Federal Register* on June 7, 2013. In addition, on May 30, 2013, the NOA for the Project's Draft EIS/EIR was filed with the San Francisco County Clerk's Office, sent to the mailing list (i.e., government agencies, interested parties, and property owners and occupants within 500 feet of the project site), and posted at the project site. Copies of the Draft EIS/EIR, including the NOA, were also provided to the San Francisco Public Library and mailed to each of the Participating and Cooperating Agencies in the NEPA process (which also included Responsible Agencies as defined by

CEQA). The Draft EIS/EIR was circulated for public review and comment over a 60-day period that concluded on July 30, 2013.

After consideration of the comments received on the Draft EIS/EIR, FTA published, on April 8, 2014, a public notice of their intent to issue a single document that combines the Final EIS and ROD documents pursuant to 42 United States Code Section 4332a(b) (Public Law 112-141, 126 Stat. 405, Section 1319[b]).

Alternatives Considered

The Project builds on previous planning efforts and projects implemented by WETA and the Port. WETA adopted its IOP and Program EIR for the IOP in 2003, which planned for a systemwide expansion of water transit service in the Bay Area. The IOP identified new routes that would be developed over a 20-year period. These routes would connect downtown San Francisco with areas of the North, East, and South Bay. During the development of WETA's IOP, alternatives for regional water transit service were considered and are described in detail in the Program EIR for the IOP.

In the 1990s, the Port initiated a comprehensive land use planning process that identified near-term and long-term improvements that should be made to the Ferry Terminal. As a result, in 2003, the Port completed Phase I of the Downtown Ferry Terminal Project, which included the construction of Gates B and E. Phase I of the Downtown Ferry Terminal Project also identified long-term future projects and options to improve circulation, public spaces, and water transit operations at the Ferry Terminal. In 2010, WETA and the Port began working together to implement the remaining improvements identified for the Ferry Terminal (Phase II). In February 2010, WETA and the Port entered into a Memorandum of Understanding detailing the goals of the Project, and each agency's roles and responsibilities.

WETA considered alternative locations, designs for berthing facilities, and pedestrian circulation while developing the concept plan for the Project, as described in Section 2.7 of the EIS/EIR. During the initial planning of Phase II, WETA evaluated the number of new gates needed to support water transit service, as envisioned in Phase I. Based on the projected ridership and operations schedule, WETA identified a need for three new gates. Alternative locations were considered; however, they would require substantial improvements landside for passenger facilities and on the water to support ferry service, which would increase the potential for environmental impacts. Development and expansion of water transit service at the Ferry Terminal is consistent with the vision and plan of the City and County of San Francisco, as well as the Bay Conservation and Development Commission's (BCDC's) plans and policies for waterfront development. Alternative locations would not be consistent with the plans for the Ferry Terminal. Therefore, consideration of alternative locations would not meet the purpose and need for the Project, and were not carried forward in the Draft EIS/EIR.

The EIS/EIR evaluated two alternatives: the No Action Alternative and the Action Alternative.

No Action Alternative. The No Action Alternative maintains the existing Ferry Terminal gate configuration and circulation areas, including the function, uses, and design of public spaces in the project area. No new gates or additional boarding capacity would be provided to accommodate new WETA services or the expansion of existing WETA services as part of the No Action Alternative. Similarly, there would be no implementation of circulation and boarding improvements to respond to emergency planning requirements. Increases in passenger and water transit vessel arrivals that could be accommodated with the existing facilities at the Ferry Terminal would occur as a part of the No Action Alternative.

Action Alternative/Locally Preferred Alternative. The Action Alternative is the expansion and improvement of the Ferry Terminal at the Ferry Building, consistent with the IOP. The Action Alternative includes construction of three new gates and overwater berthing facilities, in addition to

supportive landside improvements, such as additional passenger waiting and queuing areas and circulation improvements.

