



**DRAFT ENVIRONMENTAL IMPACT REPORT**

**Pier 36/Brannan Street Wharf Project**

PLANNING DEPARTMENT  
CASE NO. 2009.0418E

STATE CLEARINGHOUSE NO. 2009122058



**SAN FRANCISCO  
PLANNING  
DEPARTMENT**

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	Draft EIR Public Hearing Date:	<b>March 24, 2011</b>
	Draft EIR Public Comment Period:	<b>February 9, 2011 – March 28, 2011</b>

*Written comments should be sent to:*  
Environmental Review Officer | 1650 Mission Street, Suite 400 | San Francisco, CA 94103





# SAN FRANCISCO PLANNING DEPARTMENT

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**DATE:** February 9, 2011  
**TO:** Distribution List for the Pier 36/ Brannan Street Wharf Project  
**FROM:** Bill Wycko, Environmental Review Officer  
**SUBJECT:** Request for the Final Environmental Impact Report for the Pier 36/Brannan Street Wharf Project (Planning Department Case No. 2009.0418E)

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This is the Draft of the Environmental Impact Report (EIR) for the Pier 36/Brannan Street Wharf Project. A public hearing will be held on the adequacy and accuracy of this document. After the public hearing, our office will prepare and publish a document titled "Comments and Responses" that will contain a summary of all relevant comments on this Draft EIR and our responses to those comments. It may also specify changes to this Draft EIR. Those who testify at the hearing on the Draft EIR will automatically receive a copy of the Comments and Responses document, along with notice of the date reserved for certification; others may receive a copy of the Comments and Responses and notice by request or by visiting our office. This Draft EIR together with the Comments and Responses document will be considered by the Planning Commission in an advertised public meeting and will be certified as a Final EIR if deemed adequate.

After certification, we will modify the Draft EIR as specified by the Comments and Responses document and print both documents in a single publication called the Final EIR. The Final EIR will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one document, rather than two. Therefore, if you receive a copy of the Comments and Responses document in addition to this copy of the Draft EIR, you will technically have a copy of the Final EIR.

We are aware that many people who receive the Draft EIR and Comments and Responses have no interest in receiving virtually the same information after the EIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR to private individuals only if they request them. If you would like a copy of the Final EIR, therefore, please fill out and mail the postcard provided to the Major Environmental Analysis division of the Planning Department within two weeks after certification of the EIR. Any private party not requesting a Final EIR by that time will not be mailed a copy. Public agencies on the distribution list will automatically receive a copy of the Final EIR.

Thank you for your interest in this project.



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City and County of San Francisco  
Planning Department

# **Pier 36/Brannan Street Wharf Project**

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## **DRAFT ENVIRONMENTAL IMPACT REPORT**

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San Francisco, CA 94103





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# Pier 36/Brannan Street Wharf Project Draft Environmental Impact Report

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## List of Abbreviations and Acronyms

-sq.ft.	-square-foot
ABAG	Association of Bay Area Governments
Army Corps	U.S. Army Corps of Engineers
BA	Biological Assessment
BART	Bay Area Rapid Transit
bgs	below ground surface
CAP	Clean Air Plan
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH <sub>4</sub>	methane
CHRIS	California Historical Resources Information System
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> -eq	carbon dioxide-equivalent
CPT	cone penetration test
dBA	decibels, A-weighted scale
DBI	Department of Building Inspection
DPW	Department of Public Works
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ERO	Environmental Review Officer
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FAR	floor area ratio
FARR	Final Archaeological Resources Report
GHG	Greenhouse Gas
HC	hydrocarbons
HRE	Historical Resources Evaluation
HRER	Historical Resources Evaluation Response
HVAC	heating, ventilation, and air-conditioning
LOS	Level of Service
MEA	Major Environmental Analysis
MMRP	Mitigation Monitoring and Reporting Plan
MMTCO <sub>2</sub> -eq	million metric tons of CO <sub>2</sub> -eq
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
Muni	San Francisco Municipal Railway
Mw	moment magnitude
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO <sub>2</sub>	nitrogen dioxide
N <sub>2</sub> O	Nitrous oxide
NOA	Notice of Availability
NOP	Notice of Preparation
NOx	nitrogen oxide

NPDES	National Pollutant Discharge Elimination System
NWIC	California Archaeological Site Survey Northwest Information Center
OHP	Office of Historic Preservation
OPR	Governor's Office of Planning and Research
OS	Open Space
OSHA	Occupational Safety and Health Administration
P	Public
PCB	polychlorinated biphenyl
PM <sub>2.5</sub>	particulate matter 2.5 microns across
PM <sub>10</sub>	particulate matter 10 microns across
ppm	parts per million
ug/m <sup>3</sup>	micrograms per cubic meter
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
sq.ft.	square feet
SFCTA	San Francisco County Transportation Authority
SFFD	San Francisco Fire Department
SFPD	San Francisco Police Department
SFMTA	San Francisco Municipal Transportation Agency
SFPUC	San Francisco Public Utilities Commission
SFUSD	San Francisco Unified School District
SO <sub>2</sub>	sulfur dioxide
SHPO	State Historic Preservation Officer
SHRC	State Historical Resources Commission
SVOC	semi-volatile organic compounds
TAC	Toxic Air Contaminant
TPD-d	diesel
TPH-g	gasoline
TPH-mo	motor oil
ULEV	ultra-low emission vehicle
VOC	volatile organic compounds
VMT	Vehicle Miles Traveled
ZEV	zero emission vehicle

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# I. SUMMARY

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This Environmental Impact Report (EIR) Chapter provides a brief summary of the proposed Pier 36/Brannan Street Wharf Project (“proposed project”) and its potential environmental consequences. The chapter includes a summary description of the proposed project, a summary of potential environmental impacts and proposed mitigation measures, a summary of alternatives to the proposed project and their comparative significant environmental effects, and a summary of environmental issues to be resolved.

This summary should not be relied upon for a thorough understanding of the proposed project, individual impacts, and mitigation measures. Please refer to Chapter III for a more complete description of the proposed project, Chapter V for a more complete description of associated impacts and mitigation measures, and Chapter VII for a more complete description of identified alternatives to the proposed project and comparative significant impacts.

## A. PROJECT SYNOPSIS

The Pier 36/Brannan Street Wharf project site (Assessor’s Block 9900, Lot 034, 036) is located between Pier 30-32 and Pier 38, on the San Francisco Bay, in the Rincon Hill-South Beach area of the South of Market (SOMA) district. The project site fronts The Embarcadero on the east side, and is located in close proximity to the intersections of Brannan and Townsend Streets to the north and south respectively (see Project Location: Figure 1, page 8. The project site is located within a Heavy Industrial (M-2) zoning district, the Waterfront Special Use District No.1, and the 40-X height and bulk district. The approximately 156,000-square-foot (3.6 acre) project site contains the existing Pier 36, portions of the seawall, the bulkhead wharf Section 11a, 11, and 12 between Pier 38 and Pier 30-32, as well as the adjacent San Francisco Bay. Pier 36, built in 1909, is located on the southern portion of the project site and extends perpendicularly from The Embarcadero, and is a 133,000 square-foot (sq.ft) pile-supported pier with a 35,000 sq.ft. pier shed/warehouse building, and 86,000 sq.ft pier platform supported by approximately 420 42-inch diameter concrete cylinders. The bulkhead wharf is an approximately 20-foot wide concrete and steel deck that is linear and runs parallel to the shoreline and on top of the seawall. The seawall is a

linear embankment of stone, concrete, and wood that forms the western shoreline of the San Francisco Bay. The project site includes an approximately 940 foot length of the bulkhead wharf in three sections (Section 11, 11a, and 12) and comprises 18,800 sq.ft.. The bulkhead wharf is supported with pilings of concrete and wood encased in concrete and historically served a number of maritime functions including the berthing of vessels and connection between piers and the seawall. The proposed project would demolish Pier 36, the bulkhead wharf Section 11a, 11, and 12 and construct a new 57,000 square foot public open space, known as the Brannan Street Wharf. The Brannan Street Wharf would consist of a 26,000-sq.ft. lawn, shade structures, tables, chairs and benches, litter receptacles, drinking fountains, lighting, space for public art installations and an interpretative exhibit, and a 2,000 sq.ft. small craft float with accessible gangway. The Brannan Street Wharf would be wedge-shaped, in a north-south orientation that would vary in width from approximately 10 feet wide to 140 feet, and would connect alongside The Embarcadero Promenade. The proposed Brannan Street Wharf would be supported by approximately 269 precast concrete and steel piles, 24-36 inch in diameter, and would be driven to depths of over 60 feet below the bay floor.<sup>1</sup> The seawall, to which the Brannan Street Wharf would connect, is in fair condition and would require maintenance to repair cracks, and to accommodate the interface between the new Brannan Street Wharf and The Embarcadero Promenade.

Project construction (including the demolition phase) is estimated to take approximately 22 months with a construction cost of about \$25 million. The project is joint project being undertaken by the Port of San Francisco (Port) and the U.S. Army Corps of Engineers (Army Corps). The Army Corps has received federal Water Resources Development Act (WRDA) funding for the demolition of Pier 36, and they have the responsibility of implementing that component of the project. The Port of San Francisco would be the project sponsor for the demolition of portions of the bulkhead wharf and new construction of the Brannan Street Wharf.

## B. SUMMARY OF IMPACTS AND MITIGATION MEASURES

This EIR provides information on potential impacts of the proposed project on land use, cultural resources, air quality and biological resources. This EIR discusses air quality because since the time of the publication of the Initial Study, the *Bay Area Air Quality Management District (BAAQMD)* issued revised guidelines that supersede the 1999 *BAAQMD CEQA Guidelines*. Therefore, the Air Quality section of this

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<sup>1</sup> Appendix A, Initial Study, states that there would approximately 400 precast concrete piles; however, since the time of publication of the Initial Study, further refinements have been made to the design of the Brannan Street Wharf to reduce the number of piles required.

EIR discusses the adopted 2010 BAAQMD CEQA Guidelines and air quality thresholds. The Initial Study (Appendix A) provides information on all other potential impacts in the areas of land use and land use planning, aesthetics, population and housing, transportation and circulation, noise, air quality, wind and shadow, recreation, utilities and service systems, public services, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral and energy resources, and agricultural resources. This Draft EIR identifies two significant and unavoidable historic architectural resource impacts, and three significant and unavoidable air quality impacts. The Draft EIR also identifies five potentially significant impacts on biological and archaeological resources, and proposed mitigation measures that would reduce those impacts to less than significant levels. The Initial Study identifies two potentially significant impacts (noise and hazardous building materials) and proposes mitigation measures that would reduce those impacts to less than significant as described below in Table S-1, Summary of Impacts and Mitigation Measures, beginning on page S-4.

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
<b>FROM THE EIR:</b>		
<p><b>Impact CP-1:</b> The proposed project would significantly alter or demolish four contributing resources of the Port of San Francisco Embarcadero Historic District</p>	<p><b>M-CP-1a: (HABS)</b></p> <p><b>Significant</b> The project sponsor shall, at a minimum, ensure that a complete survey meeting the standards of the HABS/HAER is undertaken prior to demolition. This survey shall be completed in accordance with HABS/HAER level II documentation standards as follows:</p> <ul style="list-style-type: none"> <li>• Prior to demolition, the project sponsor shall provide adequate documentation of the existing resources. The documentation shall be submitted to the City and County of San Francisco Planning Department and found to be adequate prior to authorization of any permit that may be required for demolition of the building. In addition, the project sponsor shall prepare and transmit the photographs and descriptions of the property to the History Room of the San Francisco Public Library and the NWIC of the California Historic Information Resource System. The documentation shall include:</li> <li>• A video documentary of the resources.</li> <li>• Photo-documentation of the resources to HABS Standards. The standard size of negatives and transparencies (and accompanying prints) are 5-by-7 inches. Other large-format sizes such as 4-by-5 inches and 8-by-10</li> </ul>	<p><b>Significant and Unavoidable with Mitigation</b></p>

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
	<p>inches are also acceptable for formal documentation. Roll film, film packs, and electronic manipulation of images are not acceptable. Images must be fully identified with the name and location of the structure, a description of the feature or view being photographed, and the direction in which the photograph was taken, as well as the name of the photographer and the date created.</p> <ul style="list-style-type: none"> <li>• Black and white, 35 millimeter photographs of the interior (Pier 36 shed) and exterior of the resources. Negatives and 5-by-7 inch prints should be processed to meet archival requirements (i.e., negatives must be on safety film only; resin-coated paper is not accepted).</li> <li>• As-built drawings of the resources, produced to HABS/HAER Standards.</li> <li>• The available original plans of the resources shall be included as part of the documentation. All drawings and site plans shall be appropriate conserved at the site or at a qualified repository.</li> </ul>	

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
	<p><b>M-CP-1b: Salvaged Materials</b></p> <p>Prior to demolition of Pier 36, the project sponsor shall consult with the San Francisco Planning Department to determine whether there are character-defining elements of the, other than the historic neon identification sign and the rail spur, that will be incorporated into the design of the Brannan Street Wharf, that are of interest and that can feasibly be salvaged. The project sponsor shall notify local recognized historic preservation organizations such as San Francisco Architectural Heritage and the San Francisco Museum and Historical Society of the opportunity for salvage of additional elements of the resource. Donation of the materials to the historic preservation organization approved by the City shall be confirmed by the Environmental Review Officer (ERO) prior to the Port's issuance of demolition permits.</p>	

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

	<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
<p><b>Impact CP-2:</b> The proposed Brannan Street Wharf would cause a substantial adverse change to the Port of San Francisco Embarcadero Historic District.</p>	<p><b>Significant</b></p>	<p><b>M-CP-2: Interpretive Exhibit</b></p> <p>The inclusion of an interpretive historical exhibit as part of the proposed landscape design of the proposed Brannan Street Wharf would partially mitigate the impact of the project on historical resources. The exhibit would consist of historical images including maps and photographs as well as narrative text to explain and summarize the historical significance of the waterfront and significant events that occurred in the South Beach area, including among other things the construction and operation of Pier 36. The exhibit would serve as a valuable educational tool and raise the public's awareness and understanding of the Port of San Francisco Embarcadero District.</p>	<p><b>Significant and Unavoidable With Mitigation</b></p>
<p><b>Impact CP-3:</b> The proposed project would potentially damage or disturb unknown subsurface archaeological resources</p>	<p><b>Significant</b></p>	<p><b>M-CP-3 Accidental Discovery</b></p> <p>Based on the reasonable potential that archaeological resources may be present within the project site, the following Mitigation Measures shall be undertaken to avoid any potentially significant adverse effect from the Project on buried or submerged historical resources. The Project Sponsor shall distribute the Planning Department archaeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc. firms); or utilities firm involved in soils disturbing activities within the project site. Prior to any soils</p>	<p><b>Less than Significant with Mitigation</b></p>

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
	<p>disturbing activities being undertaken each contractor is responsible for ensuring that the “ALERT” sheet is circulated to all field personnel including, machine operators, field crew, pile drivers, supervisory personnel, etc. The Project Sponsor shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor(s), and utilities firm) to the ERO confirming that all field personnel have received copies of the Alert Sheet.</p> <p>Should any indication of an archaeological resource be encountered during any soils disturbing activity of the project, the project Head Foreman and/or Project Sponsor shall immediately notify the ERO and shall immediately suspend any soils disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.</p> <p>If the ERO determines that an archaeological resource may be present within the project site, the Project Sponsor shall retain the services of a qualified archaeological consultant. The archaeological consultant shall advise the ERO as to whether the discovery is an archaeological resource, retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archaeological resource is present, the archaeological consultant shall identify and evaluate the archaeological resource. The archaeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the Project Sponsor.</p>	



**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
	<p>Measures might include: preservation in situ of the archaeological resource; an archaeological monitoring program; or an archaeological testing program. If an archaeological monitoring program or archaeological testing program is required, it shall be consistent with the Major Environmental Analysis (MEA) division guidelines for such programs. The ERO may also require that the Project Sponsor immediately implement a site security program if the archaeological resource is at risk from vandalism, looting, or other damaging actions.</p> <p>The project archaeological consultant shall submit a Final Archaeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archaeological resource and describing the archaeological and historical research methods employed in the archaeological monitoring/data recovery program(s) undertaken. Information that may put at risk any archaeological resource shall be provided in a separate removable insert within the final report.</p> <p>Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive three copies of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation</p>	

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.		
<p><b>Impact AQ-2:</b> Construction of the proposed project would violate an air quality standard or contribute significantly to an existing or projected air quality violation</p>	<p><b>Significant</b></p> <p style="text-align: center;"><b>M-AQ-2</b></p> <p><b>Construction Vehicle Emissions Minimization.</b></p> <p>To reduce construction vehicle emissions, the project sponsor shall incorporate the following into construction specifications:</p> <ul style="list-style-type: none"> <li>• Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.</li> <li>• All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</li> </ul>	<p><b>Significant and Unavoidable with Mitigation</b></p>

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
	<ul style="list-style-type: none"> <li>The Port of San Francisco (Port) and Army Corps of Engineers (USACE) shall ensure that construction contract specifications include a requirement that on-road diesel trucks used to transport spoils consist of 2004 or newer model-year trucks with factory-built engines. All on-road diesel trucks shall be required to have emission control labels as specified in 13 CCR 2183(c). The construction contract specifications shall require that the contractor submit to the Port and USACE a comprehensive inventory of all on-road trucks used to haul spoils. The inventory shall include each vehicle's license plate number, the engine production year, and a notation of whether the truck is in possession of an emission control label as defined in 13 CCR. The contractor shall update the inventory and submit it monthly to the Port and USACE throughout the duration of the project.</li> <li>The Port and USACE shall ensure that construction contract specifications include a requirement that all off-road diesel construction equipment is equipped with Tier 3 diesel engines (or Tier 2 if Tier 3 is not readily available) as defined in 40 CFR Part 89 and are equipped with Level 3 Diesel Emission Control Strategies as defined in 13 CCR 2700–2710. The construction contract</li> </ul>	

<b>TABLE S-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES</b>		
<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
	<p>specifications shall require the contractor to submit a comprehensive inventory of all off-road construction equipment that will be used an aggregate of 8 hours or more during any portion of project construction. The inventory shall include each vehicle’s license plate number, horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The contractor shall update the inventory and submit it monthly to the Port and USACE throughout the duration of the project.</p>	
<p><b>Impact AQ-3:</b> Construction of the proposed project would expose sensitive receptors to substantial levels of increased health risks resulting from construction exhaust emissions</p>	<p><b>Significant</b> Implement Mitigation Measure <b>M-AQ-1</b></p>	<p><b>Significant and Unavoidable with Mitigation</b></p>
<p><b>Impact AQ – 6:</b> Operation of the Brannan Street Wharf would expose sensitive receptors to substantial pollutant concentrations with respect to local pollutants</p>	<p><b>Significant</b> No Feasible Mitigation Measures</p>	<p><b>Significant and Unavoidable</b></p>
<p><b>Impact BIO-1:</b> Construction of the proposed project would have a substantial adverse effect, either directly or through habitat modifications, on threatened,</p>	<p><b>Significant</b> <b>M-BIO-1a: Pile-driving Noise Measures for Aquatic Species.</b> Prior to the start of construction, the Port will develop a NMFS-approved sound attenuation and monitoring plan. This plan will provide detail on the</p>	<p><b>Less than Significant with Mitigation</b></p>

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
endangered or protected species.	<p>sound attenuation system and detail the methods used to monitor and verify sound levels during pile driving activities. The sound monitoring results will be made available to the NMFS.</p> <ul style="list-style-type: none"> <li>• While pile driving may occur during migration periods for some fish species, the USACE and Port will undertake formal consultation with NOAA NMFS and CDFG to address potential impacts to resources..</li> <li>• Pile driving will employ a “soft start” technique to give fish an opportunity to move out of the area. Vibratory hammers will be used to the extent practicable to reduce hydroacoustic effects.</li> <li>• Using bubble curtains in deeper water will further reduce noise levels.</li> <li>• If marine mammals are observed within 1,000 feet of the project site, allow them to completely exit the project site before pile driving resumes.</li> </ul>	

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
	<p><b>Mitigation Measure M-BIO-1b: Best Management Practices (BMP's)</b></p> <p>Standard Best Management Practices (BMPs) will be applied to protect individuals of these 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 a project will be fueled and serviced in a manner that will not affect protected species in the Biological Study Area or their habitats. The BMP's associated with the proposed project would include the following requirements:</p> <ul style="list-style-type: none"> <li>• Well-maintained equipment will be used to perform the 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, the leak will be cleaned up, and the cleaning materials will be collected and will be properly disposed.</li> <li>• Fueling of marine-based equipment will occur at designated safe locations either offsite or adjacent to the project. Fueling of land-based equipment will occur in a staging area or over pavement, and the location will be inspected after fueling to document that no spills have occurred. Spills will</li> </ul>	

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact Significance Without Mitigation	Mitigation Measures	Impact Significance With Mitigation
	<p>be cleaned up immediately using spill response equipment.</p> <ul style="list-style-type: none"> <li>• The Port of San Francisco will reduce the amount of disturbance within the Biological Study Area to the minimum necessary to accomplish the project.</li> <li>• The Port of San Francisco will exercise every reasonable precaution to protect these species and their habitat(s) from construction by-products and pollutants such as demolition debris, construction chemicals, fresh cement, saw-water, or other deleterious materials. Demolition will be conducted from both land and water, and care will be used by equipment operators to control debris so that it does not enter the bay. During demolition, the barges performing the work will be moored in a position to capture and contain the debris generated during the dismantlement of the building and wharf. In the event that debris does reach the bay, personnel in workboats within the work area will immediately retrieve the debris for proper handling and disposal.</li> <li>• Fresh cement or concrete will not be allowed to enter San Francisco Bay. Construction waste will</li> </ul>	

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
	<p>be collected and transported to an authorized upland disposal area, as appropriate, and per federal, state, and local laws and regulations.</p> <ul style="list-style-type: none"> <li>• All hazardous material will be stored upland in storage trailers and/or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted with the same anti-spill precautions.</li> <li>• All construction material, wastes, debris, sediment, rubbish, trash, fencing, etc., will be removed from the site once the project is completed and transported to an authorized disposal area, as appropriate, in compliance with applicable federal, state, and local laws and regulations.</li> </ul>	
<p><b>M-BIO-1c: Spill Prevention Control and Countermeasure (SPCC) Plan</b></p> <p>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.</p>		



**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
<p><b>Impact BIO-2:</b> Operation of the proposed project would diminish and alter sensitive natural communities, critical habitat or special aquatic sites.</p>	<p><b>Significant</b>      <b>Implement Mitigation Measure M-BIO-1a-1c</b></p>	<p align="center"><b>Less than Significant with Mitigation</b></p>
<p><b>Impact BIO-3 :</b> Construction of the project would impede the implementation of the Migratory Bird Treaty Act</p>	<p><b>Significant</b>      <b>M-BOI-4:      Migratory Bird Treaty Act</b>            To the extent feasible, the Project Sponsor will not undertake construction or demolition activities between March 1 and August 1. If construction is anticipated to occur within the nesting season (March 1 through August 1), the following measures.</p> <ul style="list-style-type: none"> <li>• Prior to the nesting season, all potential nesting areas on the roofs of the Pier 36 can be netted to prevent gulls from nesting there. The size of the potential nesting area presents some unique challenges, but bird netting is available in sizes large enough to cover the area required. The netting materials to be used are specifically developed for bird exclusion. The netting shall be inspected weekly to ensure that the barrier is functioning properly.</li> <li>• An alternate method to prevent gulls from nesting on the roof would be to set up a grid of wires (no more than 1 foot squares) across the nesting area,</li> </ul>	<p align="center"><b>Less than Significant with Mitigation</b></p>

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
	<p>approximately 1 foot or more above the surface. The wires would have to be thin enough to not provide a stable surface for gulls to perch on, but strong enough that they do not break. The grid wires shall be inspected weekly to ensure that the barrier is functioning properly.</p> <ul style="list-style-type: none"> <li>• If netting the entire potential nesting area is not feasible, netting could be installed over smaller areas covering only where the birds are known to nest, followed by hazing of the areas outside the netting. Hazing is the intentional disturbance and removal of nests prior to egg laying to prevent birds from nesting during the construction period. Beginning at least two weeks prior to the onset of nesting season, hazing would require that one or more persons inspect the roof at least every other day with a broom or leaf blower to disrupt any nests outside the netted areas before they have eggs in them (once they have eggs, they can't be disturbed). There must be no more than two days between visits, and hazing must be repeated throughout the nesting season, while construction is occurring.</li> </ul>	

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
<b>Impact BIO-4</b> Construction of the project would impede the implementation of the Marine Mammal Protection Act (MMPA)	<b>M-BIO-4, Incidental Harassment Authorization</b>  An Incidental Harassment Authorization will be obtained from NOAA under the Marine Mammals Protection Act (MMPA) and compliance with any measures that result from that process shall be implemented during the construction and demolition of the proposed project.	<b>Less than Significant with Mitigation</b>
<b>From the Initial Study (Appendix A):</b>		
<b>M-NO-1: Pile Driving.</b> Pile Driving could expose sensitive receptors to substantial amounts of noise.	<b>M-NO-1: Pile Driving</b>  The following measures would minimize pile driving noise for adjacent residents:  The project sponsor shall require construction contractors use noise-reducing pile driving techniques such as, use cushions between top of pile and the hammer, vibrating piles into place and use predrilling or jetting to help ease pile driving when feasible, and consider use of concrete piles instead of steel piles. The project sponsor shall also require that contractors schedule pile-driving activity for times of the day that would be in accordance with the provisions of the San Francisco Noise Ordinance, to disturb the fewest people.	<b>Less Than Significant with Mitigation</b>
<b>HZ-1: Hazardous Building Materials (PCB, Mercury, Lead, and others):</b> Demolition of	<b>M-HZ-1: Building Surveys</b>	<b>Less Than Significant with</b>

**TABLE S-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Impact Significance Without Mitigation</b>	<b>Mitigation Measures</b>	<b>Impact Significance With Mitigation</b>
the existing buildings could expose project residents, or construction workers to potential hazardous building materials such as PCB-containing electrical equipment.	The project sponsor would ensure that building surveys for PCB- and mercury-containing equipment (including elevator equipment), hydraulic oils, and fluorescent lights are performed prior to the start of renovation. Any hazardous materials so discovered would be abated according to federal, state, and local laws and regulations.	<b>Mitigation</b>

## C. ALTERNATIVES

Two alternatives to the proposed project are evaluated in this EIR: Alternative A: No Project, and Alternative B: Preservation Alternative.

Under the CEQA-required *No-Project Alternative*, there would be no change on the project site and no environmental impacts. The *No Project Alternative* would avoid all impacts of the proposed project and the Preservation Alternative until another project sponsor or the Port of San Francisco made another project proposal.