Comments received on the Draft EIS/EIR were considered; where appropriate, updates and clarifications have been made to the description of the Project and its anticipated impacts in the Final EIS/EIR. Specifically, in response to comments, the weather protection canopy at Gate B was removed from the Action Alternative. The Action Alternative, as described in the Final EIS/EIR, is the LPA.

Description of the Project

The Project described as the Action Alternative in the Final EIS/EIR is the subject of this ROD. The Project includes demolition, removal, repair, and replacement of existing facilities, as well as construction of new facilities at the Ferry Terminal. The Ferry Terminal can generally be divided into the North Basin (areas north of the Ferry Plaza) and South Basin (areas south of the Ferry Plaza). The Project includes the following elements:

- Removal and replacement of portions of existing deck and pile construction and fendering;
- Construction of one new gate and access pier (Gate A) in the North Basin, and two new gates (Gates F and G) in the South Basin; and
- Improved passenger boarding areas, amenities, and circulation, including rebuilding a portion of the marginal wharf in the North Basin; extending the East Bayside Promenade along Gates E, F, and G; strengthening the South Apron of the Agriculture Building; creating the Embarcadero Plaza; and installing weather protection canopies for passenger queuing at Gates A, E, F and G.

Basis for Decision

The FTA has determined that the Project meets the Purpose and Need of the proposed action, as outlined in Chapter 4.0 of the Final EIS/EIR and discussed below.

Transit Service. The Project will accommodate the existing and future planned water transit service outlined in WETA's IOP for the San Francisco Bay Area by constructing three new gates, overwater berthing facilities, and supportive landslide improvements (such as additional passenger waiting and queuing areas, and circulation improvements). The addition of three new gates will accommodate an expansion of WETA services from 5,100 to 25,700 passengers per weekday by 2035; and an increase in AM peak-period WETA vessel arrivals from 14 to approximately 52 to 57, with approximately 181 total vessel arrivals per weekday. The improvements support WETA's IOP, and thereby will encourage a shift from automobiles to water transit use in the Bay Area. The expansion of water transit as an alternative mode of transportation supports the region's regional transportation plan (RTP) and land use plan, *Plan Bay Area*, as well as regional air quality goals.

Emergency Operations. Water transit provides a viable alternative for transportation when unexpected disruption renders other components of the regional transportation system inoperable. To the extent feasible, improvements will be constructed to withstand damage from flood, wind, or earthquakes, to ensure that the improved circulation areas (e.g., the new Embarcadero Plaza) would be available for emergency operations and evacuee queuing, if necessary. With the improvements in place, WETA will have the capacity to evacuate up to 9,000 passengers per hour from its five gates. In addition, in the North Basin, 12,000 square feet will be available for passenger staging. In the South Basin, 38,100 square feet will be available for emergency response and passenger staging.

Access and Pedestrian Circulation. The construction of the circulation improvements (i.e., creation of the Gate A Access Pier, improvement to North Basin Marginal Wharf, extension of the East Bayside Promenade, improvement of the South Apron of the Agriculture Building, and creation of the Embarcadero Plaza) would provide improved passenger circulation at the Ferry Terminal. Passengers will have adequate queuing and waiting areas, which would avoid conflicts with other activities and uses at the Ferry Building. In addition to physical changes, the Project would include passenger wayfinding and information signage, providing clear information for passengers.

Public Involvement and Outreach

As described in Chapter 5.0 of the Final EIS/EIR, several types of public and agency participation have occurred as part of the design and environmental review process since 2010. From October through December 2010, prior to the initiation of the environmental review process, a series of stakeholder interviews were conducted by WETA and the design team. The purpose of this early outreach was to inform stakeholders about the Project, and obtain input relevant to the development of the preliminary design.

Initiating the environmental review process, WETA and FTA conducted a public and agency scoping process. Approximately a dozen members of the public and one agency staff representative attended the public and agency scoping meeting on April 26, 2011. On May 4, 2011, WETA held a separate meeting with the NMFS, who was unable to attend the agency scoping meeting.