The *Preservation Alternative*, would not demolish the historic Pier 36, which is a contributing resource to the Port of San Francisco Embarcadero Historic District, but would retain Pier 36 and the pier shed building, and rehabilitate these resources in a manner consistent with the *Secretary of the Interior Standard (Secretary Standards)*, and adaptively reuse them for a maritime or light industrial use. Additionally, the bulkhead wharf Section 11, 11a, and 12 would be reconstructed within the same footprint in a manner consistent with the *Secretary Standards*. The bulkhead wharf is deteriorated beyond the ability to repair and the facilities must be reconstructed in order to meet current Port code and public safety standards. The Preservation Alternative would also construct the Brannan Street Wharf to be reconfigured to provide approximately 57,000 sq. ft. of public open space, in a pile-supported platform configured as a short finger pier, extending perpendicularly from The Embarcadero. The reconfigured pier-shaped Brannan Street Wharf would connect to the reconstructed bulkhead wharf, and would be 140 feet in width and 411 feet in length. The type of landscaping and open space improvements would be similar to the proposed project, providing a 26,000 square-foot lawn area in a raised platform, with hardscape surfacing for pedestrian circulation areas, benches, lighting and public furnishings, and a 2,400 square-foot floating dock for access by small craft located on the eastern edge of the pier shaped Brannan Street Wharf. This alternative would have a less-than-significant impact on historic architectural resources, because it would result in the reconstruction of the demolished portions of the bulkhead wharf; construction of a new wharf consistent with the historic pattern of finger piers projecting out from the seawall, a characteristic of the District; and would not demolish Pier 36, thereby avoiding the proposed project's significant and unavoidable impacts. Similar to the proposed project, this alternative would also have significant and unavoidable air quality impacts, and require mitigation measures for archaeological resources, biological resources (endangered species), noise (pile driving), and hazardous materials, which would be reduced to less than significant with the same mitigation measures as the proposed project. All other impacts would be less than significant as they would be under the proposed project.

Table S-2, page S-19, compares the significant impacts between the proposed project, Alternative B, and the No Project Alternative.

The Alternative B: Preservation Alternative would be the environmentally superior alternative because it would avoid the proposed project's significant and unavoidable historic architectural impacts.

## **D. AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED**

The City distributed a Notice of Preparation (NOP) on December 23, 2009, announcing its intent to prepare and distribute an EIR. Individuals and agencies that received these notices included owners of properties within 300 feet of the project site, tenants of properties adjacent to the project site, and other potentially interested parties, including various regional and state agencies.

Concerns and issues raised by the public regarding the environmental review include the following: (1) rail safety associated with increased activity on the project site; and (2) interference with transit operations.

These concerns were addressed and incorporated into this EIR or the Initial Study (Appendix A).

<b>TABLE S – 2</b>		
<b>COMPARISON OF SIGNIFICANT IMPACTS – PROPOSED PROJECT AND ALTERNATIVE B: PRESERVATION ALTERNATIVE</b>		
	<b>Proposed Project</b>	<b>Alternative B: Preservation Alternative</b>
<b>DESCRIPTION:</b>	<ul style="list-style-type: none"> <li>• Demolish Pier 36, and bulkhead wharf Section 11, 11a, and 12</li> <li>• Construct the 57,000 square-foot, 830 foot-long, Brannan Street Wharf open space park from Pier 30-32 to Pier 38</li> <li>• Construct a 2,000 sq.ft. small craft float</li> <li>• Requires driving 269 new piles</li> </ul>	<ul style="list-style-type: none"> <li>• Rehabilitate/adaptively reuse Pier 36 for maritime or light industrial use (substructure, pier deck, and superstructure/transit shed)</li> <li>• Construct a pier shaped 57,000 –square-foot, Brannan Street Wharf in the footprint of the former Pier 34</li> <li>• Construct a 2,400 square-foot small craft float.</li> <li>• Requires driving 269 new piles</li> <li>• Demolish and reconstruct bulkhead wharf Sections 11, 11a, and 12</li> </ul>
<b>IMPACTS</b>		
<i>Land Use</i>	Less Than Significant	Less Than Significant
<i>Aesthetics</i>	Less Than Significant	Less Than Significant
<i>Population and Housing</i>	No Impact	No Impact
<i>Cultural Resources</i> <i>Historic Architectural Resources</i> <i>Archaeological Resources</i>	Significant and Unavoidable with Mitigation Less than Significant with Mitigation	Less than Significant Less than Significant with Mitigation
<i>Transportation</i>	Less Than Significant	Less Than Significant
<i>Noise</i>	Less than Significant with Mitigation	Less than Significant with Mitigation
<i>Air Quality</i>	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation
<i>Wind and Shadow</i>	Less Than Significant	Less Than Significant

<b>TABLE S - 2</b>		
<b>COMPARISON OF SIGNIFICANT IMPACTS – PROPOSED PROJECT AND ALTERNATIVE B: PRESERVATION ALTERNATIVE</b>		
<i>Recreation</i>	No Impact	No Impact
<i>Utilities and Service Systems</i>	Less Than Significant	Less Than Significant
<i>Public Services</i>	Less Than Significant	Less Than Significant
<i>Biological Resources</i>	Less than Significant with Mitigation	Less than Significant with Mitigation
<i>Geology and Soils</i>	Less Than Significant	Less Than Significant
<i>Hydrology and Water Quality</i>	Less Than Significant	Less Than Significant
<i>Hazards and Hazardous Materials</i>	Less than Significant with Mitigation	Less than Significant with Mitigation
<i>Mineral and Energy Resources</i>	No Impact	No Impact



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## II. INTRODUCTION

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### A. PROJECT SUMMARY

The proposed project would construct a 57,000-square-foot (sq.ft.), open space park, to be known as the “Brannan Street Wharf”, on an approximately 3.6 acre site fronting on the east side of The Embarcadero, in proximity to the intersection of Brannan Street and Townsend Street, within the South of Market (SOMA) district of San Francisco. The project is joint project being undertaken by the Port of San Francisco (Port) and the U.S. Army Corps of Engineers (Army Corps).

### B. PURPOSE OF THIS ENVIRONMENTAL IMPACT REPORT

This project EIR has been prepared by the City of San Francisco Planning Department. The Lead Agency for the proposed project, in conformance with the provisions of *CEQA Guidelines* is the San Francisco Planning Department.<sup>2</sup> The lead agency is the public agency that has the principal responsibility for carrying out or approving a project. As a project EIR, once certified, CEQA requires no further environmental review unless the proposed project were to change or environmental conditions were to change substantially prior to project construction.

As stated in the *CEQA Guidelines*, an EIR is an “informational document” intended to inform public agency decision-makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. In conformance with CEQA, California Public Resources Code, Section 21000 et. seq., this EIR provides objective information addressing the environmental consequences of the project and identifies possible means of reducing or avoiding its potentially significant impacts.

As defined in the *CEQA Guidelines* Section 15382, a “significant effect on the environment” is:

...a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals,

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<sup>2</sup> CEQA, California Environmental Quality Act, Statutes and Guidelines, Guidelines as amended January 1, 2005, published by the Governor’s Office of Planning and Research.

flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

This project EIR assesses potentially significant impacts concerning land use, cultural resources, air quality, and biological resources and presents the less-than-significant land use effects already analyzed in the Initial Study (Appendix A) for informational purposes only. This EIR discusses air quality because since the time of the publication of the Initial Study, the *Bay Area Air Quality Management District (BAAQMD)* issued revised guidelines that supersede the 1999 *BAAQMD CEQA Guidelines*. Therefore, the Air Quality section of this EIR discusses the adopted 2010 BAAQMD CEQA Guidelines and air quality thresholds. The Initial Study (Appendix A) evaluated the proposed project's potential impacts on land use and land use planning, aesthetics, population and housing, transportation and circulation, noise, air quality, wind and shadow, recreation, utilities and service systems, public services, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral and energy resources, and agricultural resources. This Draft project EIR, in combination with the Initial Study (Appendix A), provides an analysis of the proposed project's physical environmental impacts, including those from construction and operation.

CEQA provides that public agencies should not approve projects until all feasible means available have been employed to lessen substantially the significant environmental effects of such projects. "Feasible" means capable of being accomplished in a successful manner within a reasonable period taking into account economic, environmental, social, and technological factors.<sup>3</sup>

Additionally, state CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 *et. seq.*) help define the role and expectations of this EIR as follows:

**Information Document.** An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect(s) of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency (Section 15121(a)).

**Standards for Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information, which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts.

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<sup>3</sup> Public Resources Code Section 21061.1.

The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (Section 15151).

Although this project EIR does not control the ultimate decision on the proposed project, the City of San Francisco (City) must consider the information in this EIR in its deliberations over project approval and respond to each significant effect identified in this EIR. The City will use the certified EIR, along with other information and public processes, to determine whether to approve, modify, or disapprove the proposed project, and to specify any applicable environmental conditions as part of the project approvals.

### C. ENVIRONMENTAL REVIEW PROCESS AND PUBLIC COMMENTS

The filing of the Environmental Evaluation (EE) application initiates the environmental review process that is generally composed of the following components: (1) a preliminary assessment of potential environmental impacts contained in an Initial Study that is distributed to the public with a Notice of Preparation (NOP); (2) preparation of a Draft EIR; (3) public comments on the adequacy of the Draft EIR; (4) preparation of responses to the comments in a Comments and Response Document; and (5) preparation of a Final EIR consisting of the revised Draft EIR and the Comments and Response Document.

### NOTICE OF PREPARATION, INITIAL STUDY, AND PUBLIC COMMENTS

The project sponsor submitted an EE application for the proposed Pier 36/Brannan Street Wharf project to the Planning Department on May 26, 2009. The Planning Department distributed a Notice of Preparation (NOP) and an Initial Study on December 23, 2009 announcing its intent to prepare and distribute an EIR. In response to the NOP, comment letters were submitted to the Planning Department by public agencies and individuals. Copies of the NOP and comment letters are included in Appendix B of this Draft EIR.

Public agencies that submitted comment letters included the following:

- **California Public Utilities Commission, Consumer Protection and Safety Division (CPUC)** provided comments that development projects proposed near rail corridors must be planned with the safety of rail corridors in mind. CPUC commented that to minimize interference with transit operations, any intrusion onto that operating area of transit operations should have appropriate mitigation measures implemented, including potentially operating bulletin changes for the trains or conducting hazard management analysis.

Private groups and individuals commented that they supported the proposed project.

Pedestrian safety associated with the rail corridors was discussed in the Initial Study, Topic 5, Transportation and Circulation, and it was determined that these impacts would be less than significant.

## DRAFT EIR AND PUBLIC COMMENT

This Draft EIR is prepared in accordance with CEQA, as amended, and the *CEQA Guidelines*. The EIR is a public informational document intended to disclose to project decision-makers, public agencies, and the general public the significant environmental effects of a project and to present mitigation measures and feasible alternatives to avoid or reduce the significant environmental effects of that project. This Draft EIR also provides an impact analysis related to the construction and operation of the proposed project.

### D. LOCATION OF DRAFT EIR AND REFERENCE MATERIALS

A copy of the Draft EIR is available for public review and comment at the Planning Department's Planning Information Counter at 1660 Mission Street, 1st Floor, or at the Department's website, <http://mea.planning.org>, under General CEQA Projects.

All documents referenced in this Draft EIR are available for review at the City of San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA, 94103. The distribution list for the Draft EIR is also available for review at the Planning Department.

### E. DRAFT EIR COMMENT PERIOD

During the 47-day public review and comment period on the adequacy and accuracy of information presented in this Draft EIR (from February 9, 2011 to March 28, 2011), readers are invited to submit oral comments at the public hearing or written comments on the adequacy and accuracy of the Draft EIR.

Oral comments on this Draft EIR can be made at the public hearing before the Planning Commission scheduled for March 24, 2011 in Room 400 City Hall, Dr. Carlton B. Goodlett Place, beginning at 1:30 p.m. or later (call 558-6422 the week of the hearing for a recorded message giving a more specific time).

Written comments should be received no later than 5:00 p.m., March 28, 2011 at,

Bill Wycko, Environmental Review Officer  
Pier 36/Brannan Street Wharf Project (2009.0418E)  
San Francisco Planning Department  
1650 Mission Street, Suite 400  
San Francisco, CA 94103

*CEQA Guidelines* Section 15096(d) calls for responsible agencies to provide comments on those project activities within those agencies' areas of expertise and to support those comments with either oral or written documentation.<sup>4</sup>

## FINAL EIR

Following the close of the public review and comment period, the Planning Department will prepare and publish a document titled "Comments and Responses." It will contain (1) a summary of all relevant comments on this Draft EIR received in writing or during the public hearing, (2) the City's responses to those comments, and (3) copies of the letters received and a transcript of the Planning Commission Draft EIR public hearing.

This Draft EIR, together with the Comments and Responses document, will be considered by the Planning Commission in an advertised public meeting, and then certified as a Final EIR if deemed adequate.

Following consideration of the environmental information in a certified Final EIR, the San Francisco Port Commission will decide whether to approve the proposed project.

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<sup>4</sup> CEQA Section 21069 defines a responsible agency as a public agency, other than the lead agency, which has responsibility for carrying out or approving a project.

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## **III. PROJECT DESCRIPTION**

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This chapter describes the proposed Pier 36/Brannan Street Wharf project (proposed project), which is evaluated in this EIR. A description of the proposed project's regional and local context and objectives is also provided, in addition to required project approvals and entitlements. For the purposes of this EIR, the Port of San Francisco is considered the project sponsor and project developer. As noted previously, the San Francisco Planning Department is the Lead Agency for this EIR.

### **A. PROJECT OBJECTIVES**

The objectives of the proposed project include the following:

- To provide a major public park in the South Beach waterfront, which implements Port of San Francisco's objectives contained in the Waterfront Land Use Plan and Design & Access Element, to create a network of diverse waterfront public open spaces that complements waterfront development and rehabilitation.
- To remove blight.
- To work in partnership with the San Francisco Bay Conservation and Development Commission (BCDC) to implement shared public open space objectives which also meet BCDC policies to remove San Francisco Bay fill, create open water basins, provide high quality public access and public views of the Bay, for the enjoyment of San Francisco Bay Area and San Francisco residents, workers and visitors.

### **B. PROJECT LOCATION**

The project site (Assessor's Block 9900, Lots 034,036) is located between Pier 30-32 and Pier 38, on the San Francisco Bay waterfront, in the Rincon Point – South Beach area of the South of Market (SOMA) district. The 156,000-square foot (3.6 acre) project site directly fronts The Embarcadero on the east side. The project site is also in close proximity to the intersections of Brannan and Townsend Streets to the north and south, respectively, and approximately four blocks from the 1-280 freeway touchdown in the South Beach neighborhood and four blocks south of the San Francisco Oakland Bay Bridge (see Figure 1, page 8).

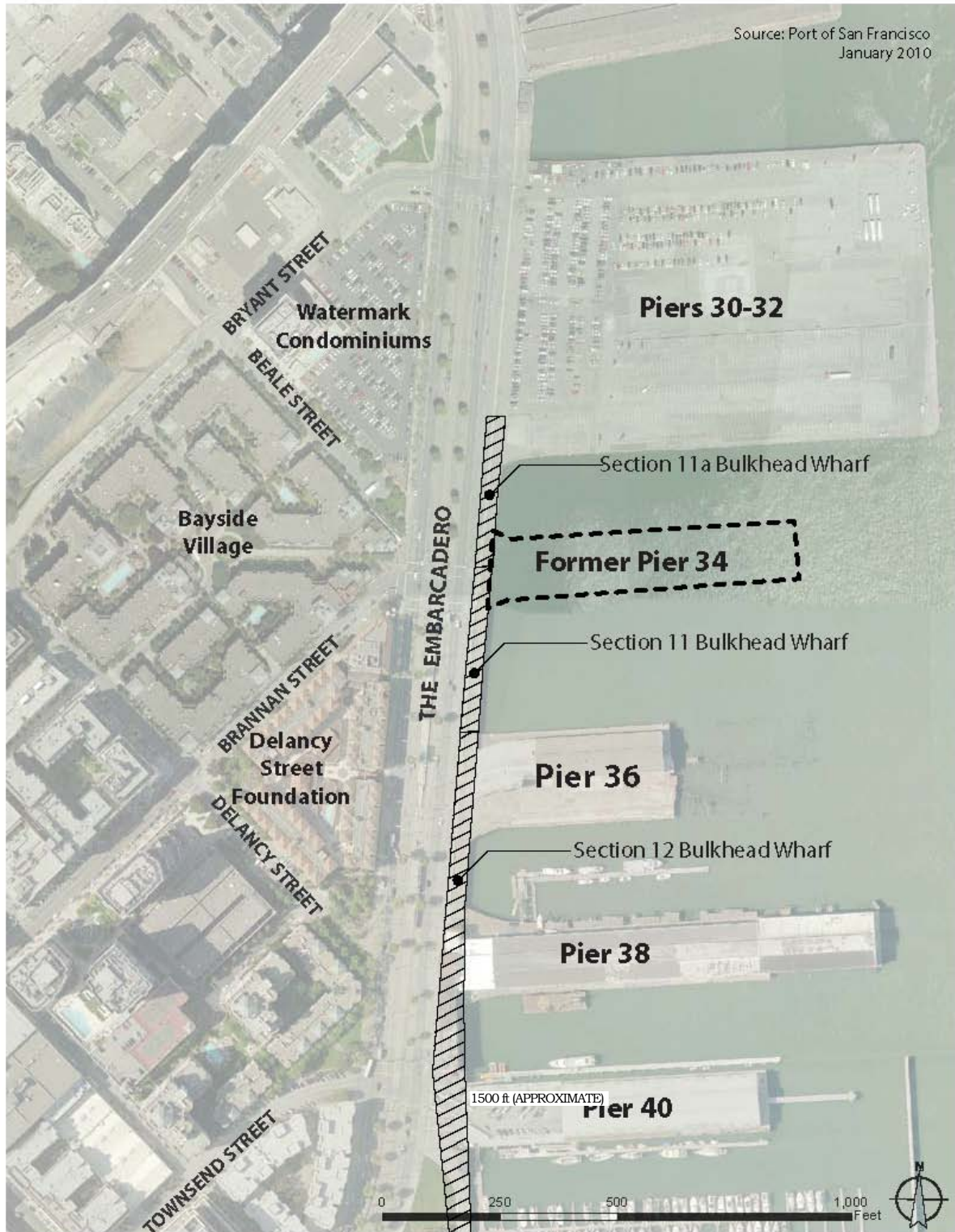


Figure 1 - Project Location and Site Plan





Source: Port of San Francisco 2010

Figure 2 - Existing Site Views from the West and South Elevations



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Source: Port of San Francisco 2010

**Figure 3 - Existing Site Views from the North Elevation and Pile Remnants of Former East End of Pier 36**



Source: Port of San Francisco 2010

Figure 4 - Existing Interior Views looking West



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Source: Port of San Francisco 2010

Figure 5 - Existing Bulkhead Wharf Piles and Substructure

The project site contains the existing Pier 36, the bulkhead wharf Sections 11a, 11, and 12 stretching between Piers 30-32 and Pier 38, a portion of the seawall, and the adjacent waters of the San Francisco Bay. Pier 36, built in 1909, is located on the southern portion of the site and extends perpendicularly from The Embarcadero, and is an approximately 200 feet wide, 740 feet long, 133,000 square-foot (sq.ft.) pile-supported pier with a 35,000 sq.ft. pier shed building atop of the pier 36 deck. The pier deck is approximately 86,000 sq.ft., and is a steel and concrete structure supported on approximately 420 42-inch diameter concrete cylinders (or caissons) piles. At the east end of the pier there was an approximately 47,000 sq.ft. timber wharf extension that was used for freight ferry operations, which as a result of deterioration collapsed into the Bay (see Figures 1-5, page 8 –12 ). Bulkhead wharf Sections 11a, 11, and 12 are 20-foot in width and constructed of concrete and steel and supported on a mixture of concrete and wood encased in concrete piles that provide a connection between Piers 30-32, 36 and 38 and the seawall. Between the southern edge of Pier 32 and the northern edge of Pier 38, the bulkhead wharf is approximately 18,800 sq.ft., approximately 940 in length, and 20 feet wide. The seawall is a linear embankment constructed of stone, concrete and wood that defines the western shoreline of the San Francisco Bay. Pier 36 was the third in a group of three piers, including Pier 38 and 40, which were built of reinforced concrete in 1908 – 1909 on the waterfront. Pier 36 was originally built as a freight rail facility for the Western Pacific Railroad to transport rail cars loaded with freight on barges across the San Francisco Bay to and from Oakland.<sup>5</sup> After the rail facility operation ceased in the 1960's, the pier was used for the ship repair and light-industrial/warehouse (most recently by the Delancy Street Foundation) for approximately 20 years. In 2004, the majority of the bulkhead wharf Sections 11, 11a, and 12 and the north apron of Pier 36 was condemned due to its severely deteriorated condition and lack of structural integrity. Pier 34 which was located immediately north of Pier 36 was demolished by the Port in 2001 (prior to its demolition it was condemned for several years). Pier 36 (substructure, pier deck, and superstructure/transit shed), the bulkhead wharf Sections 11a, 11, and 12, and the seawall are all contributing historical resources to the Port of San Francisco Embarcadero Historic District.

The project site is located within a Heavy Industrial (M-2) Use zoning district, the 40-X Height and Bulk district.

Adjacent to the project site to the north, are Piers 30-32, a 13-acre pier currently used for parking, special events and cruise ship calls as a back-up to the Port's cruise terminal operations at Pier 35 further to the north. To the south of the project site lies Pier 38, which is currently used to berth recreational yachts, vessel docking, and is used a marine support center. To the south of Pier 38, is Pier 40 and the South

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<sup>5</sup> Port of San Francisco, Brannan Street Wharf Project Section 106 Historic Property Survey Report, San Francisco, California, January 11, 2010, p. 10.

Beach Harbor, which is a 700 berth marina. The South Beach Harbor complex includes public open space and access to South Beach Park and Pier 40 Breakwater public access; and the South Beach Harbor Center provides community meeting rooms, operational space for the South Beach Harbormaster, and the location of the South Beach Yacht Club.

Adjacent to the project site, west of The Embarcadero, there are several mixed-use residential and commercial buildings. These include the four-story Bayside Village apartment complex located at Brannan and Beale Streets; the Delancey Street project, a four-story, multi-unit residence and rehabilitation center located immediately across The Embarcadero from the project; the South Beach Marina Apartments at Townsend Street and The Embarcadero, which is a 414 unit complex in two 13-story towers and two low-rise (three- and four-story) structures; the Steamboat Point Apartments, a four -story, multi-family affordable housing development, which is located at King and The Embarcadero; the Portside condominiums at Bryant and The Embarcadero, which is an eight-story, multi-family residential building; the One Embarcadero South located at 88 King Street, which is two 13- and 14- story towers containing 233 dwelling units; The Brannan, consisting of three towers and 130 units, and the 21-story Watermark condominiums at the corner of Bryant and Beale Streets. Further south of the project site, fronting on China Basin Channel and King Street is AT&T Ballpark.

The Embarcadero Roadway is a two-way, north-south roadway with two travel lanes in each direction, parking on one side of the street, and bicycle lanes on both sides of the street, and a landscaped median with MUNI light rail tracks. Brannan Street is a two-lane, two-way northeast-southwest street, with parking on both sides of the street. Delancey Street is a two-way, northwest-southeast roadway, with two travel lanes in each direction and parking on both sides of the street. King Street is a major two-way, northeast-southwest thoroughfare, with two lanes in each direction parking on both sides, and a landscaped median with MUNI light rail tracks. Additionally, the project site is bordered by the Embarcadero Promenade (i.e. Herb Caen Way), which is a 20-foot wide sidewalk that extends from AT&T Park in China Basin to Pier 39 in Fisherman's Wharf.

### C. PROJECT CHARACTERISTICS

The proposed project would demolish the existing Pier 36, the bulkhead wharf Sections 11a, 11, and 12, and construct a new 57,000 square foot public open space, known as the Brannan Street Wharf (see Figure 6 - 8, pages 18-20). Described below is a further description of the proposed project in the sequential timeline for the demolition and construction activities of the Brannan Street Wharf.

## Demolition of Pier 36, Pier Shed, and the Bulkhead Wharf

The proposed demolition would involve demolition of Pier 36, the Pier shed building, and removal of 420 caissons piles (approximately 12,000 linear feet) supporting Pier 36 and the Bulkhead Wharf Sections 11, 11a, and 12.

The Pier 36 platform would be removed, and the supporting 420 caissons will be removed by a rocking action then pulling the entire caisson free. At the east end of the pier, an approximately 47,000-square-foot timber wharf extension that was used for freight rail ferry operations has partially collapsed into the bay. The remaining accessible wood deck and piles would be removed below the bay floor mudline using the same method of rocking the piles, then pulling the entire caisson free. The complete removal of the caissons would be completed with a marine-crane and, if structurally possible, by a crane that would be positioned on the existing deck of Pier 36 (using additional support beams).

Bulkhead wharf Sections 11, 11a, and 12 are a 20-foot-wide concrete and steel wharf supported on a mixture of concrete and wood encased in concrete piles that connects between Pier 30-32, 36, and 38 to the seawall. Between the southern edge of Pier 30-32 and the northern edge of Pier 38, the bulkhead wharf is approximately 18,800 square feet and approximately 940 feet in length. Specifically, the proposed project would include the removal of the 178 foot southern portion of the 281 foot length of bulkhead wharf Section 11a, the entire 353 foot length of bulkhead wharf Section 11, and 337 feet of the northern portion of the 1,167 foot length of bulkhead wharf Section 12. The majority of the wharf was condemned in 2004 due to severe deterioration and lack of structural integrity. The proposed new Brannan Street Wharf would replace the bulkhead wharf Sections 11, 11a, and 12, connecting the park to the seawall.

## Repair and Minor Alteration of Existing Seawall

The stone, concrete and wood seawall extending along the Embarcadero between Piers 30-32 and Pier 38 is supported with timber piling and founded on a rock dike. The wall is in fair condition and requires maintenance to repair cracks and to accommodate the interface with the new Brannan Street Wharf structure. Repair of the seawall would include sealing cracks and patching spalls in the concrete wall. It may additionally require installation of new piles, tie-backs, and/or new concrete overlay on the face of the wall or riprap.

## Construction of the Brannan Street Wharf

The proposed 57,000 sq.ft. Brannan Street Wharf would consist of a 26,000 square-foot, 400 foot-long raised lawn, shade structures, tables, chairs and benches, litter receptacles, drinking fountain, lighting,

space for public art installations and an interpretive exhibit, and a 2,000 sq.ft. small craft float with accessible gangway. The raised lawn would primarily be flat with the lawn laid in a raised planter about 18 inches in height, and would accommodate a variety of passive recreation uses. The Brannan Street Wharf would also include a waterside walkway which would have architectural features such as seating, shade-shelter and picnic tables. Additionally, portions of the waterside walkway would have glass paving blocks and/or deck prisms to allow light penetration to bay water below the wharf. The design of the Brannan Street Wharf is intended to orient the park toward the San Francisco Bay as well as the adjacent South Beach neighborhood.

Brannan Street Wharf would be wedge-shaped, generally oriented in a north-south configuration, connecting alongside The Embarcadero Promenade. The north end of the park would begin south of Pier 30-32, south for about 830 feet to a point south of the existing Pier 36. The park would be approximately 10 feet wide at its narrowest point at the north end, widening to approximately 140 feet at the south end. The Brannan Street Wharf deck would be supported by approximately 269 piles, which would include 24-36 inch-diameter steel pipe piles and concrete piles, to be driven to depths of more than 60 feet below the bay floor (Appendix A, Initial Study, states that there would approximately 400 precast concrete pile; however, since the time of publication of the Initial Study further refinements have been made to the design of the Brannan Street Wharf to reduce the number of piles required). The wharf structure would cantilever over the existing seawall and interface with the existing Embarcadero sidewalk.

The new small craft float would connect to the wharf at its southern point, and would be approximately 30 feet by 68 feet with a low edge suitable for small human powered craft such as kayaks and row boats. The small craft float would be designed to comply with the Americans with Disability Act (ADA) requirements and would be constructed of reinforced concrete (or steel with a concrete surface) and supported by four 36-inch steel pipe piles. In total, 47,915 square feet of pier and wharf areas would be removed, resulting in a net increase of 1.10 acres of open waters of the San Francisco Bay (See Figures 6 – Demolition Plan).

Pile driving for the 269 piles required to construct the Brannan Street Wharf would primarily be done from the water using a barge-mounted marine crane. Hazardous materials (painted exterior areas of the warehouse structure and creosote treated piles) would be removed and abated from on land prior to the demolition of Pier 36 according to applicable State and federal regulations. The construction of the Brannan Street Wharf would primarily be done from land, using Pier 30 -32 as a staging area.



The project is joint project being undertaken by the Port of San Francisco (Port) and the U.S. Army Corps of Engineers (Army Corps). The Army Corps has received federal Water Resources Development Act (WRDA) funding for the demolition of Pier 36, and they have the responsibility of implementing that component of the project. The Port of San Francisco would be the project sponsor for the demolition of portions of the bulkhead wharf Sections 11a, 11 and 12, and new construction of the Brannan Street Wharf. Project construction, including the demolition phase, is estimated to take approximately 22 months with a construction cost of approximately \$25 million.

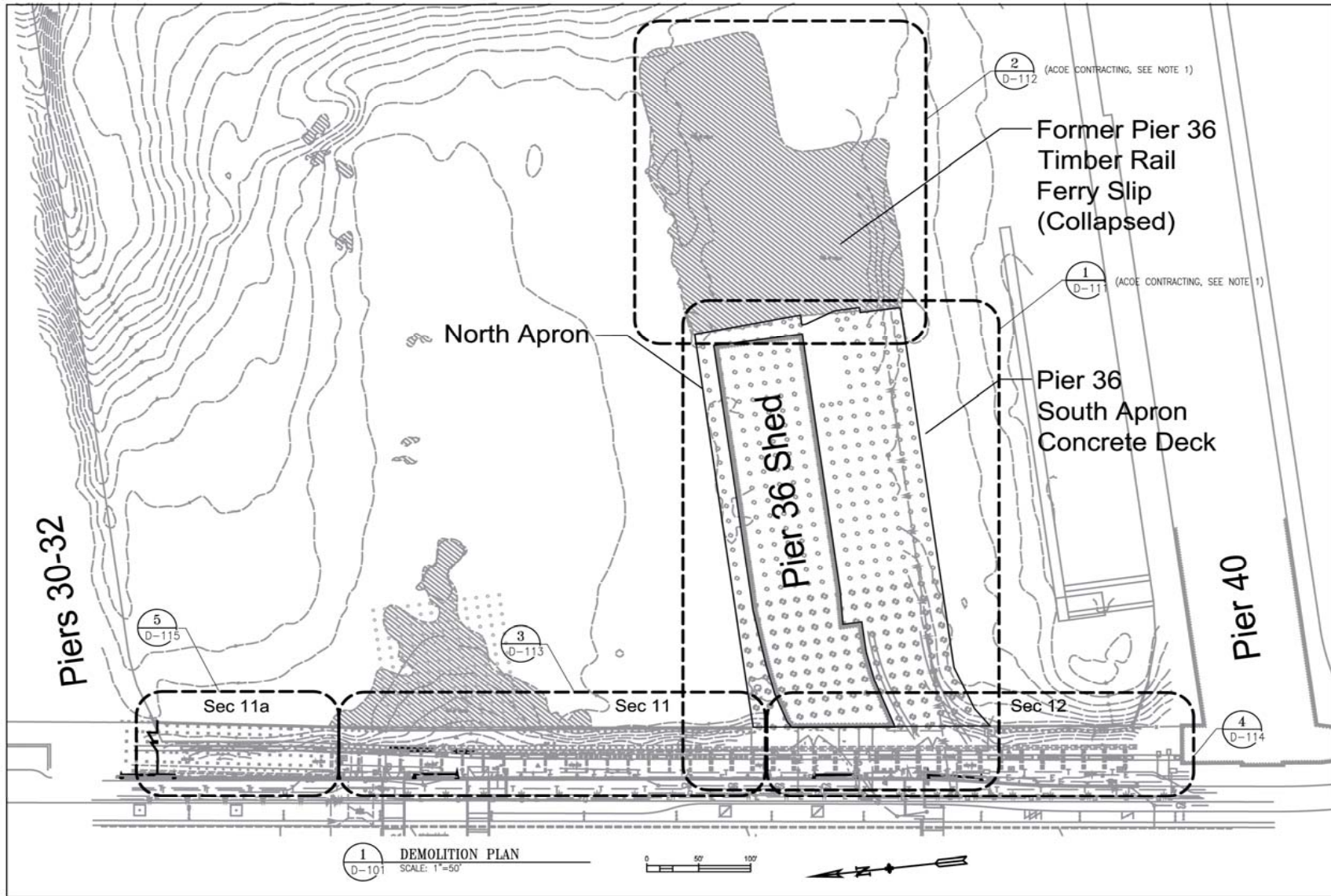


Figure 6 - Pier 36 and Bulkhead Wharf Section 11, 11a, and 12 Demolition Plan

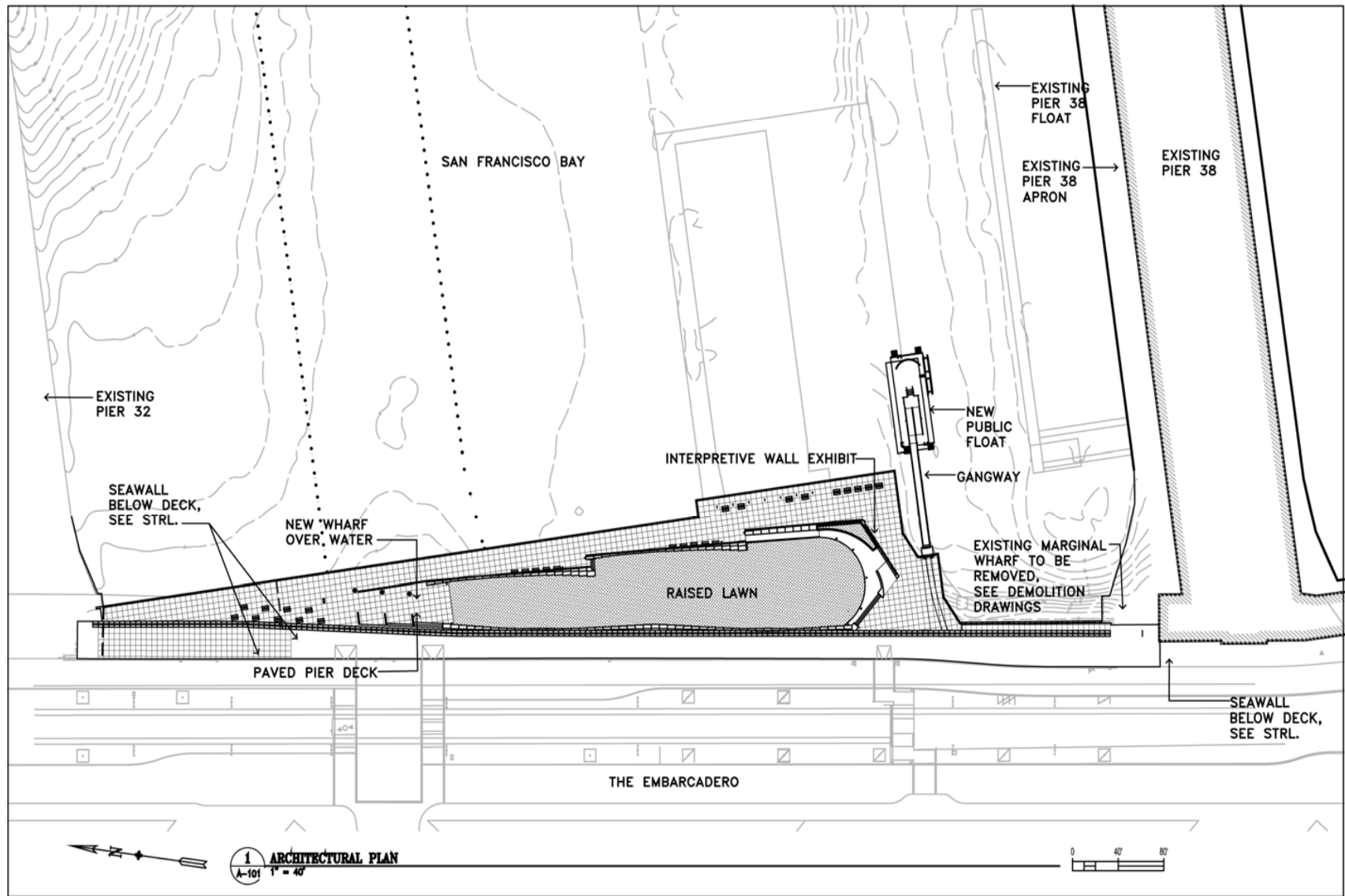


Figure 7 - Brannan Street Wharf Architectural Plan

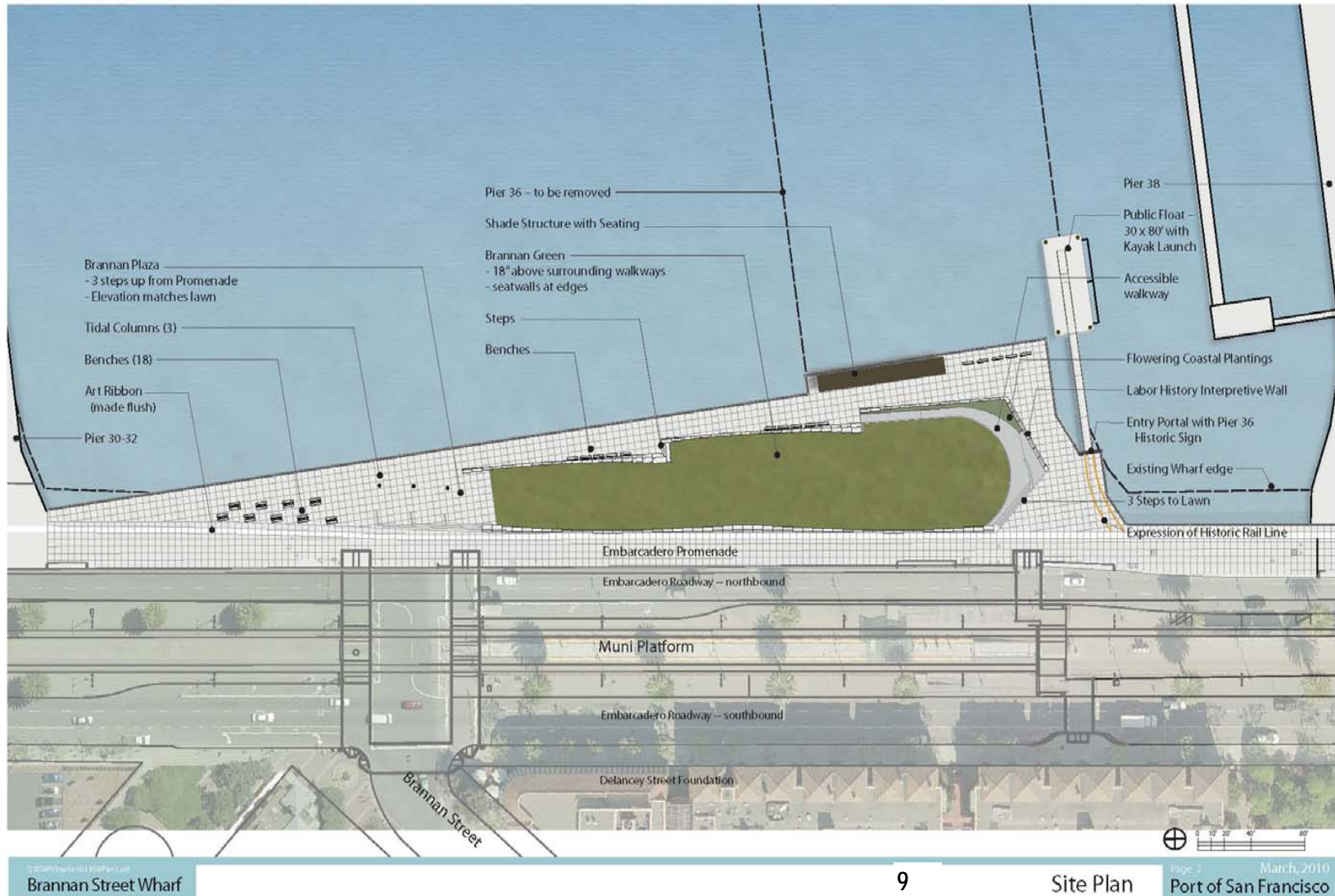


Figure 8 – Brannan Street Wharf Site Plan

## D. INTENDED USES OF THIS EIR

This EIR is a project EIR, which evaluates the environmental effects of a specific project, the proposed Pier 36/Brannan Street Wharf Project. The purpose of this EIR is to provide the City, public agencies and the public in general with detailed information about the environmental effects of implementing the proposed project, to examine and institute methods of mitigating any adverse environmental impacts should the project be approved, and to consider alternatives to the project as proposed.

The project's proposed open space use is a principally permitted use in the M-2 Use district. The proposed project would require the following action under existing zoning regulations, ordinances, and federal and State regulations with acting bodies shown in italics.

## Approvals Required

Aside from the certification of the EIR itself, the EIR would be used, in part, for each of the other approvals listed below.

- Certification of the EIR. *Planning Commission action: certification of EIR may be appealed to the Board of Supervisors.*<sup>6</sup>
- Approval of expenditure of capital funds. *Board of Supervisors*
- Adoption of CEQA Finding and Mitigation Monitoring Program: *Port Commission*
- Approval of construction contracts and implementation authorizations: *Port Commission*
- Approval of BCDC Permit: *San Francisco Bay Conservation and Development Commission (BCDC)*
- Approval of pile removal, pile driving, and new construction through formal consultation with resource agencies to obtain environmental compliance permits and authorizations (Biological Opinion, Incidental Harassment Authorization, and 401 Water Quality Certification): *National Oceanic and Atmospheric Administration National Marine Fisheries Service, California Department of Fish and Game, California Regional Water Quality Control Board, United States Army Corps of*

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<sup>6</sup> Before discretionary project approval may be granted for the proposed project, the Planning Commission must certify the EIR as accurate, objective, and complete. This Draft EIR will undergo a 45-day public comment period as noted on the Draft EIR cover, which will include a public hearing before the Planning Commission. Following the public comment period, responses to written and oral comments on the Draft EIR will be prepared and published in a Response to Comments Document. The Draft EIR will be revised as appropriate and, together with the Response to Comments Document, will be presented to the Planning Commission for certification of the EIR. No approvals or permits may be issued before the Final EIR is certified. The Draft EIR and the Response to Comments Document together are considered the Final EIR.

*Engineers.*

- Approval of Major Permit for pier removal and wharf construction: *San Francisco Bay Conservation and Development Commission.*
- Completion of design review by the Waterfront Design Advisory Committee and the San Francisco Bay Conservation and Development Commission (BCDC) Design Review Board (DRB).
- Demolition and Site Permits. The project would require approval by the Port of San Francisco Building Department for demolition and site permits. *Port of San Francisco Building Department*
- Special Traffic Permit: The project would require a special traffic permit from the Department of Parking and Traffic for use of a public street space during project construction (for a pedestrian walkway and closure of one of the northbound lanes of the Embarcadero during one to two months of project construction).
- Soil Management: The project would require environmental investigations and a Site Mitigation Plan approved by the *San Francisco Department of Public Health* subject to requirements of Article 22A of the San Francisco Health Code (“Maher Ordinance”) if the proposed project were to disturb more than 50 cubic yards of soil for the repair of the seawall.

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## IV. PLANS AND POLICIES

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This chapter identifies inconsistencies the proposed project might have with applicable plans and policies. The discussion of the inconsistency itself is located in the corresponding topical section of Chapter V, Environmental Setting, Impact, and Mitigation and Improvement Measures. Additionally, for further discussion of the proposed project's compatibility with plans and policies, see the Initial Study (Appendix A, pages 13 to 18).

Project-related policy conflicts and inconsistencies do not constitute, in and of themselves, significant environmental impacts. They are considered environmental impacts only when they would result in direct physical effects, which this EIR identifies pursuant to CEQA independently of the policy conflicts or inconsistencies. All associated physical impacts of the proposed project are discussed in this EIR in the four topical sections on land use, historic architectural resources, air quality, and biological resources of the following Chapter V Environmental Setting, Impacts, and Mitigation and Improvement Measures; or they are discussed in the Initial Study (Appendix A), which found them to be less than significant.

Development of the Pier 36/Brannan Street Wharf Project is subject to San Francisco's plans, objectives, and policies, such as the San Francisco *General Plan*, the *Sustainability Plan*, the *Climate Action Plan*, the San Francisco *Planning Code* (Zoning Ordinance), the *San Francisco Stormwater Guidelines*, the *Waterfront Land Use Plan*, the *Northeast Waterfront Plan*, the *South Beach/China Basin Sub-Area Plan*, the *San Francisco Bay Plan*, and the *Public Trust*. Regional environmental plans and policies that influence or regulate some individual projects or cumulative development in the Bay Area more generally include the following: (1) the Metropolitan Transportation Commission's (MTC) *Regional Transportation Plan (RTP)—Transportation 2030*; (2) the Bay Area Air Quality Management District's (BAAQMD) *2010 Clean Air Plan*, and *Bay Area Air Quality Plan*; (3) the Association of Bay Area Governments' (ABAG) *2007-2014 Resource Housing Needs Allocations, A Land Use Policy Framework, and Projections 2009*; (4) the San Francisco Regional Water Quality Control Board's (SFRWQCB) *San Francisco Basin Plan*; and (5) the San Francisco Bay Conservation and Development Commission's (BCDC) *San Francisco Bay Plan*.

The San Francisco *General Plan*, which provides general policies and objectives to guide land use decisions, contains some policies that relate to environmental issues. The *General Plan* contains 10 elements (Commerce and Industry, Recreation and Open Space, Housing, Community Facilities, Urban Design, Environmental Protection, Transportation, Air Quality, Community Safety, and Arts) that set forth goals, policies and objectives for the physical development of the city. The compatibility of the project with *General Plan* policies that do not relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project. Any potential conflicts between the project and policies that relate to physical environmental issues are discussed in Section V, Evaluation of Environmental Effects. Any potential conflicts identified as part of the process would not alter the physical environmental effects of the project.

#### PROPOSITION M, THE ACCOUNTABLE PLANNING INITIATIVE

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1, Master Plan Consistency and Implementation, to the City *Planning Code* to establish eight Priority Policies. These policies, and the sections of this Environmental Evaluation addressing the environmental issues associated with the policies are: (1) preservation and enhancement of neighborhood-serving retail uses (Section E.1 Land Use and Land Use Planning in the Initial Study); (2) protection of neighborhood character (Section V.A, Land Use in this EIR); (3) preservation and enhancement of affordable housing (Section E.3, Population and Housing in the Initial Study, with regard to housing supply and displacement issues); (4) discouragement of commuter automobiles (Section E.5, Transportation and Circulation in the Initial Study); (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership (Section V.A, Land Use in this EIR); (6) maximization of earthquake preparedness (Section E.13, Geology and Soils in the Initial Study); (7) landmark and historical building preservation (Section V.B, Cultural Resources in this EIR); and (8) protection of open space (Section E.8 Wind and Shadow, and Section E.9., Recreation in the Initial Study).

Prior to issuing a permit for any project that requires an EIR under CEQA, prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action that requires a finding of consistency with the *General Plan*, the City decision-makers are required to find that the proposed project or legislation would be consistent with the Priority Policies. As noted above, the consistency of the proposed project with the environmental topics associated with the Priority Policies is discussed in the Chapter V of this EIR and in Appendix A, Initial Study. The case report and approval motions for the project will contain the Department's comprehensive project analysis and findings regarding consistency of the proposed project with the Priority Policies.



The proposed demolition of Pier 36, the Pier 36 warehouse building, and bulkhead wharf Section 11, 11a, and 12 would be inconsistent with Policy 7 of the Prop M Priority Policies, which calls for the preservation of historical resources. This is discussed further Section V.B. Cultural Resources.

### **NORTHEASTERN WATERFRONT PLAN**

The *Northeastern Waterfront Plan*, an area plan of the General Plan, guides growth and development along San Francisco's northeastern waterfront, an irregularly shaped area that includes four subareas: Fisherman's Wharf, Base of Telegraph Hill, Ferry Building, and South Beach. The project site is within the *Northeastern Waterfront Plan's* South Beach subarea. Map 2 of the Plan indicates that Pier 36 is located within the 40-X Height and Bulk District. The *Northeastern Waterfront Plan* recommends objectives and policies designated to, "contribute to the waterfront's environmental quality, enhance the economic vitality of the Port and the City, preserve the unique maritime character, and provide for the maximum feasible visible and physical access to and along the Bay." Specifically, the *Northeastern Waterfront Plan* has policies for Pier 36 which recommends "improve shoreline appearance, provide public access and open space, and expand views of open water by removing deteriorating Piers 34 and 36 and extending the PortWalk out over the water to create a Brannan Street Wharf public open space. Develop the layout, design, improvements, and any allowances for accessory uses to promote the use of this open space in coordination with the community."

### **WATERFRONT LAND USE PLAN**

The Waterfront Land Use Plan (Waterfront Plan) was initially adopted by the San Francisco Port Commission in 1997, and amended in July and October 2000, defining acceptable uses, policies and land use information applicable to all properties under the Port Commission's jurisdiction. Developed through a lengthy public planning process, the Waterfront Plan has enabled the Port Commission, the City and the community to jointly define locations for new public-private partnership projects, coordinated with major public open space, maritime, and historic preservation improvements along the waterfront. The Waterfront Plan is intended to: 1) actively promote the continuation and expansion of industrial, commercial and recreational maritime activities; 2) support new and existing open space and public access; 3) recognize the structure of the Port for revenue-generating land uses to fund maritime activities, open space, and public activities along the waterfront; 4) adapt to fluctuating economic, social and political structures by identifying the range of acceptable uses for Port properties; 5) encourage efficient use of currently underutilized Port properties by allowing a range of interim uses; and 6) establish a framework for streamlining the entitlement process for new development. After Port Commission approval of the Plan, the Port worked with the City to amend the San Francisco General Plan, Planning

Code, and Zoning Map to align policies and requirements within these documents, approved by the Planning Commission and Board of Supervisors.

The Waterfront Plan has seven goals: 1) to encourage the Port to function as a working Port for cargo, shipping, fishing, passenger cruise ships, ship repair, ferry and excursion boats, recreational boating and other water-dependent activities; 2) to stimulate new investment that will revitalize the waterfront, create jobs, revenues, public amenities, and other benefits; 3) to promote diversity of activities and people, including maritime, commercial, entertainment, civic, open space, recreational and other waterfront activities for all to enjoy; 4) to provide access to and along the waterfront through a network of parks, plazas, walkways, open spaces, and integrated transportation improvements that would enhance enjoyment of the Bay environment; 5) to enhance the waterfront's historic character, while creating new opportunities for San Franciscans to integrate the waterfront into their everyday lives; 6) to ensure appropriate quality of urban design along the waterfront; and 7) to provide economic access to all people in San Francisco.

To enable waterfront revitalization, the Port continues to work closely with the San Francisco Planning Commission and Board of Supervisors, the San Francisco Bay Conservation and Development Commission (BCDC), and the State Lands Commission to align the various land use plans and policies held by each entity. Port projects must comply not only with the Waterfront Plan, but also adopted plans of the Planning Commission and BCDC, and undergo public trust review by the State Lands Commission.

#### **SOUTH BEACH/CHINA BASIN SUB-AREA**

The proposed project is located within the South Beach/China Basin subarea of the Waterfront Plan, which extends from Pier 22 ½ to the north to Mariposa Street to the south. The Waterfront Plan contains the following objectives for the South Beach/China Basin subarea: 1) preserve and rationalize existing maritime activities in the area; 2) preserve and improve existing maritime uses that provide focal points for public enjoyment of commercial and recreation oriented maritime activities; 3) promote activities and public access to make the waterfront inviting and safe, and improve the living environment of the new and emerging Rincon Hill, South Beach and Mission Bay neighborhoods; 4) take advantage of proximity to downtown San Francisco by providing attractions for the general public, while respecting the needs of adjacent residents; 5) create an integrated series of public access improvements that extend a shoreline Port Walk through the South Beach area; and 6) establish high standard in the design of new developments that give rise to a new architectural identity for the shoreline north of China Basin Channel.

The South Beach/China Basin subarea of the Waterfront Plan specifies acceptable land uses by the location at which they may be developed along San Francisco's Waterfront, including new uses and existing uses that may continue long term, those that may be continued as an interim use, or those that may be permitted as an accessory use. Generally, a wide variety of maritime uses (e.g., cargo shipping, maritime office and support services, and ceremonial berthing), open space/recreation, and commercial, and other uses, including general institutional, are permitted on specified sites throughout the project area.

Under the South Beach/China Basin subarea, there are development standards for the Bryant Street Pier Opportunity Area, which includes Pier 30-32, Pier 36, and Seawall Lot 330. The development standards that are applicable to the proposed Brannan Street Wharf project are:

- Provide significant maritime and public access uses with a multi-faceted mix of commercial activities, all oriented around a common theme, rather than a singular commercial attraction.
- Encourage new activities that do not generate peak traffic volumes during commute periods, to minimize congestion on roadway and public transit systems.
- Require a high standard of architectural design which is appropriate to the prominence of the site and establishes a new architectural identity and standard for waterside development in the South Beach area.
- Incorporate expansive public access on the piers that builds upon and enhances the PortWalk through the South Beach area.
- Demolish Piers 34 and 36 to create a Brannan Street Wharf open space, integrated with the Embarcadero Promenade and the public access and shoreline improvements for new development on Piers 30-32 and 38.

The South Beach/China Basin subarea of Waterfront Plan indicates that Piers 34 and 36 should be removed in order to create an open space, therefore, the proposed Brannan Street Wharf project would be consistent with the Plan. The Brannan Street Wharf project would involve removal of Pier 36 and the creation of the Brannan Street Wharf Park. Pier 34 was demolished in 2001 (prior to its demolition it was condemned for several years).