Pursuant to 23 United States Code, Section 139, federal, state, and local agencies with jurisdiction over resources that could be affected by the Project, or that have technical expertise on an issue relevant to the Project, were formally invited to participate in the environmental review process as either cooperating or participating agencies in the NEPA process. The NMFS accepted FTA's request to serve as a cooperating agency pursuant to NEPA, and requested participation in the development of the EIS/EIR as it relates to the assessment of potential impacts and conservation measures for those fish species listed in the Endangered Species Act that are under the jurisdiction of the NMFS, and for Essential Fish Habitat under the Magnuson-Stevens Fishery Conservation and Management Act. Several agencies accepted FTA's request to serve as participating agencies. In addition, the Port, the BCDC, and the California State Lands Commission are responsible agencies under CEQA. An agency coordination meeting was held on December 8, 2011. Participating and cooperating agencies were also provided with briefings and preliminary reviews at various stages of the development of the Draft and Final EIS/EIR.

During the comment period on the Draft EIS/EIR, a public meeting was held on June 25, 2013, at the Port's Offices at Pier 1, to receive comments. Five members of the public and agency representatives attended the meeting. Thirteen members of the public or agency representatives provided comments on the Draft EIS/EIR, as detailed in Appendix F of the Final EIS/EIR.

In addition, WETA and FTA have coordinated informally with agencies having permitting authority over the Project throughout the environmental review process, such as the BCDC, California Department of Fish and Wildlife, and U.S. Army Corps of Engineers (Corps). WETA will continue coordination with these agencies during the permitting process.

Determinations and Findings

Section 106 of the National Historic Preservation Act

No archaeological resources were identified in the archaeological area of potential effect (APE) defined for the Project through inventory efforts. Several historic properties are present in the architectural APE. Two historic districts encompass or overlap in the architectural APE: the Port's Embarcadero Historic

District, and the Central Embarcadero Piers Historic District. In addition to contributing to one or both of these districts, three properties in the APE—the Ferry Building, Agriculture Building, and Pier 1—are also listed individually in the National Register of Historic Places (NRHP) and the California Register of Historical Resources. With incorporation of mitigation measures to avoid or minimize impacts, the character-defining historic features of the Ferry Building, Agriculture Building, and Pier 1 will not be compromised, and there would be no adverse effect to those historic properties—and there would also be no adverse effect to the contributing elements to the historic districts. Adverse impacts on historic properties from the replacement of fendering on Pier 1 would be avoided by conducting the replacement in accordance with the Secretary of Interior's Standards for Treatment of Historic Properties (36 CFR Part 68). Subsequent review of plans for rehabilitation will be coordinated with the State Historic Preservation Officer (SHPO), to ensure consistency with the Secretary of the Interior's Standards, and to avoid adverse effects. Similarly, the Final Design of weather protection canopies would be developed in consultation with the Port's Waterfront Design Advisory Committee and the San Francisco Historic Preservation Commission, and in accordance with the Secretary of Interior's Standards for Treatment of Historic Properties, to ensure that indirect adverse visual impacts on historic properties are avoided. Vibration impacts on historic properties during construction will be minimized through construction equipment selection, vibration monitoring, and corrective measures. Measures to avoid and minimize effects are described in Chapter 3.0 and Appendix G of the Final EIS/EIR.

Pursuant to Section 106 of the National Historic Preservation Act, the FTA concluded that this undertaking will have no effect on archaeological resources, and no adverse effect on historic architectural resources or historic properties. The SHPO concurred with this determination on April 15, 2013 (refer to Appendix D of the Final EIS/EIR).