## **SAN FRANCISCO BAY PLAN**

The San Francisco Bay Conservation and Development Commission (BCDC) is a state agency with permit authority over the Bay and its shoreline. Created by the McAtteer-Petris Act in 1965, BCDC regulates filling, dredging, and changes in use in San Francisco Bay. BCDC also regulates new development within

100 feet of the shoreline to ensure that maximum feasible public access to and along the Bay is provided. The Commission is also charged with ensuring that the limited amount of shoreline property suitable for regional high-priority water-oriented uses (ports, water-related industry, water oriented recreation, airports and wildlife areas) is reserved for these purposes. Land-side uses and structural changes are governed by policies regarding public access. BCDC can require, as conditions of permits, shoreline public access improvements consistent with a proposed project, such as, but not limited to, pathways, observation points, bicycle racks, parking, benches, landscaping, and signs.

Of primary concern to BCDC is the placement of new “fill” (generally defined as any material in or over the water surface, including pilings, structures placed on pilings, and floating structures) in the Bay. The McAteer-Petris Act imposes very strict standards for the placement of new fill. Placement of fill may be allowed only for uses that are (1) necessary for public health, safety or welfare of the entire Bay Area; (2) water-oriented uses, such as water-related industry, water-oriented recreation, and public assembly and the like; or (3) minor fill to improve shoreline appearance and public access. Fill must be the minimum necessary for the purpose and can be permitted only when no alternative upland location exists. While the proposed projects would result in a limited amount of new fill related to the creation of the Brannan Street Wharf, the project overall would decrease the amount of Bay fill. The Brannan Street Wharf would result in a net decrease of approximately 94,800 sq. ft. (1.10 acres) of fill due to the removal of Pier 36(133,000 sq. ft.) and the marginal wharf (18,800 sq.ft).

Other BCDC planning documents applicable to the northeastern waterfront include: the *San Francisco Bay Plan* (Bay Plan), adopted in 1969 and since amended, which specifies goals, objectives and policies for existing and proposed waterfront land use and other BCDC jurisdictional areas; the *Bay Area Seaport Plan*, prepared in conjunction with the Metropolitan Transportation Commission, which is BCDC’s overall policy for long-term growth and development of the Bay Area’s six seaports, including the Port of San Francisco; and the *San Francisco Waterfront Special Area Plan* (SAP), which is incorporated as a more specific element of the Bay Plan and, among other things, indicates acceptable land uses along the San Francisco Waterfront in much greater detail than does the regional Bay Plan.

In July, 2000, BCDC approved major amendments to the SAP, originally adopted in 1975, to update and align policies with the Port’s Waterfront Plan (which also was amended to align with the SAP). The revised SAP identifies piers to be removed to create open water basins, prescribes two major new public plazas, and establishes new rules for development on certain existing piers, including allowing the repair and reconstruction of existing piers for any use consistent with the public trust, under certain conditions. The SAP establishes the requirement that the Brannan Street Wharf be constructed within five (the northern portion in the area of the former Pier 34) to 20 years of the issuance of a certificate of occupancy

“for the major reuse of Piers 30-32, or a comparable development.” The Port also adopted conforming amendments to its Waterfront Plan.

The area covered by the SAP is the land and water located along the existing shoreline of the City and County of San Francisco from the Hyde Street Pier through the India Basin, including all areas within the jurisdiction of the Port of San Francisco. The SAP divides the waterfront area into three geographic areas: Fisherman’s Wharf, Northeastern Waterfront, and Southern Waterfront, to which particular permitted uses, policies, and maps are addressed. The Brannan Street Wharf project site is located within the Northeastern Waterfront. The Northeastern Waterfront extends from Pier 35 to China Basin and is characterized by three geographic areas or districts, including the Base of Telegraph Hill that extends from Pier 35 to Pier 9; the Ferry Building from Pier 7-1/2 to Pier 22-1/2; and South Beach, extending from Pier 24 to China Basin. The project sites are located within the South Beach district.

The policies in the SAP apply only to areas within the jurisdiction of BCDC for permit purposes. These policies, in addition to the McAteer-Petris Act and other sections of the Bay Plan, are the basis for BCDC permit decisions and for federal consistency review under the federal Coastal Zone Management Act of 1972, as amended. The SAP includes general policies that apply to all areas covered by the plan, and geographic-specific policies that specify permitted uses that may be allowed on fill in specified areas within BCDC’s jurisdiction, describe in greater detail the limits on Bay fill, and guide the provision for projects to provide maximum feasible accessibility to the Bay. In the Northeastern Waterfront, the geographic-specific policies identify locations and the provisions for creating open water basins, public plazas and public access, coordinated with land use and development provisions for improvements within that portion of the San Francisco Waterfront.

## THE PUBLIC TRUST

The City and County of San Francisco, through the Port Commission, hold title of former state tidelands in trust for the people of the State of California. This is because the State, upon admission to the United States in 1850, was granted title to all submerged lands and tidelands, and Port property consists of submerged lands and tidelands. In 1968, the State Legislature adopted the Burton Act, which enabled transfer of the Port area to the City and County of San Francisco to be held in trust for the people of California for the purposes of maritime commerce, navigation and fisheries (the public trust), uses that enhance natural resources or attract people to use and enjoy the Bay and other specified uses.

The Burton Act granted the Port broad powers relative to the transferred property. There are, however, three key constraints: (1) property subject to the public trust and statutory trust imposed by the Burton Act cannot be sold or otherwise alienated by the Port, unless the property is found to be valueless for

trust purposes and is a small portion of the total land held in trust by the Port; (2) the properties cannot be leased for a period exceeding 66 years; and (3) the revenues derived from the operation of the leased property must be maintained in a separate account and used only for trust purposes. The Port Commission may determine that Port property is surplus to trust purposes and may exchange that land for other property and/or use it for other purposes determined by the Port Commission and the State Lands Commission to be in the public interest. It is also acceptable for the Port to establish short-term leases (generally 10 years or less) for non-trust purposes if the property will not be required for trust purposes during the ten-year period of the lease. The State Lands Commission is the State agency that oversees compliance by the Port with its grant under the Burton Act. No formal approvals are required by the State Lands Commission for Port projects. However, the State Lands Commission acts in an advisory capacity to, and sits as a member of the BCDC Commission, with regard to BCDC's findings of trust compliance made pursuant to BCDC's San Francisco Special Area Plan.

The primary purpose of the proposed project on Pier 36 is to construct a new public open space for San Francisco. The purpose is consistent with the public trust. A final determination of trust consistency, as well as consistency with the Waterfront Plan, would be made by the Port Commission, in consultation with BCDC and the State Lands Commission. Additionally, the Brannan Street Wharf project site would remain under Port control and would not be leased to a private entity.

#### **AB 1389 - STATE LEGISLATION ON THE PUBLIC TRUST**

Assembly Bill 1389 was introduced by Assembly Member Kevin Shelley, approved by the California Legislature on September 14, 2001, and signed by Governor Gray Davis on October 4, 2001 (see Appendix D for the complete text of the bill). The bill accomplishes several key items that pertain to the Brannan Street Wharf projects, as described below:

- Ratifies the BCDC Bay Plan and Special Area Plan, adopted in July, 2000, as necessary to protect the health, safety or welfare of the public in the entire Bay Area;
- Requires the construction and accelerates the completion of the Brannan Street Wharf.

#### **REGIONAL PLANS AND POLICIES**

The five principal regional planning agencies and their over-arching policy-plans to guide planning in the nine-county bay area include (1) the Association for Bay Area Governments' *"A Land Use Policy Framework"* and *Projections 2005*; (2) the Bay Area Air Quality Management District's (BAAQMD's) *2010 Clean Air Plan (CAP)*, and *Bay Area Air Quality Plan*; (3) the Metropolitan Transportation Commission's *Regional Transportation Plan (RTP)—Transportation 2030*; (4) the San Francisco Regional Water Quality Control Board's (RWQCB's) *San Francisco Basin Plan*; (5) the San Francisco Bay Conservation and

Development Commission's *San Francisco Bay Plan*; and (6) the Association of Bay Area Governments' (ABAG) *2007-2014 Resource Housing Needs Allocations, A Land Use Policy Framework, and Projections 2009*. The proposed project would not conflict with regional plans or policies.

Environmental plans and policies like those noted above directly address physical environmental issues and/or contain targets or standards that would preserve or improve specific components of the city's physical environment. The proposed project would not obviously or substantially conflict with any such adopted environmental plan or policy. (See Initial Study, Appendix A, Compatibility with Zoning, Plans, and Policies, page 12.)

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## V. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION AND IMPROVEMENT MEASURES

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This chapter of the EIR addresses the effects of the proposed Pier 36/Brannan Street Wharf Project, including mitigation measures when required and improvement measures, when available, to reduce less-than-significant impacts further. The scope of this chapter was determined through the environmental review process discussed above in Chapter 2, Introduction.

### A. LAND USE

The Initial Study (Appendix A) determined that the proposed project would have less-than-significant land use impacts and that assessment is included in this EIR (below) for informational purposes only.

### SETTING

The project site (Assessor's Block 9900, Lots 034,036) is located between Piers 30-32 and Pier 38, on the San Francisco waterfront, in the Rincon Point – South Beach area of the South of Market (SOMA) district. The 156,000-square foot (3.6 acres) project site directly fronts The Embarcadero on the east side. The project site is also in the close proximity to the intersections of Brannan and Townsend Streets to the north and south, respectively.

Adjacent to the project site to the north, is Pier 30-32, a 13 acre pier currently used for parking, special events and cruise ship calls as a back-up to the Port's cruise terminal operations at Pier 35 further to the north. To the south of the project site is Pier 38, which is currently being used to berth recreational yachts and vessel docking, and a marine support center. To the south of Pier 38, is Pier 40 and the South Beach Harbor, which is a 700 berth marina. The South Beach Harbor complex includes public open space and access to South Beach Park and Pier 40 Breakwater public access; and the South Beach Harbor Center provides community meeting rooms, operational space for the South Beach Harbormaster, and the location of the South Beach Yacht Club.



Adjacent to the project site, west of The Embarcadero, there are several mixed-use residential and commercial building. These include the 4-story Bayside Village apartment complex located at Brannan and Beale Streets; the Delancey Street project, a 4-story, multi-unit residence and rehabilitation center located immediately across The Embarcadero from the project; the South Beach Marina Apartments at Townsend Street and The Embarcadero, which is a 414 unit complex in two 13-story towers and two low-rise (3- and 4-story) structures; the Steamboat Point Apartments an affordable housing development, a 4-story, multi-family residential building, which is located at King and The Embarcadero; the Portside condominiums at Bryant and The Embarcadero, which is an 8-story, multi-family residential building; the One Embarcadero South located at 88 King Street, which is two 13- and 14- story towers containing 233 dwelling units; The Brannan, consisting of three towers and 130 units, and the 21-story Watermark condominiums at the corner of Bryant and Beale Streets. Further south of the project site, fronting on China Basin Channel and King Street is AT&T Ballpark.

The Embarcadero Roadway is a two-way, north-south roadway with two travel lanes in each direction, parking on one side of the street, and bicycle lanes on both sides of the street, and a landscaped median with MUNI light rail tracks. Brannan Street is a two-lane, two-way northeast-southwest street, with parking on both sides of the street. Delancey Street is a two-way, northwest-southeast roadway, with two travel lanes in each direction and parking on both sides of the street. King Street is a major two-way, northeast-southwest thoroughfare, with two lanes in each direction parking on both sides, and a landscaped median with MUNI light rail tracks.

## IMPACTS

### SIGNIFICANCE THRESHOLDS

The project would have a significant effect on the environment in terms of land use if it were to:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the *General Plan*, specific plans, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Have a substantial adverse impact on the existing character of the vicinity.

## IMPACT EVALUATION

### ESTABLISHED COMMUNITY

**Impact LU-1: The project would neither divide an established community, nor have substantial adverse impact on the character of the site or vicinity, either individually or cumulatively. (Less than Significant)**

The proposed project would demolish the existing Pier 36 and portions of the bulkhead wharf, and construct a 57,000 square-foot open space park along the Embarcadero, known as the Brannan Street Wharf. Land use impacts are considered significant if they disrupt or divide the physical arrangement of an established community, or if they have a substantial impact on the existing character of the vicinity. The Brannan Street Wharf would not disrupt or divide the physical arrangement of surrounding land uses because it would be constructed in an area of the waterfront that is currently condemned and fenced-off for the public to access. The proposed Brannan Street Wharf would not change the existing street plan nor impede the passage of persons or vehicles. Therefore, the project would not physically divide an established community and it would have a less-than-significant impact. Additionally, the proposed project would permit persons to access the waterfront in an area currently fenced and closed-off to for public access and this impact will be **less-than-significant**.

### CONSISTENCY WITH PLANS AND ZONING

**Impact LU-2: The project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. (Less than Significant)**

The proposed project would not conflict with applicable plans, policies, and regulations such that an adverse physical change would result (see Appendix A, Initial Study, Section C. Compatibility with Existing Zoning and Plans). In addition, environmental plans and policies are those, like the *Bay Area Air Quality Plan*, that directly address environmental issues and/or contain targets or standards, which must be met in order to preserve or improve characteristics of the City's physical environment. The proposed project would not obviously or substantially conflict with any such adopted environmental plan or policy. Therefore, the proposed project would have no effect on existing plans and zoning and this impact will be **less-than-significant**.

## LAND USE CHARACTER

### **Impact LU-3: The project would not have a substantial adverse impact on the existing character of the vicinity (Less than Significant)**

The proposed open space located along the waterfront would not introduce new or incompatible land uses to the area. As discussed above, the project site is surrounded by multi-family residential buildings, pier structures, a marina, and other open spaces. Although the demolition of the existing Pier 36 and portions of the bulkhead wharf and the proposed construction of a 57,000 open space park would result in a change in character of the site, the project as proposed, would not result in a significant land use impact because it is a principally permitted use within the M-2 zoning district and is a predominant use along the waterfront. Additionally, the project would be consistent with the character of the area in terms of its proposed use and physical compatibility, and would not present a physical barrier to movement throughout the community. Therefore, land use impacts to the existing character would be **less than significant**.

## CUMULATIVE IMPACTS

### **Impact CP-3: The project in combination with other foreseeable development would not result in cumulative land use impacts. (Less than Significant)**

Other past, present, and reasonably foreseeable projects are expected to be developed in the project vicinity. For purposes of cumulative analysis, the geographic area considered for cumulative development was identified as the Port of San Francisco Embarcadero Historic District boundaries, consistent with the cultural resources analysis. Cumulative projects within the District include:

Relevant past projects (2000-2009) within the Port of San Francisco Embarcadero Historic District:

- Pier 1 Rehabilitation (2000);
- Pier 14 Breakwater and public access (2001);
- Pier 43 Ferry Arch restoration (2002);
- Bicycle racks throughout the waterfront (2003);
- Downtown Ferry Terminal – Phase 1 (2003);
- Ferry Building Rehabilitation (2003);

- Rehabilitation of Piers 1 ½, 3, and 5 (2006);
- Pier 24 Annex Rehabilitation (2009);
- Pier 40 - Phase II Rehabilitation (SF Redevelopment Agency) (2009);
- Pier 15-17 Exploratorium relocation (Approved 2010);
- Embarcadero pedestrian signage and map program (currently underway);
- Pier 22 ½ Fireboat Station Rehabilitation and Alteration (currently underway).

Future Projects (within the boundary or immediately adjacent to the District):

- Pier 48/Seawall Lot 337;
- Pier 27 Cruise Terminal;
- Piers 19-23 Rehabilitation for mixed use occupancy funded with Port revenue bonds;
- Proposition A Clean And Safe Parks Projects;
- Pier 31-33 Alcatraz Landing Improvements; and
- Downtown Ferry Terminal Project.
- 34<sup>th</sup> America's Cup

The proposed project would add to 57,000 square-foot open space park to The Embarcadero Promenade and would intensify land uses on the project site. Cumulative projects are primarily historic rehabilitation, open space improvement, maritime improvement projects, and facility upgrades to host the 34th America's Cup. The Brannan Street Wharf is recognized a proposed public open space which could support public access and viewing of team bases and vessels for the 34<sup>th</sup> America's Cup; however, these activities would be limited in duration and would not result in conflicts with adopted land use plans, or adversely alter the land use character of the vicinity . Cumulative past, present, and reasonably foreseeable projects would not physically divide an established community, conflict with adopted land use plans, or substantially and adversely alter the land use character of the vicinity. Additionally, all future projects would undergo their own environmental review in order to determine the impact to land use and land use planning. Therefore, the proposed project would not contribute to cumulatively considerable land use impacts and the impact would be **less-than-significant**.

## B. CULTURAL RESOURCES

This section of the EIR assesses potential effects of the project on cultural resources. Cultural resources are defined as prehistoric and historic-period archaeological resources, historic-period buildings, structures, and districts as well as unique paleontological resources, unique geologic features, and human remains. This section describes the cultural and historic setting of the project vicinity and known cultural resources on the project site. Applicable state, federal, and local regulations, an impact analysis and mitigation measures, are also included in this section. Potential effects on historic resources were evaluated in the Initial Stud, which determined that the project would result in a significant adverse impact on four contributing resources within the Port of San Francisco Embarcadero Historic District. Except where noted otherwise, this section of the EIR is based the following supporting documents:

- Draft Section 106 Historic Property Survey Report;<sup>7</sup>
- Historic Resource Evaluation Response (HRER);<sup>8</sup>
- Port of San Francisco Embarcadero Historic District National Register of Historic Places registration form;<sup>9</sup>
- Archaeological Archival records review;<sup>10</sup>
- Archaeological Memorandum.<sup>11</sup>

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<sup>7</sup> Mark Paez, Port Preservation staff, Draft Section 106 Historic Property Survey Report, Brannan Street Wharf Project, January 11, 2010. This document is available for public review as part of Project File No. 2009.0418E at the Planning Department, 1650 Mission Street, Suite 400, San Francisco.

<sup>8</sup> Pilar Lavalley, San Francisco Planning Department, Historic Resource Evaluation Response, Pier 36/Brannan Street Wharf, October 21, 2010 op cit. This document is available for public review as part of Project File No. 2009.0418E at the Planning Department, 1650 Mission Street, Suite 400, San Francisco.

<sup>9</sup> Port of San Francisco Embarcadero Historic District National Register of Historic Places registration form, May 2006, available at [www.sfport.com](http://www.sfport.com)

<sup>10</sup> Jillian Guldenbrein, Northwest Information Center, Records Review Results for the proposed Brannan Street Wharf, February 3, 2010. This document is available for public review as part of Project File No. 2009.0418E at the Planning Department, 1650 Mission Street, Suite 400, San Francisco.

<sup>11</sup> Randall Dean, Archaeologist, San Francisco Planning Department, Memorandum to Chelsea Fordham, Preliminary archaeological evaluation for Brannan Street Wharf. This document is available for public review as part of Project File No. 2009.0418E at the Planning Department, 1650 Mission Street, Suite 400, San Francisco.

## SETTING

### Paleontological Resources

There are no known paleontological resources at the project site. As described more fully in Topic 13, Geology, Soils, and Seismicity in Appendix A (Initial Study), the project site is underlain by artificial fill and young Bay Mud. Fill does not typically contain paleontological resources (fossils), and the young Bay Mud is relatively young in age, and thus less likely to contain rare or important fossilized remains.

### PREHISTORIC SETTING

Based on what is known about the punctuated rise in sea level since the last period of glaciation and the presence of humans within the San Francisco Bay Area from at least within the Middle Holocene period, there is good reason to expect that part of the earliest Bay Area prehistoric archaeological record is currently submerged by Bay and coastal waters. The sea level 6,000 years ago was approximately six to 12 meters (20 to 39 feet) lower than present. At the beginning of the current era (c. 1 A.D.) the sea level was two to four meters (7 to 13 ft) lower than present, indicating that currently submerged sub-bottom soils may represent potential living surfaces dating up to as recent as 2,000 years ago. The land available for human occupation and exploitation 2,000 to 12,000 years ago was vastly more extensive than that of the San Francisco Peninsula today, extending as far west as the Farallon Islands. According to a recent reconstruction of Holocene shorelines around San Francisco based on a geoarchaeological approach<sup>12</sup> the project site was located within the Bay shoreline at some point between 4000 and 7000 BP (Before the Present). Substantial changes to the shoreline have occurred over the last 10,000 years, and only recently was the current shoreline established.

### HISTORIC SETTING

The following summary of the history of the waterfront was prepared in 2006 by Page and Turnbull for the Exploratorium Relocation Project Environmental Impact Report and provides a general overview of the history of the waterfront, which is helpful in understanding the historic context and significance of the Port of San Francisco Embarcadero Historic District.<sup>13</sup>

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<sup>12</sup> Byrd, Kaijankoski, Meyer, & Whitaker. 2009

<sup>13</sup> The Exploratorium Relocation Project Environmental Impact Report, Case File No. 2006.1073E, is available for public review at the City and County of San Francisco Planning Department, 1650 Mission Street, Suite 400.

The 1849 Gold Rush sparked the development of a large-scale port in San Francisco. Until 1863, the City of San Francisco managed the Port, and private interests built the piers and facilities that handled 83 percent of the cargo shipped out of the Pacific coast. In 1863, the State assumed control and created the Board of State Harbor Commissioners (BSHC) to bring consistency to the administration, development, and maintenance of the Port. The BSHC followed a policy of financing Port improvements through Port revenue, which supported incremental development. Permanent development of the Port began in 1878 with the construction of the “new” seawall along the waterfront, which was completed in 1915 and resulted in the gently curving form of the waterfront. The “new” seawall replaced the zig zag pattern “old” seawall which was constructed between 1867 and 1869. By 1868, the Board was politically controlled by the Southern Pacific Railroad (SPRR), which appointed political supporters as harbor employees. In 1910, Hiram Johnson was elected governor of California and set to the task of replacing the SPRR appointees to create a more independent BSHC.

Increased shipping activity and the shift towards larger ships and mechanized cargo handling spurred plans for modernization in 1900. The implementation of these plans began in 1908. The impending opening of the Panama Canal in 1914 added urgency to the improvements program. The BSHC was determined that the Port of San Francisco would benefit from the “explosion assured by the development of trade on the Pacific.” To increase efficiency, an effort was made to organize the location of shipping companies by type of business, with inland service housed in piers next to the Ferry Building and Market Street and coastal, inter-coastal, and foreign service housed in more distant piers. The Panama Canal did increase shipping activity as anticipated, but its effects were curtailed by the beginning of World War I. The war limited commercial use of the Panama Canal and led to decreased shipping activity, as many steamships were drafted for military-type trade.

The first known improvements within the project site were the construction of the adjoining section of the “new” Seawall and two projecting piers constructed in the 1880’s. The northernmost pier was the Oregon Improvement Company Pier (OICP), which transected a portion of the marginal wharf where former Pier 34 stood. The OICP was used for importing lignite coal and, thus, contained coal elevators, bins and chutes for loading and unloading vessels. OCIP vessels serving the wharf included large steam colliers. The existing Pier 36 along with Piers 38 and 40 were under contract for construction or under construction in 1908-09. Pier 36 was the third of the group to be constructed. These three new piers had reinforced concrete components following a post-1906 policy of reconstructing piers with materials more resistant to fire. The San Francisco Belt Railroad served the waterfront Piers from the mainline connections to the south, especially Pier 36, which accommodated freight rail car ferry functions,

allowing cargo to be transported on rail cars loaded on and off ferries that traveled to and from transcontinental rail service located in the east bay. Around 1914, the BSHC began to make provisions for automobile and truck traffic along the waterfront and Embarcadero. New pier aprons were designed to support heavier loads and the Embarcadero was paved with asphalt.

The Port rebounded in the 1920s; Port staff grew and in 1928, over 41 million tons of cargo was processed. San Francisco was unusual as a break-bulk port that handled mostly general cargo. Bulk commodities like grain and oil were not dominant commodities of Port trade.

The 1934 Big Strike, an 83-day Pacific Coast maritime strike over hiring and working conditions, marked a critical labor juncture at the Port. The Big Strike involved 12,000 longshoremen and many other maritime unions, the deployment of the National Guard, and a three-day, 100,000-person general strike in San Francisco and the West Coast. After the Big Strike, President Franklin Roosevelt intervened and appointed an arbitration board that ruled favorably for the longshoremen's unions. The Big Strike contributed to the labor-friendly tone of the National Labor Relations Act of 1935 and, more locally, the revival and extension of unionism in San Francisco and the Pacific Coast.

The 1940s were dominated by wartime activity. Before World War II, more than 50 major steamship companies operated in the Port; during the war, the Port was largely occupied by the military as the largest part of the San Francisco Port of Embarkation. The Port of Embarkation, which included other Bay Area ports as well as San Francisco, was the second largest military port in the U.S. during World War II, eventually moving a total of 1.65 million people and 23.6 million tons of supplies. Shipping activity declined sharply at the Port after the war ended in 1946.

In the post-war period of the 1950s, revenue shortfalls for three consecutive years slowed improvement efforts as other west coast ports—especially Oakland—were modernizing facilities and intensifying competition for Pacific coast shipping. These conditions made it clear that the structure of the BSHC, formed one hundred years earlier, was no longer effective. In 1965, the three-member Board was increased to the five-member San Francisco Port Authority. In 1969, state control over the Port was transferred to the San Francisco Port Commission, a new City agency.

As late as the mid-1960s, nearly 12 percent of San Francisco's workforce, about 23,000 people, had jobs directly or indirectly associated with the Port. The rapid adoption of containerized shipping in the late 1960s doubled the tonnage handled by Bay Area ports. However, the chief beneficiaries were container-friendly ports like Oakland. San Francisco struggled to compete, and many piers were left vacant, demolished or burned down, or reused for other types of maritime business. Tourist attractions such as



Pier 39 were constructed beginning in the late 1970s. The Embarcadero Freeway, built in the 1950s, was torn down after the 1989 Loma Prieta earthquake and replaced by an urban boulevard with streetcars, limited traffic, and a waterside pedestrian promenade. Development along the waterfront has continued to the present and includes a mix of maritime, recreation, commercial, light industrial, storage and other uses. Herb Caen Way (i.e. Embarcadero Promenade) is a public promenade that provides pedestrian and bicycle access along the waterfront.

The contributing resources (the seawall, bulkhead wharf Sections 11a, 11 & 12 as well as Pier 36 within the project site) are discussed below. Much of the following resource description, history and assessment of integrity have been provided by the Port of San Francisco Embarcadero Historic District nomination.<sup>14</sup> This section provides a summary description of each resource that would be affected by the proposed project, its history, character-defining features and an assessment of its integrity.

#### CHARACTER-DEFINING FEATURES AND INTEGRITY

For a property to be eligible for national or state designation to an historical register under criteria related to type, period, or method of construction, the essential physical features (or character-defining features) that enable the property to convey its historic identity must be evident. These distinctive character-defining features are the physical attributes that commonly recur in property types and/or architectural styles. To be eligible, a property must clearly contain enough of those characteristics to be considered a true representative of a particular type, period, or method of construction, and these features must also retain a sufficient degree of integrity. Characteristics can be expressed in terms such as form, proportion, structure, plan, style, or materials.