Air Quality Conformity

The Project satisfies the U.S. Environmental Protection Agency's (USEPA's) air quality conformity requirements under 40 CFR Part 93, as documented in Section 3.6 of the Final EIS/EIR. The Project is included in the RTP, *Plan Bay Area*, and therefore was included in the regional emission analysis completed by the Metropolitan Transportation Commission (MTC) for the RTP. MTC adopted an updated RTP, a Regional Transportation Implementation Plan (TIP), and a Final Conformity Analysis for the RTP and TIP in July 2013. Both the RTP and TIP were found to conform to the State Implementation Plan (SIP) by the Federal Highway Administration and FTA on August 12, 2013. The Final Conformity Analysis found that the RTP and TIP, and therefore the individual projects contained in the plans, will have air quality impacts consistent with those identified in the SIP for achieving the national ambient air quality standards.

The Project is not considered a project of air quality concern as defined in USEPA's Transportation Conformity Guidance; therefore, a hotspot analysis for particulate matter 2.5 micrometers in diameter or less is not required to demonstrate conformity.

Section 4(f) Findings

There are nine park and recreation areas in the vicinity of the project area, and five historic resources. The Project will not result in the direct use, temporary occupancy, or constructive use of any park or recreation property protected under Section 4(f).

In regard to historic resources protected under Section 4(f), the Project will not result in a use of the Ferry Building or Agricultural Building. The Project could replace the wood fendering and remove wood piles at Pier 1, which would result in a direct use of Pier 1. With the implementation of avoidance and minimization measures described in Chapter 3.0 and Appendix G of the Final EIS/EIR, the Project would

have no adverse effect on Pier 1 or the Port Embarcadero Historic District and the Central Embarcadero Piers Historic District. Therefore, in accordance with 23 CFR Section 774.5, FTA has determined that the Project would have a *de minimis* impact to these historic resources. On April 15, 2013, the SHPO concurred with the determination of effect pursuant to Section 106 of the National Historic Preservation Act.

Endangered Species Act

The project area provides potential habitat for three federally threatened or endangered species:

- Steelhead (*Oncorhynchus mykiss*), referred to as steelhead, consisting of the following Distinct Population Segments (DPSs):
  - Central California Coast (CCC) steelhead (federally listed as threatened).
  - Central Valley (CV) steelhead (federally listed as threatened).

- Chinook salmon (*O. tshawytscha*), consisting of the following Evolutionarily Significant Units:
  - Sacramento River winter-run Chinook salmon (federally listed as endangered).
  - CV spring-run Chinook salmon (federally listed as threatened).

- Green sturgeon (*Acipenser medirostris*) southern DPS (federally listed as threatened).

In addition, critical habitat designated for CCC steelhead, Sacramento River winter-run Chinook salmon, and green sturgeon falls within the action area.

In-water construction activities, including pile-driving and dredging, have the potential to directly affect these species and their habitat. In addition, the placement of new structures will modify critical habitat.

FTA has determined that if pile-driving and dredging activities occur during the proposed work window between June 1 and November 30, the Project may affect, but is not likely to adversely affect, steelhead and Chinook salmon. It was also determined that pile-driving and dredging activities for the Project, regardless of timing, are likely to adversely affect green sturgeon. With regard to designated critical habitat in the action area, FTA has determined that the Project does not appreciably diminish the value of designated critical habitat for steelhead, Sacramento River winter-run Chinook salmon, or green sturgeon. Therefore, the Project may affect, but is not likely to adversely modify, the capability of designated critical habitat for these species to support the survival and recovery of the species.

Measures to avoid and minimize impacts to special-status species are described in Chapter 3.0 and Appendix G of the Final EIS/EIR. NMFS concurred with FTA's determination, and issued their Biological Opinion and Incidental Take Statement on June 30, 2014, concluding that the Project is not likely to jeopardize the continued existence of threatened CCC steelhead, threatened CV steelhead, threatened CV spring-run Chinook salmon, endangered Sacramento River winter-run Chinook salmon, and threatened southern DPS green sturgeon. In addition, NMFS concluded that the Project is not likely to adversely modify or destroy critical habitat in Central San Francisco Bay for CCC steelhead, Sacramento River winter-run Chinook salmon, and southern DPS green sturgeon.

Clean Water Act and Rivers and Harbors Act

The Project involves activities regulated by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. WETA will apply for a Clean Water Act Section 404/Section 10 permit from the Corps for dredging and the placement of new structures (i.e., fill) in navigable waters.

Dredging and disposal of dredged materials will be conducted in cooperation with the San Francisco Dredged Material Management Office (DMMO), to comply with the requirements of the Dredging – Dredge Material Reuse/Disposal permit that would be issued by Corps. Requirements will include development of a sampling plan, sediment characterization, a sediment removal plan, and disposal in accordance with the Long-Term Management Strategy for San Francisco Bay to ensure beneficial reuse, as appropriate. Based on the results of the sediment analysis, the alternatives for placement of dredged materials will be evaluated, including disposal at the San Francisco Deep Ocean Disposal Site, disposal at an upland facility, or beneficial reuse. Selection of the disposal site would be reviewed and approved by the DMMO.

The proposed fill required by the Project is consistent with the Public Trust Doctrine; provides public access to San Francisco Bay; supports the development of water-related uses; and improves public transportation in the region, providing public benefit.

In addition, the Project will be designed in accordance with the Port's Stormwater Management Program, which meets the requirements of Section 402 of the Clean Water Act. The improvements will be designed to drain predominantly west, and runoff would be conveyed to a stormwater treatment system, such as a media or sand filter or a landscaped stormwater bioretention planter. In compliance with the Port's Stormwater Management Program, WETA will develop a stormwater control plan for the new facilities.

Executive Order 11988: Floodplain Management

The Project has been designed to address potential flooding and sea-level rise through onsite stormwater management and design of structures to provide sufficient freeboard above 100-year stormwater levels. The new gates would be built at 13 to 13.5 feet above mean lower low water, which will provide 3.8 to 4.3 feet of freeboard above a 100-year storm, or 2.5 to 3 feet freeboard above a 100-year storm, with anticipated sea-level rise of 16 inches by 2050. Elevations of the new decks will provide at least 1.7 feet of freeboard above the 100-year storm with anticipated sea-level rise. The Project will be constructed to comply with both the Port's Building Code (which establishes 100-year flood event design parameters) and BCDC's policies regarding sea-level rise. The Project would not increase risk of flooding, and will not result in structures incompatible with the floodplain; therefore, the Project would be consistent with Executive Order 11988.

Executive Order 12898: Environmental Justice

The analysis determined that there are no minority or low-income populations within a quarter mile of the project site, but that there are minority or low-income populations between a quarter mile and a half mile of the project site. Several minority populations and one low-income population (which was also a minority population) were identified in the vicinity of Broadway between Front and Battery, near the intersection of Main and Harrison streets, and along Harrison Street between First and Fremont streets.

With the exception of Transportation and Circulation Impacts 3.2-3 and 3.2-8 (in the Final EIS/EIR), environmental impacts would not be adverse after the implementation of mitigation measures. As described in Section 3.2, Transportation and Circulation (in the Final EIS/EIR), pedestrian traffic congestion at three crosswalks along The Embarcadero would remain adverse after the implementation of mitigation. These impacts would affect pedestrians along The Embarcadero, which is broadly used by Bay Area residents and visitors, and would not disproportionately impact minority or low-income populations in the project area. Therefore, it was determined that the Project would not result in disproportionately high and adverse effects to minority or low-income populations.

Measures that Mitigate the Adverse Effects of the Project

Measures to mitigate the effects of the Project were considered during planning and development, in coordination with interested parties. The mitigation commitments are described in the Mitigation Monitoring and Reporting Program to ensure fulfillment of all environmental and related commitments in the Final EIS/EIR (see Appendix G). Any change in such mitigation from the description in the Final EIS/EIR will require a review in accordance with 23 CFR Section 771.130, and must be approved by FTA.

Leslie T. Rogers
Regional Administrator
Federal Transit Administration, Region IX

AUG 22 2014
Date