The character-defining features of Pier 36 and bulkhead wharf Sections 11a, 11 and portions of 12 are discussed below to assist in the assessment the proposed project, including the new construction of the Brannan Street Wharf and “bulkhead wharf like” new decking that will connect to the seawall; and how this would impact the District. Understanding these character-defining features and their significance are also important to the discussion of project alternatives, including the Preservation Alternative, whose purpose is to minimize the impact on the resource and the District overall.

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<sup>14</sup> Port of San Francisco Embarcadero Historic District National Register of Historic Places registration form, May 2006, available at [www.sfport.com](http://www.sfport.com)

## Integrity

The evaluation of integrity for the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) is similar. However, there is a critical distinction between the two registers, and that is the degree of integrity that a property can retain and still be considered eligible for listing. According to the California Office of Historic Preservation:

*It is possible that historical resources may not retain sufficient integrity to meet the criteria for listing in the National Register, but they may still be eligible for listing in the California Register. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register if it maintains the potential to yield significant or historical information or specific data.<sup>15</sup>*

## HISTORIC RESOURCES

### **The Port of San Francisco Embarcadero Historic District**

The project site is located within the Port of San Francisco Embarcadero Historic District, which was listed in National Register of Historic Places in the year 2006.<sup>16</sup> The information provided in this section of the EIR is primarily from the Port of San Francisco Embarcadero Historic District registration form. The District consists of over 20 piers and remnants of piers, a bulkhead wharf in 21 sections, a seawall, the Ferry Building, the Agriculture Building, and a collection of smaller buildings (Figure 9 – Port of San Francisco Embarcadero Historic District Boundary Map). These features are located along a three-mile stretch of San Francisco’s waterfront. Pier 36, the Seawall and Sections 11a, 11 and 12 of the bulkhead wharf are within the project site and are individual contributing resources to the Port of San Francisco Embarcadero Historic District, which was listed in the National Register of Historic Places in 2006 (Figure 1 - Project Location Map, page 8).

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<sup>15</sup> California Office of Historic Preservation, *California Register and National Register: A Comparison* (Technical Assistance Series #6)

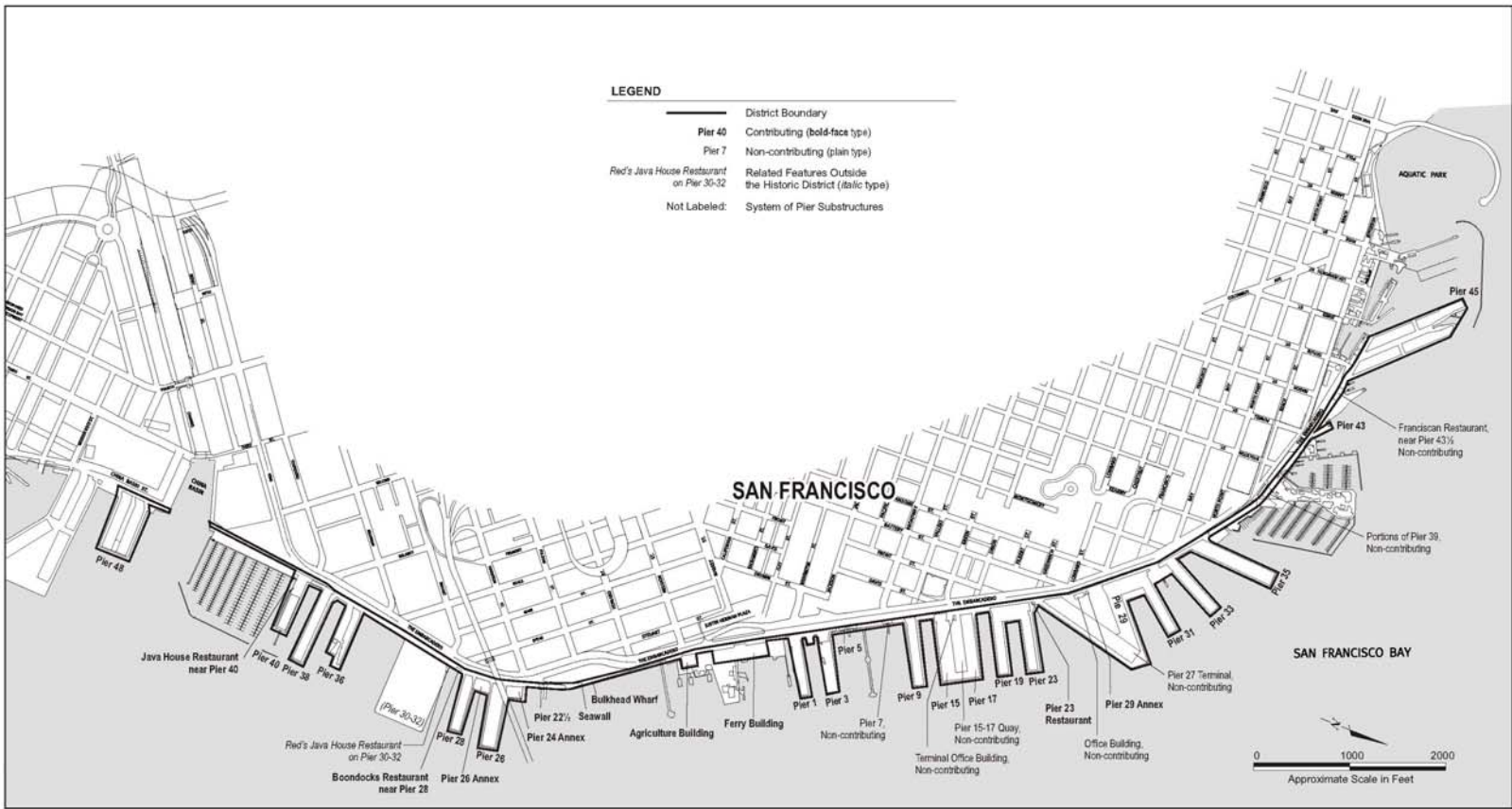
<sup>16</sup> Port of San Francisco Embarcadero Historic District National Register of Historic Places registration form, May 2006, available at [www.sfport.com](http://www.sfport.com)

The nomination documentation prepared for the Port of San Francisco Embarcadero Historic District contains extensive research and analysis not only about the physical development of the Port's historic maritime facilities, but also of the people, technological changes and events that affected Port operations and its governance. The District is listed on the National Register of Historic Places under Criterion A (Event), Criterion B (Person), and under Criterion C (Design/Construction) at the local and national level of significance. Criteria A and C include multiple areas of significance for the District.

The District is also listed on the California Register of Historic Resources because of its significance under Criteria 1 (Events), 2 (Person), and 3 (Architecture) within the areas of significance of government, commerce, transportation, engineering, labor, architecture, and community planning and development. The period of significance is defined as 1878 through 1946, which coincides with the construction of the "new" seawall (hereinafter seawall) to the end of World War II.

Pier 36, the seawall and Sections 11a, 11 and 12 of the bulkhead wharf contribute to the history and significance of the District, and are contributing resources within the District boundaries. Within the South Beach area Piers 28, 38 and 40, and their respective connecting sections of seawall and bulkhead wharf are also contributing resources to the District. Pier 36 is one of a grouping of three piers constructed in 1908, including Piers 38 and 40.

Piers 30-32, to the immediate north of the project site, lacked sufficient integrity to qualify as a contributing resource historic to the District. Construction of an outboard extension in 1926 and the construction of a connecting wharf in the 1950's, which effectively merged Piers 30 and 32 into one large pier complex, as well as a fire that destroyed the pier sheds and bulkhead building in 1984 have compromised the piers ability to convey the period of significance. Although Pier 30-32 is physically connected to the seawall and bulkhead wharf, it is not within the boundary of the District. In addition, by the year 2000 when the preparation of the District nomination began, the former Pier 34 had been condemned for several years and was removed in 2001.



January 2006  
 SKETCH MAP  
 PORT OF SAN FRANCISCO  
 EMBARCADERO HISTORIC DISTRICT

131106 via 128068889 Port of SFsketch map\_n.tif dist.cdr

Figure 9 – Port of San Francisco Embarcadero Historic District Boundary Map

### **Character-defining Features**

The character-defining features of the Port of San Francisco Embarcadero Historic District include the following:

- Three miles of waterfront;
- The Seawall and gently curving form;
- The bulkhead wharf in 21 sections;
- Over 20 piers and remnants of piers representing late 19<sup>th</sup> and early 20<sup>th</sup> century maritime industrial engineering, as well as planning and design that is an expression of the City Beautiful Movement;
- Bulkhead Buildings and ornamental transit shed facades in the “modified Mission,” Neo-classical, and Gothic Revival architectural styles;
- The Iconic Ferry and Agriculture Buildings; and
- A collection of smaller accessory buildings including waterfront cafes and offices.

### **Integrity**

The Port of San Francisco Embarcadero Historic District retains a substantial degree of integrity in all aspects despite numerous losses and changes that have occurred since 1946 when the District’s period of significance ended. Pier 36, the seawall and Sections 11a, 11 and 12 of the bulkhead wharf, retain sufficient integrity to convey their historic significance as contributors to the District. These resources provide a concentration and continuity of contributing resources within the South Beach portion of the District and integrity of location, design, setting, materials, workmanship, feeling and association. Despite having significant loss of resources, the features within the South Beach area (between Piers 28 through 48), as detailed below, were determined by the State Office of Historic Preservation and National Park Service to possess sufficient integrity to be included as contributors to the District. This integrity is due to the remaining contributing resources including the presence of the seawall, bulkhead wharf and remaining pier structures including Piers 36, 38, and 40. Some of the more significant changes to the South Beach area since 1946, which year marks the end of the District’s period of significance include:

- The loss of Pier 24 which burned in the early 1990’s;

- The merge of Piers 30-32 in the 1950's and the loss of their shed structures which burned in 1984;
- The demolition of Pier 34 (located outside the District) in 2001;
- The partial demolition of Pier 40 bulkhead and shed between 1975 and 1983 (however, since the creation of the District, Pier 40 has been rehabilitated consistent with the *Secretary Standards*);
- The demolition of Pier 46 and bulkhead wharf modified in 1997 for the construction of AT&T Ball Park; and
- The demolition Section 13 of the bulkhead wharf as part of the construction of a public promenade between Piers 14 and 22-1/2 Fire Boat House in the 1990's.

### **The Seawall**

The seawall is the foundation upon which the waterfront was constructed and consists of a linear embankment of stone, concrete, and wood (Figure 10 –Bulkhead Wharf and Seawall Location by Section). It was constructed between 1878 and 1915, in 21 sections that join end to end and is integrated with the bulkhead wharf to form a continuous, unifying structure throughout the District. The seawall is recognized as two contributing resources, one north of China Basin and a 500 foot section south of China Basin associated with Pier 48 also a contributing resource. Although these two resources are physically divided by China Basin Channel, the seawall plays such a strong defining role for the District that the section south of China Basin was included in the District as a dis-contiguous resource.<sup>17</sup>

### **Character-Defining Features**

- A three mile long, gently curving, linear embankment engineered of stone, concrete and wood, which defines San Francisco's northern waterfront and which was constructed from 1878 to 1915.
- An attached cantilevered pile from supported bulkhead wharf constructed in 21 sections.
- Over 20 piers and remnants of piers connected to the seawall by the bulkhead wharf.
- Containment of bay fill along the Embarcadero Roadway and seawall lots to the immediate west.
- Surface improvements, including bulkhead buildings, public access via a public promenade,

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<sup>17</sup> Port of San Francisco Embarcadero Historic District National Register of Historic Places registration form, May 2006, available at [www.sfport.com](http://www.sfport.com)

open space areas with landscape and/or hardscape, smaller accessory buildings including cafes and offices, vehicular access and parking areas.

### **Integrity**

The 2003-04 analysis of the seawall in the District nomination determined that the structure maintains a high degree of integrity and remains largely intact. Although the seawall is mostly invisible, it remains intact at most places beneath the Embarcadero. It continues to define the overall form of the waterfront and serves its original function of retaining landfill and acting as an abutment against which piers and wharves were built. According to Port Engineering staff, the seawall has been little altered since it was completed in 1915. Portions were raised in 1932 due to settlement and it has been repaired as needed over the years to maintain its original function.

### **The Bulkhead Wharf**

The bulkhead wharf is a linear structure comprised of numerous separately built structures that for the most part connect end-to-end and are the most visible expression of the underlying seawall to which they are attached. The bulkhead wharf is a linear feature parallel to the shoreline and on top of the seawall. Until about 1912, the bulkhead wharf was built in sections corresponding to the 21 sections of the original seawall. Since then it has been rebuilt in a changing pattern tied more closely to the construction of piers than to the sections of the 1878 – 1915 seawall. The bulkhead wharf covers an area that roughly corresponds to the space between the center of the seawall and the outer toe of the seawall (also referred to as the “waterfront line”), its design and dimensions depend on the design of the seawall below it (Figure 10 – Typical Cross Section through the Seawall and Bulkhead Wharf).

There are as many as six individual segments of bulkhead wharf corresponding to a section of seawall. Within the District, the numbering system for bulkhead wharf segments generally corresponds to the numbering used for the seawall sections, starting from north to south.

Source: Board of State Harbor Commissioners 1924 Biennial Report

**Legend**

- Section B - 1000' between Taylor and Powell Streets - Constructed 1914.
- Section A - 561' between Powell and Stockton Streets - Constructed in two parts in 1914.
- Section 1 - 1000' between Stockton and Kearny Streets - Constructed in two parts in 1913-14 & 1914-15.
- Section 2 - 1000' between North Point and Francisco Streets - Constructed in two parts in 1914-16 & 1917-19.
- Section 3 - 1000' between Francisco and Lombard Streets - Constructed in three parts in 1915-16, 1917-18 & 1918-19.
- Section 4 - 1000' between Lombard and Union Streets - Constructed in two parts in 1920 and 1921-22.
- Section 5 - 1000' between Union and Vallejo Streets - Constructed in four parts in 1912-13, 1914-15, 1921-22 & 1930-31.
- Section 6 - 800' between Vallejo and Pacific Streets - Constructed in three parts in 1916-17, 1917 & 1920.
- Section 7 - 980' between Pacific and Clay Streets - Constructed in six parts in 1894-95, 1909, 1916, 1920, 1921-22 & 1929-30.
- Section 8a - 392' between Clay and Market Streets - Constructed 1894-95.

- Section 8b - 450' between Market and Mission Streets - Constructed 1915.
- Section 8 - 300' between Mission and point north of Howard Streets - Constructed 1915.
- Section 9a - 990' south of Mission to Folsom Street - Constructed 1913 and demolished in 1975 and 1983.
- Section 9b - 788' between Folsom and Harrison Streets - Constructed 1913, all but 60' was demolished in 1983.
- Section 9 - 990' south of Mission to Folsom Street - Constructed in two parts in 1909-10.
- Section 10 - 537' north of Beale to Main Street - Constructed 1910-11.
- Section 11a - 281' south of Main to Beale Street - Constructed 1912-14.
- Section 11 - 353' north of Beale to Fremont Street - Constructed 1909-10.
- Section 12 - 1167' between Fremont and King Streets - Constructed in two parts in 1909.
- Section 13 - 600' between King and Berry Streets - Constructed in two parts in 1917-18 & 1935-36.
- Pier 46 Section - 236' between Berry Street and China Basin Channel - Constructed in 1914.
- Pier 48 Section - 500' north side of Pier 50 to China Basin Channel - Constructed 1928-29.

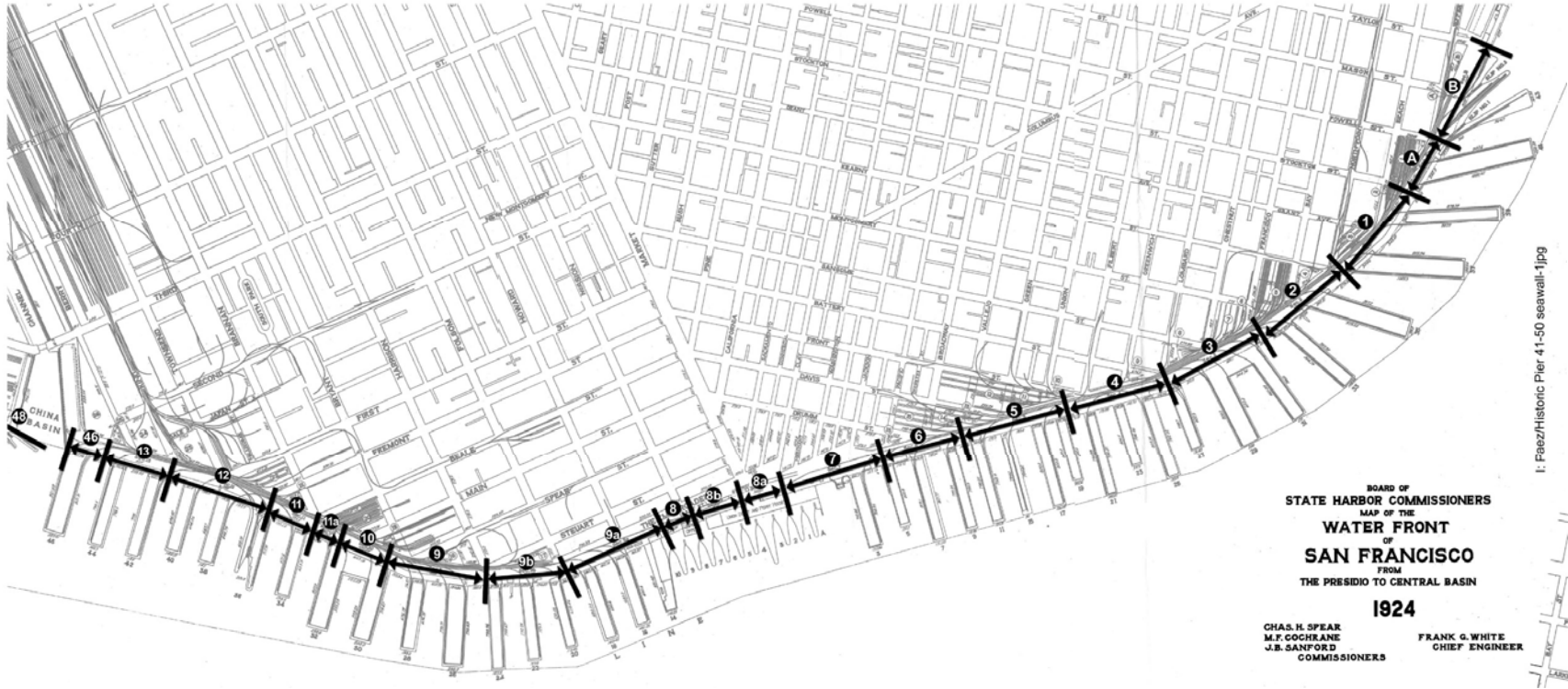


Figure 10 – Typical Cross Section through the Seawall and Bulkhead Wharf



Each wharf section has an asphalt surface. Most sections are furnished with mooring bitts — shown on the original plans and installed when the wharves were built — for the berthing of vessels. In some places, buildings were built on these wharves. Bulkhead wharf Sections 11a, 11 and 12 are located within the project site and a portion of Section 12 supports the Pier 38 bulkhead building.

### **Bulkhead Wharf Sections 11a, 11 and 12**

Section 11a of the bulkhead wharf, between the foot of Brannan Street and the south side of Pier 32, stretches 281 feet along the Embarcadero and was built in 1912-1914 together with Piers 30-32. Section 11a is constructed of reinforced concrete construction with piles and decks of reinforced concrete and paved surfaces of asphalt. Built in part for access to Pier 32, Section 11a has never been improved with a bulkhead building or other structure.

Section 11 of the bulkhead wharf is 25 feet in width and stretches, from the foot of Brannan Street to the north side of Pier 36, 353 feet along the Embarcadero and was built in 1909-1910. It is constructed of reinforced concrete with piles of reinforced concrete and wood encased in reinforced concrete, decks of concrete and steel, and paving of asphalt. Section 11 of the bulkhead wharf was built for the former Pier 34.

Section 12 of the bulkhead wharf is 24 feet in width and stretches from the north side of Pier 36 to King Street, 1,167 feet along the Embarcadero, and consists of two segments each completed in 1909. The two segments are of similar design and constructed of steel and reinforced concrete, with piles of both reinforced concrete and wood encased in reinforced concrete, decks of concrete and steel, and surfaces paved in asphalt. The north segment was built for Piers 36 and 38; the south segment was built for Pier 40.

### **Character-Defining Features**

The character-defining features of the bulkhead wharf include:

- Location – Arranged parallel to the seawall projecting outward forming the bay edge.
- Dimensions – Variable width, length and elevation. The dimensions of the bulkhead wharf generally correspond to the dimensions of the underlying section of the seawall to which it is attached.
- Design – A cantilevered pile supported deck which extends outward into the bay from the

top of the seawall. Portions of the bulkhead wharf act as the foundation for bulkhead or other buildings or provide open air access to and in between pier facilities, berthed vessels, railroad spurs and the Embarcadero.

- Materials – Generally concrete and steel construction with decking and an asphalt surface treatment.
- Function – Industrial maritime use, public access, commercial/recreation uses, connects piers to the seawall.

### **Integrity**

The bulkhead, like the seawall and Pier 36, contributes to the District and maintains a high level of integrity. Bulkhead wharf Sections 11a, 11 and the northern portion of 12 are largely unchanged from the period of significance with the exception of the removal of Belt Railroad tracks and periodic replacement of the asphalt paving. However, in 2006, Section 11a, 11 and the northern portion of 12 were closed and “red tagged” due to unsafe conditions resulting from deterioration and the loss of structural integrity. Condition is not considered in the evaluation of integrity.

In addition to evaluating the integrity of the individual sections of wharf impacted by the project, it is also necessary to evaluate the integrity of the bulkhead wharf in its totality as a system of linking structures. The depth of some segments of the bulkhead wharf have been greatly increased in recent decades by the construction of connecting wharves or extensions. In such cases, the original structure still exists, but its original dimensions are no longer discernable due to enlargement. One example is the connecting wharf between Pier 15 and Pier 17, where all of the space between the piers was filled in 1956. The space between Pier 27 and Pier 29 was also filled, obscuring the outline of the bulkhead wharf, in 1967. The connecting wharf between Pier 31 and Pier 33 was increased in depth to about 160 feet at an unknown date. The wharf north of Pier 35 was widened in 1962.

In addition, other areas of the bulkhead wharf have been altered in character and function by surface changes to accommodate public access, open space, and recreational uses, such as between Pier 41 and Pier 35 in the Fisherman’s Wharf area, in front of the new Pier 7, and from Pier 40 to China Basin adjacent to South Beach Marina.

While the parts of the bulkhead wharf were built over the course of a 35 year period, under many different configurations (i.e., with a pier, without a pier, within a seawall section), and many different designs, they were tied together end to end and form a conceptually unified feature. However, of the 21 extant sections of the wharf, six lack integrity and are non-contributing resources within the District:

- **Fisherman’s Wharf Area** - Sections A, B, 1 and Pier 43-1/2 Section
- **South Beach Area** – Section 13 and Pier 46 Section

Despite the lack of sufficient integrity to qualify as contributors to the District, these sections of the bulkhead wharf are located within the District and provide a continuous unifying system of structures that shape the waterfront and express the form and location of the Seawall. Sections 9a and 9 were removed as part of promenade improvements, and as a result of damage caused by the loss of Pier 24 in the early 1990’s to fire.

### **Pier 36**

Pier 36 is the third in a group of three piers (including Pier 38 and Pier 40) built of reinforced concrete in 1908-1909 — all originally without bulkhead buildings or ornamental pier fronts. Construction of this group marked the beginning of the modern reconstruction of the Port using concrete rather than timber. The substructure and transit shed of Pier 36 constitute the third oldest pier on the waterfront and an early example of reinforced concrete construction by the Board of State Harbor Commissioners (BSHC). The pier’s original purpose was as a freight rail car ferry facility for Western Pacific and State Belt Railroad cars. To serve in this capacity, the pier was built with a wooden ferry slip at its east (outboard) end. Pier 36, together with Pier 43, is important to the District because it represents the presence of freight rail car ferries at the Port. In 1917 the Pier 36 transit shed was extended westward to the edge of the bulkhead wharf and offices were built within this shed extension in 1933. Pier 36 and 17 are the remaining two piers on the Embarcadero built without a bulkhead building or ornamental façade treatment. Historically, Pier 36 supported three distinct maritime uses: shipping; Belt Railroad freight car ferry transportation; and ship repair. Beginning in 1910, the pier accommodated freight shipping on the north apron and railroad operations on the south apron. Ship repair operations were the last maritime use of the pier, ending in 1990. In 2006, the Delancey Street Foundation relocated its interim storage use due to the Port condemnation of the facility.

### **Character-Defining Features**

The character-defining features of Pier 36 include:

- Maritime industrial design, including building profile, roof configuration, pile supported pier deck rectangular in dimension with perpendicular orientation to the seawall and bulkhead wharf;
- Exterior facades of pier shed, including architectural composition, massing, materials, finish,

- molding ornamentation, scored stucco and neon identification sign;
- Transit shed of concrete walls (north, east, and south façades), including architectural composition, materials, and finishes punctuated with metal sash and wood windows and roll-up cargo doors ;
- Transit shed steel structural system, including open truss configuration;
- Expression of historic rail functions including the extra wide south apron with railroad spur and opening in the pier shed that accommodated rail access through the building.

### **Integrity**

Although Pier 36 is a contributing resource to the District, substantial parts of the resource have been lost, including the outboard wooden portion of the pier and transit shed and the hoisting tower. Nonetheless, analysis of integrity in the District nomination concluded that the pier was sufficiently intact to qualify as a contributing resource. Despite the loss of the outboard portions of this resource, the remaining historic materials are mostly intact, and the only substantial change since the period of significance is the replacement of the unornamented stucco facade with plywood. In 2006, Pier 36 was vacated and condemned by Port Engineers because of safety concerns resulting from the determination that the north apron and bulkhead wharf Sections 11 and a portion of Section 12, which provide access to the pier, lack structural integrity.

For purposes of the analysis of historic resources in this section of the document, the listing of the Port of San Francisco Embarcadero Historic District in the National Register in 2006 and CRHR supersedes all previous historic resource determinations for the resources within the boundaries of the District and therefore the earlier determinations and evaluation are not discussed.

## **REGULATORY SETTING**

### **FEDERAL REGULATIONS**

Federal regulations for cultural resources are primarily governed by Section 106 of the National Historic Preservation Act of 1966 (NHPA) as amended, which applies to actions taken by federal agencies. The goal of the Section 106 review process is to offer a measure of protection to sites that are listed on or determined eligible for listing on the National Register of Historic Places (NRHP). The criteria for determining NRHP eligibility are found in 36 Code of Federal Regulations (CFR), Part 60. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and affords the federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic

Properties,” are found in 36 CFR Part 800. The NRHP criteria (contained in 36 CFR 60.4) are used to evaluate resources when complying with Section 106. Those criteria state that eligible resources comprise districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

- a) are associated with events that have made a significant contribution to the broad patterns of our history (Criterion A); or
- b) are associated with the lives of persons significant in our past (Criterion B); or
- c) embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction (Criterion C); or
- d) have yielded or may be likely to yield, information important to history or prehistory(Criterion D).

Archaeological site evaluation includes an assessment of the potential of each site to meet one or more of the criteria for NRHP eligibility based upon visual surface and subsurface evidence (if available) at each site location, information gathered during the literature and records searches, and the researcher’s knowledge of and familiarity with the historic or prehistoric context associated with each site.

Because the U.S. Army Corps of Engineers will have the responsibility for implementation of the removal of Pier 36, the project is a federal undertaking and subject to Section 106 review and consultation with the State Historic Preservation Officer and interested parties pursuant to the National Historic Preservation Act of 1966, and subsequent amendments, to address the project’s effect’s on historical resources.

### **Secretary of the Interior’s Standards for the Treatment of Historic Properties**

The *Secretary of the Interior’s Standards for the Treatment of Historic Properties* (the Secretary’s Standards) are the criteria by which federal agencies and many local government bodies evaluate rehabilitative work on historic properties. The Secretary’s Standards are a useful analytic tool for understanding and describing the potential impacts of substantial changes to historic resources. Compliance with the Secretary’s Standards does not determine whether a project would cause a substantial adverse change to the significance of an historic resource. Rather, projects that comply with the Secretary’s Standards benefit from a regulatory presumption that they would have a less-than-significant adverse impact on an historical resource. Projects that do not comply with the Secretary’s Standards may or may not cause a substantial adverse change to the significance of an historical resource.

## STATE REGULATIONS

Under CEQA, public agencies must consider the effects of their actions on both “historical resources” and “unique archaeological resources.” Pursuant to Public Resources Code section 21084.1, a “project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.” Section 21083.2 requires agencies to determine whether proposed projects would have effects on “unique archaeological resources.”

“Historical resource” is a term with a defined statutory meaning. (See Public Resources Code, Section 21084.1 and CEQA Guidelines, Section 15064.5, subdivisions (a) and (b).) The term embraces any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be “historical resources” for purposes of CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code, Section 5024.1 and California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project’s impacts to historical resources (Public Resources Code, Section 21084.1 and *CEQA Guidelines*, Section 15064.5, subdivision (a) (3)). In general, an historical resource, under this approach, is defined as any object, building, structure, site, area, place, record, or manuscript that:

- a) Is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and
- b) Meets any of the following criteria:
  - 1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage (Criteria 1);

- 2) Is associated with the lives of persons important in our past (Criteria 2);
- 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values (Criteria 3); or
- 4) Has yielded, or may be likely to yield, information important in prehistory or history (Criteria 4).<sup>18</sup>

Archaeological resources can sometimes qualify as “historical resources.”<sup>19</sup> In addition, Public Resources Code 5024 requires consultation with the Office of Historic Preservation when a project may impact historical resources located on State-owned land.

For historic structures, *CEQA Guidelines* Section 15064.5, subdivision (b) (3), indicates that a project that follows the *Secretary of the Interior Standards (Secretary Standards)* is considered to have mitigated any impacts to historic resources to a less than significant level.

Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource’s physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects would impact “unique archaeological resources.” Public Resources Code Section 21083.2, subdivision (g), states that “‘unique archaeological resource’ means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

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<sup>18</sup> *CEQA Guidelines*, Section 15064.5 (a) (3)

<sup>19</sup> *CEQA Guidelines*, Section 15064.5 subdivision (c) (1).

Treatment options under Section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a “unique archaeological resource”).

CEQA Guidelines Section 15064.5, subdivision (e), requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as timely identified by the NAHC. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

## **LOCAL REGULATIONS**

### **City and County of San Francisco Planning Department CEQA Review Procedures for Historic Resources**

San Francisco Preservation Bulletin No. 16 provides guidance for the CEQA review process for historic resources.

As a certified local government under the NHPA, and the lead agency in CEQA determinations, the City and County of San Francisco has instituted guidelines and a system for initiating CEQA review of historic resources. The San Francisco Planning Department’s “CEQA Review Procedures for Historical Resources” incorporates the State’s CEQA Guidelines into the City’s existing regulatory framework. To facilitate the review process, the Planning Department has established categories to determine the significance of historic properties based on their inclusion within cultural resource surveys and/or historic districts. These categories include Category A.1 (Resources listed on or formally determined to be eligible for the California Register of Historical Resources), Category A.2 (Adopted local registers, and properties that have been determined to appear or may become eligible, for the California Register of Historical Resources), Category B (Properties requiring further consultation and review), Category C (Properties determined not to be historical resources or properties for which the City has no information indicating that the property is an historical resource).

Pier 36, the seawall and Sections 11a, 11 and 12 of the bulkhead wharf are classified in Category A.1 – Resources listed on or formally determined to be eligible for the California Register of Historical



Resources (CRHR). Category A.1 resources would be evaluated as historical resources for purposes of CEQA. Only the removal of the property's status as listed in or determined to be eligible for listing in the CRHR by the California Historic Resources Commission will preclude evaluation of the property as an historical resource under CEQA. As mentioned previously, Pier 36 and Sections 11a, 11 and 12 of the seawall and bulkhead wharf are contributing resources to a National Register of Historic Places (NRHP) historic district, and are automatically listed on the CRHR.

## IMPACTS

### SIGNIFICANCE CRITERIA

The proposed Project would result in significant adverse cultural resource impacts if it would:

- Cause a substantial adverse change in the significance of a historic resource as defined in CEQA Guidelines Section 15064.5, including those resources listed in Article 10 or Article 11 of the *San Francisco Planning Code*; or
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

The proposed project would not result in an adverse impact on paleontological resources because there are no known paleontological resources at the project site, and because the site soils are unlikely to contain rare or important fossil resources (please see discussion on page 37, above). Because of this, paleontological resources are not discussed further.

### METHODOLOGY

The impact analysis for historic architectural resources is based primarily on the findings and recommendations of the Section 106 report prepared by the Port of San Francisco preservation staff, the HRE Response (HRER) prepared by the Planning Department staff, an archival review conducted by the Northwest Information Center at Sonoma State University, and the Preliminary Archaeology Memorandum prepared by Planning Department staff. The impact analysis and mitigation measures are informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural and archaeological resources.

## IMPACT EVALUATION

### HISTORICAL ARCHITECTURAL RESOURCES

**Impact CP-1: The proposed project would significantly alter or demolish four contributing resources of the Port of San Francisco Embarcadero Historic District. (Significant and Unavoidable with Mitigation)**

#### Demolition

Resource	Proposed Action
Pier 36	Demolition
Bulkhead Wharf Section 11a	Partial Demolition (the northern 178 feet of the 281 foot section of wharf)
Bulkhead Wharf Section 11	Demolition of the entire 353 foot section of wharf
Bulkhead Wharf Section 12	Partial Demolition (the southern 337 feet of the 1167 foot section of wharf)

Additionally, the seawall would be repaired to maintain its physical integrity and function, as well as altered to accommodate the new wharf structure. Repairs would include sealing cracks and patching spalls. However, these effects would be minor, limited in scope and would not effect the seawall's character-defining features including, the linear embankment engineered of stone, concrete, and wood, and the containment of bay fill. Minor repairs of the seawall would not diminish the significance of the seawall, and therefore would not result in a significant impact.

Demolition of Pier 36 and portions of the bulkhead wharf would result in the physical destruction, damage or alteration such that the significance of these historical resources would be materially impaired. **Mitigation Measures M-CP-1a**, would require archival documentation of the impacted resources prior to demolition, although this would not mitigate the impact to a less than significant level. The documentation would create a permanent record of the physical characteristics of each resource consistent with Historic American Building Survey/Historic American Engineering Record (HABS/HAER) standards. In addition, **Mitigation Measure M-CP-1b** requires the Port to provide notice to recognized San Francisco historic preservation organizations of additional salvage opportunities, other than the historic neon identification sign and the historic rail spur that will be incorporated into the design of the Brannan Street Wharf. Nevertheless, the alteration and demolition of the four contributing resources

to the Port of San Francisco Embarcadero Historic District would result in a substantial adverse change to the resources as identified above, and this would result in a **significant and unavoidable impact**.

#### MITIGATION MEASURES

##### **Mitigation Measures M-CP-1a: HABS/HAER Archival Documentation of Pier 36 and Sections 11a, 11 and 12 of the Bulkhead Wharf.**

The project sponsor shall, at a minimum, ensure that a complete survey meeting the standards of the HABS/HAER is undertaken prior to demolition. This survey shall be completed in accordance with HABS/HAER level II documentation standards as follows:

- Prior to demolition, the project sponsor shall provide adequate archival quality documentation of the existing resources. The documentation shall be submitted to the City and County of San Francisco Planning Department and found to be adequate prior to authorization of any permit that may be required for demolition of the resources. In addition, the project sponsor shall prepare and transmit the archival documentation to the History Room of the San Francisco Public Library and the NWIC of the California Historic Information Resource System. The documentation shall include:
  - A video documentary of the resources.
  - Photo-documentation of the resources to HABS/HAER standards. The standard size of negatives and transparencies (and accompanying prints) are 5-by-7 inches. Other large-format sizes such as 4-by-5 inches and 8-by-10 inches are also acceptable for formal documentation. Roll film, film packs, and electronic manipulation of images are not acceptable. Images must be fully identified with the name and location of the structure, a description of the feature or view being photographed, and the direction in which the photograph was taken, as well as the name of the photographer and the date created.
  - Black and white, 35 millimeter photographs of the interior (Pier 36 shed) and exterior of the resources. Negatives and 5-by-7 inch prints should be processed to meet archival requirements (i.e., negatives must be on safety film only; resin-coated paper is not accepted).
  - As-built drawings of the resources, produced to HABS/HAER Standards.
  - The available original plans of the resources shall be included as part of the documentation. All drawings and site plans shall be appropriately conserved at the site or at a qualified repository.

##### **M-CP-1b: Salvaged Materials.**

Prior to demolition of Pier 36, the project sponsor shall consult with the San Francisco Planning Department to determine whether there are character-defining elements, other than the historic neon identification sign and the historic rail spur that will be incorporated into the design of the Brannan Street Wharf, that are of interest and that can feasibly be salvaged. The project sponsor shall notify local recognized historic preservation

organizations such as San Francisco Architectural Heritage and the San Francisco Museum and Historical Society of the opportunity for salvage of additional elements of the resource. Donation of the materials to the historic preservation organization approved by the City shall be confirmed by the Environmental Review Officer (ERO) prior to the Port's issuance of demolition permits.

**Impact CP-2: The proposed Brannan Street Wharf would cause a substantial adverse change to the Port of San Francisco Embarcadero Historic District. (Significant and Unavoidable with Mitigation)**

The proposed project would construct the Brannan Street Wharf, a wedge-shaped park, along the east side of the Embarcadero Promenade in place of the existing Pier 36 and bulkhead wharf. The proposed Brannan Street Wharf would have a simple contemporary landscape design and would be constructed of durable materials that would be compatible with the maritime industrial character of the Port of San Francisco District. Additionally, the proposed design would incorporate elements that are compatible with the District, including a new cantilevered pile-supported deck structure, attachment to the seawall, and projection out over the bay. However, the proposed wedge shape and orientation of the wharf park is a departure from the rectangular shape and perpendicular orientation of contributing resources of the District. The Brannan Street Wharf would obscure a large section of the seawall and bulkhead wharf, which form a continuous structure that unifies the diverse District, and would significantly alter the relationship of these features with the waterline and bay. As noted in the National Register nomination, the Port is experienced both from the land and the water as a single district, largely because of the unifying presence of the curving line of the seawall.<sup>20</sup> The design appears to be inconsistent with the character of the Port of San Francisco Embarcadero Historic District and would obscure the seawall, an important feature that unifies the District.

**Mitigation Measure M-CP-1b and M-CP-2** requires that several interpretive elements, such as remnants of the historic rail spur, the salvage and incorporation of the Pier 36 neon identification sign, and an interpretive exhibit are incorporated into the design of the Brannan Street Wharf. These elements, along with the simple, industrial character of the proposed landscape design, partially mitigate the impacts of the proposed project, although this would not mitigate the impact to a less than significant level. Nevertheless, the inconsistent design of the Brannan Street Wharf with the Port of San Francisco Embarcadero Historic District would result in a **significant and unavoidable impact**.

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<sup>20</sup> Port of San Francisco Embarcadero Historic District National Register of Historic Places registration form, Ibid

## MITIGATION MEASURES

### **M-CP-2: Interpretative Exhibits.**

The inclusion of an interpretive historical exhibit as part of the proposed landscape design of the proposed Brannan Street Wharf would partially mitigate the impact of the project on historical resources. The exhibit would consist of historical images including maps and photographs as well as narrative text to explain and summarize the historical significance of the waterfront and significant maritime related events that occurred in the South Beach area, including, among other things, the construction and operation of Pier 36 and the Belt Railroad. The exhibit would serve as a valuable educational tool and raise the public's awareness and understanding of the Port of San Francisco Embarcadero Historic District.

## ARCHAEOLOGICAL RESOURCES

### **Impact CP-3: The proposed project would potentially damage or disturb unknown subsurface archaeological resources. (Less than Significant with Mitigation)**

The project would involve subsurface construction and pile driving that may have the potential to damage or disturb unknown subsurface archaeological deposits beneath the piers. No Native American or historic-period archaeological sites have been recorded in the project site; however, construction of projects on the waterfront have encountered cultural resources, therefore it is possible that unrecorded subsurface cultural resources exist.

### **Pile Driving**

The proposed construction of the new 57,000 square-foot reinforced concrete Brannan Street Wharf and 2,400 sq. ft small craft float would be supported by 269 precast concrete piles. The deck would consist of a mixture of precast and cast-in-place concrete components topped by a cast-in-place architectural finish slab. The approximately 269 precast concrete supporting piles would be 24-inches in diameter and octagonal shaped, and would be driven to depths of 60 feet below the bay floor. The wharf structure would cantilever over the existing seawall and interface with the existing Embarcadero promenade. The proposed demolition of Pier 36 will also rock approximately 420 42-inch diameter caissons until cohesive forces of surrounding sediment are released and crane can easily remove the entire caisson. Additionally, at the east end of Pier 36, an approximately 47,000-square-foot timber wharf extension that was used for

freight rail ferry operations has partially collapsed into the bay. The remaining accessible wood deck and piles would be removed below the bay floor mudline using the same method of rocking the piles, then pulling the entire caisson free. The proposed project would also require repair of the adjoining section of the Seawall, specifically, sealing cracks and patching spalls.

The new proposed piles may be driven into undisturbed sediments, which may contain intact archaeological deposits. If encountered during construction, archaeological resources could be damaged or destroyed. This could result in a potentially significant impact. Implementation of **Mitigation Measure M-CP-3** would require evaluation and treatment procedures for any encountered archaeological resources on the project site by a qualified archaeologist in consultation with the Environmental Review Officer (ERO). Implementation of **Mitigation Measure M-CP-3** would reduce the impact to a **less-than-significant level**.

#### MITIGATION MEASURES

##### **M-CP-3: Accidental Discovery**

Based on the reasonable potential that archaeological resources may be present within the project site, the following Mitigation Measures shall be undertaken to avoid any potentially significant adverse effect from the Project on buried or submerged historical resources. The Project Sponsor shall distribute the Planning Department archaeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc. firms); or utilities firm involved in soils disturbing activities within the project site. Prior to any soils disturbing activities being undertaken each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel including, machine operators, field crew, pile drivers, supervisory personnel, etc. The Project Sponsor shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor(s), and utilities firm) to the ERO confirming that all field personnel have received copies of the Alert Sheet.

Should any indication of an archaeological resource be encountered during any soils disturbing activity of the project, the project Head Foreman and/or Project Sponsor shall immediately notify the ERO and shall immediately suspend any soils disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.

If the ERO determines that an archaeological resource may be present within the project site, the Project Sponsor shall retain the services of a qualified archaeological consultant. The archaeological consultant

shall advise the ERO as to whether the discovery is an archaeological resource, retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archaeological resource is present, the archaeological consultant shall identify and evaluate the archaeological resource. The archaeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the Project Sponsor.

Measures might include: preservation in situ of the archaeological resource; an archaeological monitoring program; or an archaeological testing program. If an archaeological monitoring program or archaeological testing program is required, it shall be consistent with the Major Environmental Analysis (MEA) division guidelines for such programs. The ERO may also require that the Project Sponsor immediately implement a site security program if the archaeological resource is at risk from vandalism, looting, or other damaging actions.

The project archaeological consultant shall submit a Final Archaeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archaeological resource and describing the archaeological and historical research methods employed in the archaeological monitoring/data recovery program(s) undertaken. Information that may put at risk any archaeological resource shall be provided in a separate removable insert within the final report.

Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive three copies of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.

## CUMULATIVE IMPACTS

**Impact CP-4: The project, in combination with other foreseeable development, would not result in potentially significant cumulative impacts to historic architectural resources. (Less than Significant)**

A cumulative impact is defined as the combined effects of the proposed project and other past, present, and reasonably foreseeable projects within a defined geographic area of impact, in this case the Port of San Francisco Embarcadero Historic District. Over the course of the approximately ten years that have elapsed since the District was determined eligible for listing in the National Register of Historic Places by the California Office of Historic Preservation and the National Park Service, the waterfront has continued to evolve and adapt to meet contemporary needs. After the removal of The Embarcadero Freeway in 1989 and the construction of The Embarcadero Promenade and Herb Caen Way, San Francisco's waterfront has become more of a public amenity that is balanced against the area's original industrial and transportation uses.

To accommodate the change in uses to the waterfront and balance the needs of public and private enterprises, the Port of San Francisco has undertaken a series of projects to allow for additional maritime, open space, and public accessibility. In addition to Port sponsored projects, a series of public-private partnerships have resulted in the rehabilitation of contributing resources within the District to accommodate new mixed-use developments.

The following projects were completed within the District since its eligibility for the National Register. These projects were determined to comply with the *Secretary of the Interior Standards (Secretary Standards)*.

- Pier 1 Rehabilitation (2000);
- Pier 14 construction of a new breakwater and public access pier (2001);
- Pier 43 Ferry Arch restoration (2002);
- Installation of bicycle racks throughout the waterfront (2003);
- Downtown Ferry Terminal – Phase 1 (2003);
- Ferry Building Rehabilitation (2003);
- Rehabilitation of Piers 1 ½, 3, and 5 (2006);



- Pier 24 Annex Rehabilitation (2009);
- Pier 40 - Phase II Rehabilitation (SF Redevelopment Agency) (2009);
- Pier 15-17 Rehabilitation to accommodate Exploratorium relocation (Approved 2010);
- Embarcadero pedestrian signage and map program (currently underway),
- Pier 22 ½ Fireboat House substructure seismic upgrade (currently underway).

Future Projects (within the boundary or immediately adjacent to the District) include:

- Pier 48/Seawall Lot 337
  - Seawall Lot 337: The Port of San Francisco has selected a development team, and is in negotiations to secure exclusive negotiation rights for the sites. There is no current development proposed for the site and Seawall Lot 337 is not within the boundaries of the District, but is located directly adjacent.
  - Pier 48: Rehabilitation of Pier 48 is a possible component of the development of Seawall Lot 337. If Pier 48 is a component of the project, the terms under the development agreement and the RFQ are to have Pier 48 rehabilitated consistent with the *Secretary Standards*. Pier 48 is located within the District and is a contributor to the Port of San Francisco Embarcadero Historic District.
- Pier 27 Cruise Terminal – The San Francisco Port Commission has proposed development of the James R. Herman Cruise Terminal at Pier 27, and construction of a 2-acre northeast wharf public plaza at the west end of Pier 27, along the Embarcadero promenade. Pier 27 is a non-contributing resource included within the boundaries of the District. Pier 27 is also proposed as part of the 34<sup>th</sup> America’s Cup Village, a main facility to provide hospitality, public events and spectator viewing for the races. The 34<sup>th</sup> America’s Cup Race and the Pier 27 Cruise Terminal will be evaluated under a separate environmental review process.
- Piers 19-23 Rehabilitation for mixed-use occupancy funded with Port revenue bonds - Under the policy requirements of the Port revenue bonds, the rehabilitation improvements would be required to comply with *Secretary Standards*. Piers 19-23 are contributors to the District.

- Proposition A Clean And Safe Parks Projects – Waterfront open space improvements to Port property are planned including the Pier 43 Bay Trail Promenade, which is located adjacent to the District. The Prop A Open Space Negative Declaration found that the proposed projects would not adversely affect historic resources (Planning Department Case # No. 2008.0680E ).
- Pier 31-33 Alcatraz Landing Improvements - The proposed project would result in a number of improvements and alterations to existing facilities to support the existing ferry service under a contract with the National Park Service to Alcatraz Island National Park. Two phases of improvements are proposed: 1) initial phase of passenger improvements to provide signage, central visitor canopy area with interpretative displays, benches, trash and recycling receptacles, and repair of existing floating berth for vessel berthing; and 2) long term improvements within the Pier 33 shed to install glazing and demising walls around the portion of the shed to provide a ticketing office, retail sales and information, and a covered awning over passenger queuing area extending onto the Pier 31-1/2 deck. Piers 31 -33 and associated wharfs are located within the District, and are contributors to the District.
- Downtown Ferry Terminal Project – The Water Emergency Transportation Authority (WETA) is studying plans for development of Downtown Ferry Terminal Phase II. The 2nd phase of the Downtown Ferry Terminal was conceived to provide for additional ferry gates next to Gate E, to the south of Ferry Building. WETA has been considering a possible ferry berth off Pier 1/2, immediately north of Ferry Building. The location of the project is primarily in the waterside area east of the Agriculture Building, which is outside the District, but is located directly adjacent to the District.
- 34th America's Cup – On December 31, 2010, San Francisco was selected as the host city for the 34<sup>th</sup> America's Cup International Sailing Races. Mayor Gavin Newsom and the San Francisco Board of Supervisors approved the America's Cup Host City Agreement and Venue Agreement that sets the framework for the improvements to be constructed to support the race events and ancillary activities which would occur in San Francisco. The City is currently working with the America's Cup Event Authority and the America's Cup Organizing Committee to develop details of the type of improvements proposed for the various facilities identified in the Host City Agreement, which includes: Piers 19-29, Pier 26, Pier 28, Pier 30-32, and Pier 80. The proposed race course would be run between

the Golden Gate Bridge and the Bay Bridge. The America's Cup Race Events and the facility upgrades approved under the Host City Agreement will be evaluated under a separate environmental review process and reviewed for consistency with the *Secretary of the Interior Standards* and potential impacts to historic architectural resources.

The creation of the District included the Port Commission's adoption of the *Secretary of the Interior Standards* (*Secretary Standards*) which requires, by Port policy, that all Port (public) and private projects within the District be evaluated for consistency with the *Secretary's Standards*. The result of the Port's stewardship and the implementation of this policy over the course of the last 10 year period is that large and small projects within the District have met the *Secretary Standards*. Additionally, four of the past projects discussed above (Pier 1, Ferry Building, Piers 1-1/2, 3 & 5, as well as Piers 15 & 17) utilized Federal Rehabilitation Tax Credits and were found to be consistent with the *Secretary Standards* by the California Office of Historic Preservation (OHP) and the National Park Service (NPS). Future projects will be evaluated for compliance with *Secretary Standards*, and will undergo their own environmental review

Review of past, present, and probable future projects indicates that a significant cumulative impact to the Port of San Francisco Embarcadero Historic District does not exist because past projects complied with *Secretary Standards*. Therefore, the proposed Pier 36/ Brannan Street Wharf would not contribute to a cumulative impact and this impact would be **less than significant**.

## C. AIR QUALITY

### SETTINGS

The purpose of the *Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines* is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin. The Guidelines provide procedures for evaluating potential air quality impacts during the environmental review process consistent with CEQA requirements. Using the 1999 *BAAQMD CEQA Guidelines*, which were in effect at the time of its publication, the Notice of Preparation (NOP)/Initial Study for the Pier 36/Brannan Street Wharf project addressed air quality and found impacts to be less than significant. Subsequent to publication of the NOP/Initial Study, the BAAQMD issued revised Guidelines that supersede the 1999 *BAAQMD CEQA Guidelines*.<sup>21</sup> Therefore, this section of the EIR discusses the adopted 2010 BAAQMD CEQA Guidelines and air quality thresholds of significance.

### CRITERIA AIR POLLUTANTS

As required by the 1970 federal Clean Air Act, the United States Environmental Protection Agency (EPA) has identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. EPA calls these pollutants criteria air pollutants because the agency has regulated them by developing specific public health-and welfare based criteria as the basis for setting permissible pollutant levels. Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and lead are the six criteria air pollutants.

The Bay Area Air Quality Management District's (BAAQMD's) air quality monitoring network provides information on ambient concentrations of criteria air pollutants at various locations in the San Francisco Bay Area. Table 1 is a five-year summary of the highest annual criteria air pollutant concentrations (2005 to 2009), collected at the BAAQMD's air quality monitoring station at 16th and Arkansas Streets, in San Francisco's lower Potrero Hill area.<sup>22</sup> Table 1 compares measured pollutant concentrations with the most

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<sup>21</sup> Bay Area Air Quality Management District (BAAQMD), *California Environmental Quality Act Air Quality Guidelines*, June 2010.

<sup>22</sup> Data from this single location do not describe pollutant levels throughout San Francisco, as these levels may vary depending on distance from key emissions sources and local meteorology. However, the BAAQMD monitoring network does provide a reliable picture of pollutant levels over time.

stringent applicable ambient air quality standards (state or federal).

## Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>). The main sources of ROG and NO<sub>x</sub>, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Table 1 shows that, according to published data, the most stringent applicable standards (state 1-hour standard of 9 parts per hundred million (pphm) and the federal 8-hour standard of 8 pphm) were not exceeded in San Francisco between 2004 and 2008.

## Carbon Monoxide (CO)

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. As shown in Table 1, no exceedances of state CO standards were recorded between 2004 and 2008. Measurements of CO indicate maximum 8-hour CO levels approximately 25 percent of the allowable 8-hour standard.

## Particulate Matter (PM10 and PM2.5)

Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from manmade and natural sources. Particulate matter is measured in two size ranges: PM10 for particles less than 10 microns in diameter, and PM2.5 for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about half of the air basin's particulates through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facility operations, and ground-disturbing activities, such as construction, are other sources of such fine particulates.

**TABLE 1: SUMMARY OF SAN FRANCISCO AIR QUALITY MONITORING DATA (2005–2009)**

Pollutant	Most Stringent Applicable Standard	Number of Days Standards were Exceeded and Maximum Concentrations Measured				
		2005	2006	2007	2008	2009
<b>Ozone</b>						
- Days 1-hour Std. Exceeded	9 pphm <sup>a</sup>	0	0	0	0	0
- Max. 1-hour Conc. (pphm) <sup>b</sup>		5.8	5.3	6.0	8.2	7.2
- Days 8-hour Std. Exceeded	7 pphm <sup>a</sup>	0	0	0	0	0
- Max. 8-hour Conc. (pphm) <sup>b</sup>		5.4	4.6	5.3	6.6	5.6
<b>Carbon Monoxide (CO)</b>						
- Days 8-hour Std. Exceeded	9 ppm <sup>a</sup>	0	0	0	0	0
- Max. 8-hour Conc. (ppm)		2.1	2.1	1.6	2.3	2.9
<b>Suspended Particulates (PM10)</b>						
- Days 24-hour Std. Exceeded <sup>c</sup>	50 µg/m <sup>3</sup> <sup>a</sup>	0	3	2	0	0
- Max. 24-hour Conc. (µg/m <sup>3</sup> )		46	<b>61</b>	<b>70</b>	41	35
<b>Suspended Particulates (PM2.5)</b>						
- Days 24-hour Std. Exceeded <sup>d</sup>	35 µg/m <sup>3</sup> <sup>b</sup>	6	3	5	0	1
- Max. 24-hour Conc. (µg/m <sup>3</sup> )		<b>43.6</b>	<b>54.3</b>	<b>45.5</b>	29.4	<b>35.5</b>
- Annual Average (µg/m <sup>3</sup> )	12 µg/m <sup>3</sup> <sup>a</sup>	9.5	9.7	8.9	11.7	ND
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>						
- Days 1-hour Std. Exceeded	25 pphm <sup>a</sup>	0	0	0	0	0
- Max. 1-hour Conc. (pphm) <sup>b</sup>		7	11	7	6	6
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>						
- Days 24-hour Std. Exceeded	40 ppb <sup>a</sup>	0	0	0	0	ND
- Max. 24-hour Conc. (ppb) <sup>b</sup>		7	6	6	4	ND

Notes: **Bold** values are in excess of applicable standard. "NA" indicates that data is not available. conc. = concentration; ppm = parts per million; pphm = parts per hundred million; ppb=parts per billion; µg/m<sup>3</sup> = micrograms per cubic meter  
 ND = No data or insufficient data.

<sup>a</sup> State standard, not to be exceeded.

<sup>b</sup> Federal standard, not to be exceeded.

<sup>c</sup> Based on a sampling schedule of one out of every six days, for a total of approximately 60 samples per year.

<sup>d</sup> Federal standard was reduced from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup> in 2006.

SOURCE: BAAQMD, Bay Area Air Pollution Summary, 2005 – 2009. Available online at: <http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx>; and ARB Air Quality Data; online at: <http://www.arb.ca.gov/adam/index.html>.

These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the state Air Resources Board (ARB), studies in the United States and elsewhere “have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks,” and studies of children’s health in California have demonstrated that particle pollution “may significantly reduce lung

function growth in children.” The ARB also reports that statewide attainment of particulate matter standards could prevent thousands of premature deaths, lower hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and avoid hundreds of thousands of episodes of respiratory illness in California.<sup>23</sup>

Among the criteria pollutants that are regulated, particulates appear to represent a serious ongoing health hazard. As long ago as 1999, the BAAQMD was reporting, in its *CEQA Guidelines*, that studies had shown that elevated particulate levels contribute to the death of approximately 200 to 500 people per year in the Bay Area. High levels of particulates have also been known to exacerbate chronic respiratory ailments, such as bronchitis and asthma, and have been associated with increased emergency room visits and hospital admissions.

Table 1 shows that exceedances of the state PM<sub>10</sub> standard have routinely occurred in San Francisco. It is estimated that the state 24-hour PM<sub>10</sub> standard was exceeded on up to 18 days per year between 2005 and 2008.<sup>24</sup> The BAAQMD began monitoring PM<sub>2.5</sub> concentrations in San Francisco in 2002. The federal 24-hour PM<sub>2.5</sub> standard was not exceeded until 2006, when the standard was lowered from 65 micrograms per cubic meter (µg/m<sup>3</sup>) to 35 µg/m<sup>3</sup>. The state annual average standard was not exceeded between 2004 and 2008.

## Nitrogen Dioxide (NO<sub>2</sub>)

NO<sub>2</sub> is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO<sub>2</sub>. Aside from its contribution to ozone formation, NO<sub>2</sub> can increase the risk of acute and chronic respiratory disease and reduce visibility. NO<sub>2</sub> may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. Table 1 shows that the standard for NO<sub>2</sub> is being met in the Bay Area, and pollutant trends suggest that the air basin will continue to meet these standards for the foreseeable future. On January 22, 2010 the USEPA strengthened the health based NAAQS for NO<sub>2</sub>.

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<sup>23</sup> California Air Resources, Board, “Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution,” January 2004. Available on the internet at: <http://www.arb.ca.gov/research/health/fs/PM-03fs.pdf>.

<sup>24</sup> PM<sub>10</sub> is sampled every sixth day; therefore, actual days over the standard can be estimated to be six times the

## Sulfur Dioxide (SO<sub>2</sub>)

SO<sub>2</sub> is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO<sub>2</sub> has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. Table 1 shows that the standard for SO<sub>2</sub> is being met in the Bay Area, and pollutant trends suggest that the air basin will continue to meet these standards for the foreseeable future.

## Lead

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses, cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects; children are at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated.

## Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and mortality. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the BAAQMD using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risks.<sup>25</sup>

In addition to monitoring criteria pollutants, both the BAAQMD and the ARB operate TAC monitoring networks in the San Francisco Bay Area. These stations measure 10 to 15 TACs, depending on the specific

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<sup>25</sup> In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk, then the applicant is subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, calculating the increased risk of cancer as a result of exposure to one or more TACs.



station. The TACs selected for monitoring are those that have traditionally been found in the highest concentrations in ambient air, and therefore tend to produce the most significant risk. The BAAQMD operates an ambient TAC monitoring station at its 16th and Arkansas Streets facility in San Francisco. Table 2 shows ambient concentration of carcinogenic TAC's measured at the Arkansas Street station, and the estimated cancer risks from lifetime (70 years) exposure to these substances is also reported in this table. When TAC measurements at this station are compared to ambient concentrations of various TACs for the Bay Area as a whole, the cancer risks associated with mean TAC concentrations in San Francisco are similar to those for the Bay Area as a whole. Therefore, the estimated average lifetime cancer risk resulting from exposure to TAC concentrations monitored at the San Francisco station does not appear to be any greater than for the Bay Area as a region.

### Diesel Particulate Matter

The ARB identified diesel particulate matter (DPM) as a toxic air contaminant in 1998, primarily based on evidence demonstrating cancer effects in humans.<sup>26</sup> The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways. The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other toxic air pollutant routinely measured in the region. The risk from diesel particulate matter as determined by ARB declined from 750 in one million in 1990 to 570 in one million in 1995; by 2000, ARB estimated the average statewide cancer risk from DPM at 540 in one million.<sup>27, 28</sup>

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<sup>26</sup> California Air Resources Board, Fact Sheet, "The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines." October 1998. Available on the internet at: <http://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf>.

<sup>27</sup> California Air Resources Board, *California Almanac of Emissions and Air Quality -2009 Edition*, Table 5-44 and p. 544. Available on the internet at: <http://www.arb.ca.gov/aqd/almanac/almanac09/pdf/chap509.pdf>.

<sup>28</sup> This calculated cancer risk values from ambient air exposure in the Bay Area can be compared against the lifetime probability of being diagnosed with cancer in the United States, from all causes, which is more than 40 percent (based on a sampling of 17 regions nationwide), or greater than 400,000 in one million, according to the National Cancer Institute.

**TABLE 2: ANNUAL AVERAGE AMBIENT CONCENTRATIONS OF CARCINOGENIC TACS MEASURED AT BAAQMD MONITORING STATION, 10 ARKANSAS STREET, SAN FRANCISCO<sup>a</sup>**

Substance	Conc. (ppb) <sup>b</sup>	Cancer Risk per Million <sup>c</sup>
<b>Gaseous TACs</b>		
Acetaldehyde	0.39	2
Benzene	0.18	17
1,3-Butadiene	0.036	14
<i>Para</i> -Dichlorobenzene	0.15	10
Carbon Tetrachloride	0.094	25
Ethylene Dibromide	0.01	6
Formaldehyde	2.69	20
Perchloroethylene	0.02	0.8
Methylene Chloride	0.12	0.4
MTBE	0.61	0.6
Chloroform	0.015	0.4
Trichloroethylene	0.01	0.1
<b>Particulate TACs</b>		
	(ng/m <sup>3</sup> )	
Chromium (Hexavalent)	0.059	9
<b>Total Risk for all TACs</b>		96.3

Notes:

a All values are from BAAQMD 2008 monitoring data from the Arkansas Street station, except for Formaldehyde and Hexavalent Chromium, which are statewide averages for the year 2008.

b ppb is parts per billion, and ng/m<sup>3</sup> is nanograms per cubic meter.

c Cancer risks were estimated by applying published unity risk values to the measured concentrations.

Source: California Air Resources Board, Ambient Air Toxics Summary – 2008. Available online at: <http://www.arb.ca.gov/adam/toxics/sitesubance.html>

Recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. The ARB community health risk assessments and regulatory programs have produced air quality information about certain types of facilities for consideration by local authorities when siting new residences, schools, day care centers, parks and playgrounds, and medical facilities (i.e., sensitive land uses, or “receptors”).<sup>29</sup> Sensitive land uses deserve special attention because children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the non-cancer effects of air pollution. There is also substantial evidence that children are more sensitive to cancer-causing chemicals.<sup>30</sup>

<sup>29</sup> As discussed below, parks and playgrounds are generally less sensitive than the other uses listed because exposure times are shorter, resulting in less exposure to pollutants.

<sup>30</sup> California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005. Available on the internet at: <http://www.arb.ca.gov/ch/handbook.pdf>.

In 2000, the ARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80 percent decrease in statewide diesel health risk in 2020 as compared with the diesel 2000 cancer risk.<sup>31</sup> Additional regulations apply to new trucks and to diesel fuel. Despite these reductions, the ARB recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. The ARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations, including housing and transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary, ARB's position is that infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level.<sup>32</sup>

### Roadway-Related Pollutants

Motor vehicles are responsible for a large share of air pollution, especially in California. Vehicle tailpipe emissions contain diverse forms of particles and gases, and also contribute to particulates by generating road dust and through tire wear. Epidemiologic studies have demonstrated that people living in proximity to freeways or busy roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children. Air pollution monitoring done in conjunction with epidemiological studies has confirmed that roadway related health effects vary with modeled exposure to particulate matter and nitrogen dioxide. In traffic-related studies, the additional non-cancer health risk attributable to roadway proximity was seen within 1,000 feet of the roadway and was strongest within 300 feet.<sup>33</sup> As a result, the ARB recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day. The proposed Brannan Street Wharf would be considered a sensitive receptor because it is an open space park.

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<sup>31</sup> California Air Resources Board, "Overview of Truck and Bus Regulation Reducing Emissions from Existing Diesel Vehicles," fact sheet, February 25, 2009; and "Facts About Truck and Bus Regulation Emissions Reductions and Health Benefits," fact sheet, February 25, 2009. available on the internet at: <http://www.arb.ca.gov/msprog/onrdiesel/documents.htm>.

<sup>32</sup> California Air Resources Board, *Air Quality and Land Use Handbook*; Ibid

## Sensitive Receptors

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young, population subgroups with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and populations with other environmental or occupational health exposures (e.g. indoor air quality) that affect cardiovascular or respiratory diseases. Land uses such as schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Parks and playgrounds are considered moderately sensitive to poor air quality because persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality; however, exposure times are generally far shorter in parks and playgrounds than in residential locations and schools, which typically reduces overall exposure to pollutants. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions.<sup>34</sup> The nearest residential building to the project site are located across the Embarcadero and includes the Bayside Village, and the Delancey Street project, located approximately 300 feet and 220 feet south, respectively from the property line of the project site.

The nearest open spaces to the project site include Herb Caen Way/Embarcadero Promenade (an open space walkway) and South Beach Park located three blocks to the south of the project site. There are no licensed child care facilities or schools within 1,000 feet of the project site (which is considered the zone of influence for analysis by the BAAQMD guidelines). There are other privately owned, publicly accessible plazas, and open spaces nearby, including one within the Delancey Street project. There are no hospitals or convalescent homes in the project vicinity.

## REGULATORY SETTING

### FEDERAL AMBIENT AIR QUALITY STANDARDS

The 1970 Clean Air Act (last amended in 1990) requires that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile

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<sup>34</sup> The factors responsible for variation in exposure are also often similar to factors associated with greater susceptibility to air quality health effects. For example, poorer residents may be more likely to live in crowded substandard housing and be more likely to live near industrial or roadway sources of air pollution.

sources of pollutants will be controlled in order to achieve all standards by the deadlines specified in the Clean Air Act. The ambient air quality standards are intended to protect the public health and welfare, and they specify the concentration of pollutants (with an adequate margin of safety) to which the public can be exposed without adverse health effects. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above the ambient air quality standards before adverse health effects are observed.

The current attainment status for the San Francisco Bay Area Air Basin with respect to federal standards is summarized in Table 1. In general, the Bay Area Air Basin experiences low concentrations of most pollutants when compared to federal standards, except for particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), for which standards are exceeded periodically.

In June 2004, the Bay Area was designated as a marginal nonattainment area of the national 8-hour ozone standard. The EPA lowered the national 8-hour ozone standard from 0.80 to 0.75 parts per million effective May 27, 2008. EPA will issue final designations based upon the new 0.75 ppm ozone standard by March 2010. The Bay Area Air Basin is in attainment for other criteria pollutants, with the exception of the 24-hour standards for PM<sub>10</sub> and PM<sub>2.5</sub>, for which the Bay Area is designated "Unclassified."

## **STATE AMBIENT AIR QUALITY STANDARDS**

Although the federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already established its own air quality standards when federal standards were established, and because of the unique meteorological problems in California, there is considerable diversity between the state and national ambient air quality standards, as shown in Table 3. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent.

In 1988, California passed the California Clean Air Act (California Health and Safety Code Sections 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the federal standards. As indicated in Table 3, the Bay Area Air Basin is designated as "nonattainment" for state ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> standards. The Bay Area Air Basin is designated as "attainment" for most other pollutants listed in the table.

### **Air Quality Planning Relative to State and Federal Standards**

Air quality plans developed to meet federal requirements are referred to as State Implementation Plans. The federal and state Clean Air Acts require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the State PM<sub>10</sub> standard). On September 15, 2010, the BAAQMD, in cooperation with the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), adopted the *2010 Clean Air Plan*, which replaced the *Bay Area 2005 Ozone Strategy*.

The *2010 Clean Air Plan* updated the *2005 Ozone Strategy* in accordance with the requirements of the California Clean Air Act to implement “all feasible measures” to reduce ozone; provide a control strategy to reduce ozone, particulate matter, toxic air contaminants, and greenhouse gases in a single, integrated plan; review progress in improving air quality in recent years; and establish emission control measures to be adopted or implemented in the 2010 – 2012 time frame. The control strategy includes stationary-source control measures to be implemented through BAAQMD regulations; mobile-source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the MTC, local governments, transit agencies, and others. The *2010 Clean Air Plan* represents the Bay Area’s most recent triennial assessment of the region’s strategy to attain the state one-hour ozone standard.

**TABLE 3: STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	(State) SAAQS <sup>a</sup>		(Federal) NAAQS <sup>b</sup>	
		Standard	Attainment Status	Standard	Attainment Status
Ozone	1 hour	0.09 ppm	N	NA	See Note c
	8 hour	0.07 ppm	N	0.075 ppm	N/Marginal
Carbon Monoxide (CO)	1 hour	20 ppm	A	35 ppm	A
	8 hour	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO <sub>2</sub> )	1 hour	0.18 ppm	A	0.1 ppm <sup>d</sup>	U
	Annual	0.03 ppm	NA	0.053 ppm	A
Sulfur Dioxide (SO <sub>2</sub> )	1 hour	0.25 ppm	A	NA	NA
	24 hour	0.04 ppm	A	0.14 ppm	A
	Annual	NA	NA	0.03 ppm	A
Particulate Matter (PM <sub>10</sub> )	24 hour	50 µg/m <sup>3</sup>	N	150 µg/m <sup>3</sup>	U
	Annual	20 µg/m <sup>3</sup>	N	NA	NA
Fine Particulate Matter (PM <sub>2.5</sub> )	24 hour	NA	NA	35 µg/m <sup>3</sup>	U
	Annual	12 µg/m <sup>3</sup>	N	15 µg/m <sup>3</sup>	A
Sulfates	24 hour	25 µg/m <sup>3</sup>	A	NA	NA
Lead	30 day	1.5 µg/m <sup>3</sup>	A	NA	NA
	Cal. Quarter	NA	NA	1.5 µg/m <sup>3</sup>	A
Hydrogen Sulfide	1 hour	0.03 ppm	U	NA	NA
Visibility-Reducing Particles	8 hour	See Note e	U	NA	NA

NOTES: A = Attainment; N = Nonattainment; U = Unclassified; NA = Not Applicable, no applicable standard;= ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

<sup>a</sup> SAAQS = state ambient air quality standards (California). SAAQS for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

<sup>b</sup> NAAQS = national ambient air quality standards. NAAQS, other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The 8-hour ozone standard is attained when the three-year average of the fourth highest daily concentration is 0.08 ppm or less. The 24-hour PM<sub>10</sub> standard is attained when the three-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour PM<sub>2.5</sub> standard is attained when the three-year average of the 98th percentile is less than the standard.

<sup>c</sup> The U.S. EPA revoked the national 1-hour ozone standard on June 15, 2005.

<sup>d</sup> To attain this standard, the 3-year average of the 98<sup>th</sup> percentile of the daily maximum 1-hour average at each monitor within the area must not exceed 0.1 ppm (effective January 22, 2010).

<sup>e</sup> Statewide visibility-reducing particle standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

SOURCE: Bay Area Air Quality Management District (BAAQMD), Standards and Attainment Status, May 2006. Website Accessed on October 28, 2006: [http://www.baaqmd.gov/pln/air\\_quality/ambient\\_air\\_quality.htm](http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.htm).

## REGIONAL/LOCAL AIR QUALITY PLANNING

### Bay Area Air Quality Management District (BAAQMD)

The BAAQMD is the regional agency with jurisdiction air quality regulations within the nine-county Bay Area Air Basin. ABAG, MTC, county transportation agencies, cities and counties, and various non governmental organizations also join in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs.

BAAQMD is responsible for attaining and/or maintaining air quality in the Bay Area Air Basin within federal and State air quality standards. Specifically, BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Air Basin and to develop and implement strategies to attain the applicable federal and State standards.

In 1999, BAAQMD adopted its *CEQA Guidelines* as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. In May 2010, BAAQMD published an updated and revised version of its *CEQA Air Quality Guidelines*, and the Air District's board adopted revised thresholds of significance in June 2010. BAAQMD is recognized as the regional agency with special expertise in air quality, therefore, the Air District's guidelines and thresholds are commonly used in CEQA analysis, and are normally relied upon by the Planning Department for its significance determinations.

### San Francisco General Plan Air Quality Element

The San Francisco General Plan (General Plan) includes the 1997 Air Quality Element. The objectives specified by the City include the following:

- Objective 1: Adhere to state and federal air quality standards and regional programs.
- Objective 2: Reduce mobile sources of air pollution through implementation of the Transportation Element of the General Plan
- Objective 3: Decrease the air quality impacts of development by coordination of land use and transportation decisions.
- Objective 4: Minimize particulate matter emissions from road and construction sites.



Objective 5: Link the positive effects of energy conservation and waste management to emission reductions.

### **San Francisco Dust Control Ordinance**

*San Francisco Health Code* Article 22B, and *San Francisco Building Code* Section 106.A.3.2.6, collectively the Construction Dust Control Ordinance, requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from the Department of Building Inspection (DBI).

The Brannan Street Wharf/Pier 36 is a Port of San Francisco project, which would be carried out by the Port. Pursuant to Health Code Article 22b, Section 1247, all departments, boards, commissions, and agencies of the City and County of San Francisco that authorize construction or improvements on land under their jurisdiction under circumstances where no building, excavation, grading, foundation, or other permit needs to be obtained under the San Francisco Building Code shall adopt rules and regulations to insure that the same dust control requirements that are set forth in this Article are followed.

Dust suppression activities may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the *San Francisco Public Works Code*. If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 millimeter (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques.

For project sites greater than one half-acre in size, the Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Health Department. Interior-only tenant improvements, even if over one-half acre, that will not produce exterior visible dust are exempt from the site-specific Dust Control Plan requirement.

### **San Francisco Health Code Provisions Regarding Roadway Generated Pollutants**

San Francisco adopted Article 38 of the *San Francisco Health Code* in 2008, requiring that for new residential projects of 10 or more units located in proximity to high-traffic roadways, as mapped by the Department of Public Health, an Air Quality Assessment be prepared to determine whether residents would be exposed to potentially unhealthful levels of PM<sub>2.5</sub>. The project site is not located within the Roadway Exposure Zone, and is therefore not subject to Article 38.

### **San Francisco Clean Construction Ordinance**

The San Francisco Board of Supervisors adopted the Clean Construction Ordinance in 2007 to take effect in 2009. The Clean Construction Ordinance would be implemented for public works projects in the City of San Francisco or City-financed construction projects. The Ordinance amended the Administrative Code to add Section 6.25 to require City contractors to adopt clean construction practices including biodiesel fuel and emissions controls. The Ordinance also requires departments that are authorized to award contracts to compare bids on the basis that the work will be performed utilizing cleaner off-road diesel equipment and biodiesel fuel. The Port of San Francisco would ensure the Clean Construction Ordinance is implemented as a requirement of the contract bid.

## **IMPACTS**

### **SIGNIFICANCE CRITERIA**

The proposed project would have a significant air quality impact if it were to:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

As noted in the setting, in 2010, BAAQMD published an update to its *CEQA Air Quality Guidelines* and adopted new significance thresholds for CEQA analysis. Under the new *BAAQMD CEQA Air Quality*

*Guidelines* and thresholds,<sup>35</sup> the significance thresholds for criteria pollutant emissions from project construction and operations have generally been lowered, and are as follows: for ROG, NO<sub>x</sub> and PM<sub>2.5</sub>, a net increase of 54 pounds per day or 10 tons per year would be considered significant, while for PM<sub>10</sub>, a net increase of 82 pounds per day or 15 tons per year would be considered significant. For CO, an increase would be considered significant if it leads to or contributes to CO concentrations exceeding the State Ambient Air Quality Standard, although quantification would not be required if a project is consistent with the local congestion management program and plans and traffic volumes at affected intersections are below 44,000 vehicles per hour or 24,000 vehicles per year in tunnel like conditions. For construction-period impacts, the same thresholds apply for ROG, NO<sub>x</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub>, except that the thresholds for PM<sub>2.5</sub> and PM<sub>10</sub> apply only to exhaust emissions. There are no quantitative thresholds for construction dust emissions; instead, impacts are considered less than significant if best management practices are employed to control dust during construction activities, including demolition and excavation.

BAAQMD considers projects that exceed these criteria air pollutant standards to also result in a cumulatively considerable air quality upon the region. According to BAAQMD, no further cumulative analysis should be required beyond the analysis of whether a proposed project's impacts would contribute considerably to ambient levels of pollutants or greenhouse gases,<sup>36</sup> with the exception of the following cumulative risk and hazard analysis for toxic air contaminants.

For health risks and hazards resulting from emissions of toxic air contaminants, BAAQMD recommends either that a project be found to be in compliance with a "qualified community risk reduction plan," or that significance thresholds be used for both construction and operational emissions based on commonly used standards employed in health risk assessment. The thresholds for project-specific impacts are: an increase in lifetime cancer risk of 10 chances in one million, an increase in the non-cancer risk equivalent to a chronic or acute "Hazard Index" greater than 1.0,<sup>37</sup> or an increase in the annual average concentration of PM<sub>2.5</sub> in excess of 0.3 micrograms per cubic meter. BAAQMD also recommends cumulative thresholds of 100 in one million cancer risk, a Hazard Index greater than 10.0, and a PM<sub>2.5</sub> concentration greater than 0.8 micrograms per cubic meter. Unlike the volume-based thresholds for

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<sup>35</sup> BAAQMD, *California Environmental Quality Act (CEQA) Air Quality Guidelines*, June 2010; and adopted Thresholds of Significance, June 2010. Available on the internet at: <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx>.

<sup>36</sup> *Ibid.*

<sup>37</sup> Hazard Index represents the ratio of expected exposure levels to an acceptable reference exposure levels.

criteria pollutants noted above, the toxic air contaminant thresholds are used for specific receptor locations when a risk analysis is required for specific project components, such as stationary sources (common in industrial operations) or the use of diesel-powered equipment, including construction equipment.

#### **METHODOLOGY**

Construction exhaust emissions and operational emissions of criteria air pollutants were estimated using the URBan EMISsions (URBEMIS) 2007 model (version 9.2.4) for the expected project buildout and compared to BAAQMD significance thresholds. The model combines information on trip generation with vehicular emissions data specific to different types of trips in the San Francisco area from the ARB's EMFAC 2007 BURDEN model to create an estimated daily emissions burden for travel within the San Francisco Bay Area Air Basin. The resulting quantification is compared against the BAAQMD's recommended thresholds. As discussed previously because the 2010 CEQA thresholds have generally been lowered, this EIR reconsiders the project air quality impact with respect to the BAAQMD revised thresholds of significance.

For the health risk assessment related to use of diesel-powered construction equipment, the BAAQMD has prepared "screening tables" that allow a project to be found to have a less-than-significant impact if construction activities would occur at least 100 meters (330 feet), in most cases, from sensitive receptors. The proximity to the proposed Brannan Street Wharf to the closest sensitive receptors was identified to determine whether the BAAQMD thresholds would be exceeded. The nearest sensitive receptors to the Brannan Street Wharf project are approximately 220-300 feet to the south.

For health risk assessment related to exposure of new sensitive receptors to substantial pollutant concentrations, a health risk screening table identified permitted stationary sources within 1,000 feet of the project site. The health risk screening table was evaluated to determine if the permitted stationary sources within 1,000 feet of the proposed Brannan Street Wharf exceeded the BAAQMD thresholds. For mobile sources, it was found that the project site is not within the Roadway Exposure Zone.

#### **IMPACT ANALYSIS**

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to project operation. First, during project construction, the project would affect local particulate concentrations primarily due to fugitive dust sources, as well as construction equipment

exhaust. Over the long term, the project would result in an increase in emissions primarily due to increased motor vehicle trips. The operation of the proposed project would emit minimal emissions, including lights and irrigation. Operational impacts from the Brannan Street Wharf are discussed under **Impact AQ-4.**

### Odors

The proposed project would include an open space park, which is not associated with noxious odors. As discussed in the NOP (Appendix A, pg. 56), the proposed project would not result in any perceptible increase or change in noxious odors on the project site or in the vicinity of the project, as it would not include uses prone to generation of noxious odors. As such, this topic is not discussed further in the EIR.

### Construction Air Quality Impacts

#### **Impact AQ-1: Project construction would not result in localized construction dust-related air quality impacts. (Less than Significant)**

Project-related demolition and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the State Air Resources Board, reducing ambient particulate matter from 1998–2000 levels to natural background concentrations in San Francisco would prevent over 200 premature deaths.

Dust can be an irritant causing watering eyes or irritation to the lungs, nose, and throat. Demolition, excavation, and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to this particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil.

For fugitive dust emissions, BAAQMD 2010 *CEQA Guidelines* recommend following the current best management practices approach, which has been a pragmatic and effective approach to the control of fugitive dust emissions. The *Guidelines* note that individual measures have been shown to reduce fugitive dust by anywhere from 30 percent to more than 90 percent and conclude that projects that implement

construction best management practices will reduce fugitive dust emissions to a less-than-significant level.<sup>38</sup>

The San Francisco Board of Supervisors approved a series of amendments to the San Francisco Building and Health Codes generally referred hereto as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of on-site workers, minimize public nuisance complaints, and to avoid orders to stop work by the Department of Building Inspection (DBI).

As discussed in the Regulatory Framework, the Dust Control Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from DBI. Additionally, all departments, boards, commissions, agencies of the City and County of San Francisco that authorize construction or improvements on land under their jurisdiction shall adopt rules and regulations to insure that the same dust control requirements are followed.

The following regulations and procedures set forth in of Article 22B of the San Francisco Health Code – Construction Dust Control Requirements – contain the BAAQMD-recommended best management practices:

- Water all active construction areas at least twice daily;
- Cover all trucks hauling soil, sand, and other loose materials, or require such trucks to maintain at least 2 feet of freeboard;
- Pave, apply water at a minimum three times daily in dry weather, or apply non-toxic soil stabilizers to all unpaved access roads, parking areas, and staging areas;
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas;
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public street areas;
- Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more);

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<sup>38</sup> *Ibid*, Section 4.2.1.

- Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.);
- Limit traffic speeds on unpaved roads to 15 miles per hour;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible;
- Install wheel washers for all exiting trucks, or wash off the tires of all trucks and equipment prior to leaving the site;
- Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas;
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph; and
- Limit the area subject to excavation, grading, and other construction activity at any one time.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond shall respond and take corrective action within 48 hours. The Air District's phone number shall be visible to ensure compliance with applicable regulations.

Therefore, compliance with the Dust Control Ordinance would reduce project-generated construction dust to a **less-than-significant** level.

**Impact AQ-2: Construction of the proposed project would violate an air quality standard or contribute significantly to an existing or projected air quality violation. (Significant and Unavoidable with Mitigation)**

Criteria pollutant emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> from construction equipment would incrementally add to the regional atmospheric loading of these pollutants during project construction. The BAAQMD *CEQA Air Quality Guidelines* recommend the quantification of project related exhaust emissions and comparison of the emissions to its new significance thresholds. Therefore, daily project construction exhaust emissions that would be associated with the proposed project have been estimated and are presented in Table 4.

**TABLE 4: PROJECT CONSTRUCTION EXHAUST EMISSIONS ESTIMATES**

Construction Phase and Year	Estimated Daily Emissions (pounds per day)			
	ROG	NOx	PM10	PM2.5
2010	5.06	41.21	2.05	1.05
2011	14.71	110.36	6.41	5.90
2012	18.28	134.05	7.88	7.25
<i>BAAQMD Threshold</i>	54	54	82	54
Significant?	No	Yes	No	No

NOTE: Project construction emissions estimates are weighted daily averages based on lengths of construction phases, based on output from URBEMIS 2007 v.9.2.4. Equipment numbers and types are based on the Applicant’s guidance and experience of the consultant.

SOURCE: URS, 2010

As indicated in Table 4, emissions from project construction would not exceed the BAAQMD’s significance thresholds for ROG, PM2.5, and PM10; however, the proposed project would exceed the significance thresholds for NOx. The construction-related emissions from the proposed project would exceed the BAAQMD’s significance thresholds for NOx. Implementation of **Mitigation Measure M-AQ-2** and the Clean Construction Ordinance would reduce the impacts; however, not to a level that would be less than significant level and this impact would remain **significant and unavoidable**.

**MITIGATION MEASURES**

**M-AQ-2 Construction Vehicle Emissions Minimization:** To reduce construction vehicle emissions, the project sponsor shall incorporate the following into construction specifications:



- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- The Port of San Francisco (Port) and Army Corps of Engineers (USACE) shall ensure that construction contract specifications include a requirement that on-road diesel trucks used to transport spoils consist of 2004 or newer model-year trucks with factory-built engines. All on-road diesel trucks shall be required to have emission control labels as specified in 13 CCR 2183(c). The construction contract specifications shall require that the contractor submit to the Port and USACE a comprehensive inventory of all on-road trucks used to haul spoils. The inventory shall include each vehicle's license plate number, the engine production year, and a notation of whether the truck is in possession of an emission control label as defined in 13 CCR. The contractor shall update the inventory and submit it monthly to the Port and USACE throughout the duration of the project.
- The Port and USACE shall ensure that construction contract specifications include a requirement that all off-road diesel construction equipment is equipped with Tier 3 diesel engines (or Tier 2 if Tier 3 is not readily available) as defined in 40 CFR Part 89 and are equipped with Level 3 Diesel Emission Control Strategies as defined in 13 CCR 2700–2710. The construction contract specifications shall require the contractor to submit a comprehensive inventory of all off-road construction equipment that will be used an aggregate of 8 hours or more during any portion of project construction. The inventory shall include each vehicle's license plate number, horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The contractor shall update the inventory and submit it monthly to the Port and USACE throughout the duration of the project.

**Impact AQ-3: Construction of the proposed project would expose sensitive receptors to substantial levels of increased health risks resulting from construction exhaust emissions. (Significant and Unavoidable with Mitigation)**

The BAAQMD 2010 *CEQA Guidelines* provides thresholds of significance for construction-related criteria air pollutant and precursor emissions from vehicle exhaust. To determine if construction emissions could result in adverse health effects at nearby receptors, the screening tables for construction air toxics during construction were reviewed. The proposed project would be 57,000 square feet, which would require a minimum off-set distance of 100 meter (330 feet) from the project fence line to ensure that a sensitive receptor would have a less than significant impact.<sup>39</sup> The screening tables consider the construction emissions of PM<sub>2.5</sub>, DPM, and Acrolein to determine potential cancer, non-cancer, and PM<sub>2.5</sub> risks from construction. Based upon the distance from the proposed construction activities for the Brannan Street Wharf and the nearest receptors, the cancer risk could exceed the Air Districts health risk thresholds.<sup>40</sup> The nearest sensitive receptors to the proposed construction activities are mixed-use residential and commercial buildings including the Bayside Village Apartments and the Delancey Street project, located approximately 300 feet and 220 feet south, respectively from the property line of the project site.

There are no childcare or convalescent facilities within 330 feet of the project site fence line. Due to the proximity of residential uses to construction activities, the proposed project could exceed the BAAQMD's health risk significance thresholds, and the impact would therefore be significant.

It is noted that the foregoing discussion does not represent an impact unique to the proposed Pier 36/Brannan Street Wharf project. Rather, the assessment of construction emission health risk is part of the BAAQMD's newly promulgated CEQA guidance, and the resulting impacts, while not heretofore commonly reported, would be similar for any comparably sized construction project in a densely developed area that contains a mix of land uses. Indeed, the BAAQMD has published a guide for a screening-level analysis of construction health risk that finds a significant impact due to construction emissions for virtually any project, other than a residential project of five or fewer units, that is within

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<sup>39</sup> BAAQMD, May 2010, Screening Tables for Air Toxics Evaluation During Construction, Table 2.

<sup>40</sup> According to BAAQMD, the estimated lifetime cancer risk from all toxic air contaminants in the Bay Area is approximately 400 in one million, while the total lifetime cancer risk for all causes is approximately 400,000 in one million (BAAQMD, *Draft Bay Area 2010 Clean Air Plan*, March 2010; p. 1-17 (<http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx>.) Reviewed September 2, 2010.

100 meters (330 feet) of a sensitive receptor.<sup>41</sup> Additionally, the screening tables are provided as interim guidance and lead agencies can assume that the risks are equivalent to the screening levels. BAAQMD notes that its screening methodology incorporates “many worst-case and conservative assumptions,” and states that a project-specific health risk assessment would likely produce more accurate results. Nevertheless, it is clear that the new BAAQMD CEQA guidance leads to a determination of at least a potential significant impact for construction of many potential projects in San Francisco and other densely developed Bay Area communities. The implementation of **Mitigation Measure M-AQ-2**, as well as the Clean Construction Ordinance could potentially reduce the construction health risk impacts; however, the effectiveness of these mitigation measures of reducing health risks is unknown at this time. Since it cannot be stated with certainty that cancer risk, non-cancer, or PM<sub>2.5</sub> concentrations would be reduced to below the BAAQMD-recommended significance thresholds, this impact is conservatively judged to be **significant and unavoidable**.

Cumulative construction impacts could occur within the vicinity of the project site, most notably including the 34<sup>th</sup> America’s Cup facility improvement to Pier 30-32, located adjacent to the project site. Pier 30-32 construction activities would result in emissions of diesel particulate matter and other PM<sub>2.5</sub>. Projects less than 100 meters (330 feet) from the sensitive receptors that would be affected by construction of the Pier 36/Brannan Street Wharf project could additionally be affected by Pier 30-32 construction. Cumulative construction impacts also consider operational health risks during construction activities including nearby mobile and stationary sources (refer to **Impact AQ-6**). Given the proximity of the Pier 30-23 America’s Cup facility improvements to the Pier 36/Brannan Street Wharf Street project site and health risk associated with the Embarcadero Roadway, there is the potential that cumulative construction emissions would exceed the BAAQMD’s significance criteria for cumulative impacts, which are 100 in one million cancer risk non-cancer hazard index of 10, and a PM<sub>2.5</sub> concentration of 0.8 micrograms per cubic meter. Implementation the America’s Cup Pier 30-32 project (and other nearby projects) of controls comparable to those identified in **Mitigation Measure M-AQ-2** for the proposed Pier 36/Brannan Street Wharf Street project would likewise result in the maximum feasible reduction of construction emissions and health risk for these other projects. However, as with the proposed project, because it cannot be stated with certainty that either cancer risk or PM<sub>2.5</sub> concentration would be reduced to below the BAAQMD-recommended significance thresholds, the cumulative impact is likewise conservatively judged to be **significant and unavoidable**.

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<sup>41</sup> BAAQMD, “Screening Tables for Air Toxics Evaluation During Construction,” May 2010. On the internet at: <http://www.baaqmd.gov/Home/Divisions/Planning%20and%20Research/CEQA%20GUIDELINES/Tools%20and%20Methodology.aspx>. Reviewed September 1, 2010.

## Operational Air Quality Impacts

### **Impact AQ-4: Project operation would not conflict with air quality plans or, violate air quality with standards respect to regional pollutants, either individually or cumulatively. (Less than Significant)**

The proposed Brannan Street Wharf would be used for a variety of passive recreational uses and would be used throughout the day and would not generate increased trips during any certain time of the day. The Brannan Street Wharf would draw people from existing neighborhoods or along Herb Caen Way/Embarcadero Promenade, and would not create specific vehicle trips to the project site. The operation and maintenance of the Brannan Street Wharf would require trash pick-up, weekly sweeping or washing, and weekly mowing of the lawn.

Operational emissions from the Brannan Street Wharf would consist of electrical power for 12 lights on the wharf, four lights on the small craft float, and irrigation. Operational emissions from project traffic and from operation of the proposed wharf were calculated using the URBEMIS 2007 (version 9.2.4) model, and are presented in Table 5. As shown in Table 5, emission increases attributable to the proposed project would be substantially below the significance thresholds established by the BAAQMD.

The proposed project would be generally consistent with the *San Francisco General Plan*. Additionally, the *General Plan*, *Planning Code*, and *City Charter* implement various Transportation Control Measures identified in the *2010 Bay Area Clean Air Plan* through the City's Transit First Program, bicycle parking requirements, transit development impact fees applicable to commercial uses, and other actions. In light of the above, the project would not contribute considerably to cumulative air quality impacts, nor would it interfere with implementation of the *2010 Bay Area Clean Air Plan*, which is the applicable regional air quality plan developed to improve air quality and to effectively meet the state and federal ambient air quality standards. Therefore, the project's effects of regional criteria pollutant emissions would be **less than significant**.

**TABLE 5: PROJECT OPERATION EXHAUST EMISSIONS ESTIMATES**

Operational Emission	Estimated Daily Emissions (pounds per day)			
	ROG	NOx	PM10	PM2.5
Landscaping	0.12	0.02	0.01	0.01
Vehicle Trips	0.02	0.01	0.02	-
Total Operational Emission	0.14	0.03	0.03	0.01
<i>BAAQMD Threshold</i>	54	54	82	54
Significant?	No	No	No	No

SOURCE: URS, 2010

### Local Air Quality Impacts

**Impact AQ-5: Traffic from project operation would not generate emissions that would conflict with air quality plans or violate air quality standards. (Less than Significant)**

The San Francisco Bay Area Air Basin is designated as “attainment” for carbon monoxide (CO). As stated in the 2010 update of the BAAQMD *CEQA Air Quality Guidelines*, “emissions and ambient concentrations of CO have decreased dramatically in the Bay Area Air Basin with the introduction of the catalytic converter in 1975. No exceedances of the CAAQS or NAAQS for CO have been recorded at nearby monitoring stations since 1991.”<sup>42</sup> Accordingly, as noted in the Significance Criteria, BAAQMD states that CO impacts may be determined to be less than significant if a project is consistent with the applicable congestion management plan and would not increase traffic volumes at local intersections to more than 44,000 vehicles per hour. The project would not generate new vehicle trips to the project site, or any local intersections, and would therefore be consistent with applicable congestion management planning. Therefore, effects related to CO concentrations would be **less than significant**.

<sup>42</sup> BAAQMD *CEQA Air Quality Guidelines* (see footnote 35, p. 83); p. 6-1.

**Impact AQ-6: Operation of the Brannan Street Wharf would expose sensitive receptors to substantial pollutant concentrations with respect to local pollutants. (Significant and Unavoidable)**

**Diesel Particulate Matter Exposure, PM<sub>2.5</sub>, and Health Effects**

As noted in the setting, diesel particulate matter (DPM) is a toxic air contaminant and the ARB recommends that proximity to sources of DPM emissions be considered in the siting of new developments. Among other things, ARB advises that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day. The proposed project would include park users, which are considered moderately sensitive land uses; however, exposure times are generally far shorter than in residential locations and schools. Additionally, the project site is not located within the Roadway Exposure Zone defined by Article 38.

The BAAQMD 2010 *CEQA Air Quality Guidelines* also recommend analysis of “local community risk and hazard impacts”; that is, assessment of effects related to toxic air contaminants (TACs) both from placement of a new sensitive receptor (for example, a residential project or park) proximate to source(s) of TACs, and from siting of a new source of TACs. There are no major permitted stationary sources in the vicinity of the proposed Brannan Street Wharf (i.e. refinery, power plant) and the project would not site any new sources of TAC’s.

The BAAQMD’s thresholds of significance for health risk impacts are an increase in lifetime cancer risk of 10 chances in one million, an increase in the non-cancer, chronic or acute, hazard index greater than 1.0, and an increase in the annual average concentration of PM<sub>2.5</sub> in excess of 0.3 micrograms per cubic meter. If a single roadway or stationary sources exceeds any one of these thresholds, the project would be consider to expose sensitive receptors to a significant health risk impact. The BAAQMD also recommends cumulative thresholds of an increased cancer risk of 100 in one million, acute or chronic hazard index greater than 10.0, and a PM<sub>2.5</sub> concentration greater than 0.8 micrograms per cubic meter. If the total of all roadway and point sources within 1,000 feet of the proposed project exceed these cumulative thresholds, the project would be considered to exposure sensitive receptors to a significant cumulative health risk impact. Sources of TACs include both mobile and stationary sources. To determine whether the proposed project would be below BAAQMD thresholds for TAC exposure, roadway and stationary sources in

proximity to the project site were identified and quantified using the BAAQMD’s screening-level methodology.<sup>43</sup>

**Stationary Sources.** BAAQMD data sources identified four permitted stationary sources of air pollutants within 1,000 feet (zone of influence) of the project site. As presented in Table 6, one of the permitted sources exceeded the BAAQMD individual health risk significance thresholds for cancer risk of 10 chances in one million.<sup>44</sup>

**Roadway Sources.** The BAAQMD considers roadways with average daily vehicle traffic greater than 10,000 to result in potential health risks. Table 6 identifies four roadways within 1,000 feet of the project site with daily traffic over 10,000 vehicles per day.<sup>45</sup> The Embarcadero roadway exceeds the BAAQMD’s individual health risk significance thresholds for cancer risk of 10 chances in one million. No roadways in San Francisco are anticipated to exceed the non-cancer hazard index thresholds individually or cumulatively, and therefore non-cancer health risks from roadways were not quantified.

**TABLE 6: STATIONARY AND ROADWAY TOXIC AIR CONTAMINANT SOURCES**

<b>Stationary Sources within 1,000 feet</b>					
<b>BAAQMD Permitted Sources</b>	<b>Address</b>	<b>Source Type</b>	<b>Increased Cancer Risk in a Million</b>	<b>Increased Non-Cancer Risk (Chronic Hazard)</b>	<b>Ambient PM2.5</b>
SFPUC	Main Street	-	36.47	0.013	0.008
200 Brannan Owners Assc.	200 Brannan Street	Standby Generator Set	0.315	0.00011	0.00056
Network Access System	360 Spear Street	Standby Generator	1.22	0.00043	0.0022
San Francisco Cruise Terminal LLC. <sup>a</sup>	501 Beale Street	Emergency Standby Diesel Engine	7.99	0.003	0.00147

<sup>43</sup> BAAQMD, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May 2010. Methodology for roadway analysis is described in Section 3.1.2, and roadway-screening tables are provided in Chapter 7. Updated screening tables for San Francisco were provided by the BAAQMD in October 2010.

<sup>44</sup> BAAQMD, Permitted Stationary Sources with 1,000 feet of Pier 36. A copy of this is available for public review at the Planning Department, 1650 Mission Street, 4<sup>th</sup> Floor, as part of Case File No. 2009.0418E.

<sup>45</sup> Vehicle rate data obtained from the California Environmental Health Tracking Program website, [http://www.ehib.org/traffic\\_tool.jsp](http://www.ehib.org/traffic_tool.jsp), accessed November 17, 2010. A copy of this is available for public review at the Planning Department, 1650 Mission Street, 4<sup>th</sup> Floor, as part of Case File No. 2008.0723E.

<b>Total Point Sources</b>		45.995	0.01654	0.01223	
<b>Roadways greater than 10,000 vehicles within 1,000 feet</b>					
<b>Street</b>	<b>Volume</b>	<b>Distance in feet</b>	<b>Cancer Risk</b>	<b>PM<sub>2.5</sub></b>	
The Embarcadero	48,551	95	37	0.29	
Brannan Street	11,060	202	0.17	0.066	
King Street	30,452	884	0.12	0.050	
Townsend Street	18,602	620	0.06	0.025	
<b>Total Roadway</b>			37.35	0.431	
<b>Cumulative Health Risk Impact</b>					
		<b>Cancer Risk</b>	<b>Chronic Hazard</b>	<b>PM<sub>2.5</sub></b>	
Total Point Sources		45.995	0.01654	0.01223	
Total Roadway Sources		37.35	N/A	0.431	
<b>Cumulative Impact</b>		83.345	0.01654	0.44323	
<i>BAAQMD Individual Project Threshold</i>	-	-	>10.0 in a million	>1.0 Hazard Index (Chronic or Acute)	>0.3ug/m <sup>3</sup> annual average
<i>BAAQMD Cumulative Project Threshold</i>	-	-	>100 in a million from all local sources	>10 Hazard Index from all local sources	> 0.8 ug/m <sup>3</sup> annual average from all local sources
Individually Significant?	-	-	Yes	No	Yes
Cumulatively Significant?	-	-	No	No	No

SOURCE: BAAQMD, 2010

A – Source confirmed with BAAQMD, email communication, Sigalle Michael, BAAQMD to Debra Dwyer, San Francisco Planning Department

As shown in Table 6, mobile and stationary sources from The Embarcadero Roadway and from an SFPUC stationary source, not part of the project, exceed the individual health risk threshold. Based on the screening risk analysis, existing mobile and stationary sources within 1,000 feet would represent a significant community health risk for cancer risks and ambient PM<sub>2.5</sub>. However, as discussed above, park users are considered moderately sensitive land uses because their exposure times are generally far shorter than in residential locations and schools. The proposed project would have seating elements that would allow park users to extend their duration of exposure; however, sensitive receptors along the Embarcadero Promenade would be exposed to mobile and stationary source pollutants, irrespective of



the proposed project, and the proposed project would not contribute additional air pollutant emissions. The combined health risk impact from all stationary and roadway sources would not exceed the BAAQMD cumulative health risk thresholds. Mobile sources are regulated by State and federal agencies that implement vehicle emissions control regulations. Local jurisdictions do not have authority to regulate mobile source emissions; therefore, there is no feasible mitigation to lessen the impacts from mobile sources. Stationary sources are regulated by the regional agency, BAAQMD. The project sponsor has no jurisdiction of the SFPUC stationary source; therefore, there are no feasible mitigation measures to that can be implemented to reduce the health risk for cancer risks and ambient PM<sub>2.5</sub>. Additionally, the SFPUC stationary source that is exceeding the cancer and ambient PM<sub>2.5</sub> threshold may operate only infrequently; however, risks are calculated based on the maximum permitted run times. Therefore, this impact is conservatively estimated that it would be **significant and unavoidable**.

## D. BIOLOGICAL RESOURCES

### INTRODUCTION

This section addresses potential effects of the proposed project on biological resources. Existing project site characteristics, such as habitat types, and plant and animal species present, are described based on a Draft Biological Assessment (BA)<sup>46</sup> prepared for the proposed project and published technical information, as indicated in footnoted references.

The primary sources of information used to prepare the Draft Biological Assessment regarding impacts to biological resources are:

- The Sacramento Office of the USFWS online database for the San Francisco North, San Francisco South, Pt. Bonita, San Quentin, San Rafael, Oakland West, Richmond, and Hunters Point U.S. Geological Survey 7.5-minute quadrangles;
- California Department of Fish and Game's (CDFG's) Wildlife Habitat Relations System;<sup>47</sup>
- CNDDDB Rare Find 3, occurrence records from those same 7.5-minute quadrangles ;<sup>48</sup>
- The Golden Gate Audubon Society's Summary Report of Avian Surveys Conducted along the Port of San Francisco's Southern Waterfront Properties;<sup>49</sup>
- Species-specific studies presented in scientific journals and other publications.

Due to the limited terrestrial or aquatic plants within the Biological Study Area, which consists of a developed urban wharf area and estuarine waters, it was not necessary to consult the California Native

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<sup>46</sup> Kobernus, Patrick and Carbiener, Michael, 2010. DRAFT Biological Assessment, Essential Fish Habitat Assessment, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Pier 36 Demolition- Brannan Street Wharf Project. Coast Range Ecology and URS Corporation. This document is available for public review as part of Project File No. 2009.0418E at the Planning Department, 1650 Mission Street, Suite 400, San Francisco.

<sup>47</sup> CDFG (California Department of Fish and Game), 2005. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group Accessed March 2010. Life History Account for Least Tern. <http://nrm.dfg.ca.gov/taxaquery> Accessed March 2010.

<sup>48</sup> CDFG (California Department of Fish and Game), 2010. California Natural Diversity Database (CNDDDB) Program Rarefind 3. Created by the California Department of Fish and Game, January 2010 version.

<sup>49</sup> Weeden, N. and M. Lynes, 2008. Summary Report of Avian Surveys Conducted in 2008 at Dilapidated Piers and Other Structures along the Port of San Francisco's Southern Waterfront Properties. Golden Gate Audubon Society 2008.

Plant Society Inventory Database to generate a list of rare plants potentially occurring within the Biological Study Area.<sup>50</sup>

The Draft BA will be reviewed by the USACE and then finalized with their approval. The USACE will in turn submit the BA for formal consultation with National Oceanic and Atmospheric Administration (NOAA) 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 (MSFCMA), for the proposed demolition of Pier 36 and construction of the Brannan Street Wharf. The U.S. Fish and Wildlife Service determined through an informal consultation that impacts to listed species under their purview were not expected and that further consultation with USFWS does not need to be performed. The Biological Assessment will also address species under the purview of the California Department of Fish and Game (CDFG) and as such consultation with CDFG will be initiated under the California Endangered Species Act for species under their purview.

As discussed in the Initial Study, Appendix A, pg. 64 - 65, the project would not conflict with any local policies or ordinances protecting biological resources, such the City's Urban Forestry Ordinance. Therefore, this topic is not discussed in this section.

## SETTINGS

The project site is located on The Embarcadero in the southern waterfront of the City and County of San Francisco, at the north end of the San Francisco Peninsula. The Peninsula faces the Pacific Ocean to the west and defines the western edge of the San Francisco Bay to the east. The cities of Berkeley, Emeryville, and Oakland are located approximately four miles to the east on the opposite side of the San Francisco Bay, and along with other municipalities form the east edge of the San Francisco Bay. The San Francisco-Oakland Bay Bridge is a prominent man-made feature occurring approximately one mile south of the project site. Several islands including Angel Island, Alcatraz Island, Yerba Buena Island, and Treasure Island are in close vicinity to the project site.

The Embarcadero roadway extends along the waterfront for a distance of approximately three and one-half miles. Vegetation along The Embarcadero is limited to street trees which consist of sycamores, palm trees, and a variety of other ornamental species. Street trees extend along nearly the entire length of The Embarcadero.

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<sup>50</sup> Kobernus, Patrick and Carbiener, Michael, 2010, Ibid

## BIOLOGICAL STUDY AREA

The Biological Study Area established for the Biological Assessment is approximately 5.65 acres. The Biological Study Area includes a marginal wharf area that extends for approximately 940 feet along the Embarcadero and covers approximately 18,800 square feet (0.43 acre), and Pier 36, which is approximately 86,000 square feet (1.9 acres) and extends perpendicularly into the bay from the Embarcadero. Including the remnant piles from the wharf extension which have collapsed into the bay (47,000 square feet; 1.08 acres), the total square footage for Pier 36 is 133,000 square feet (3.24 acres).

The Biological Study Area includes an additional 94,000 square feet (2.16 acres) of bay waters based on a 40-foot-wide work zone around Pier 36 and the marginal wharf. The 40-foot work zone will be the operation zone for marine cranes along the wharf edge. The 5.65 acres defines the footprint of the Biological Study Area; however, the Biological Study Area includes a portion of San Francisco Bay that is under Pier 36, which is also potential habitat for fish and benthic invertebrates. Including this area, the Biological Study Area is 7.62 acres in size. Table 7 presents the habitats and land use/cover types in the Biological Study Area: San Francisco Bay and developed land. It should be noted that the formal boundaries of the Biological Study Area are limited to the demolition and construction activity area. However, one project activity, pile driving, is expected to generate noise levels that extend beyond the Biological Study Area boundaries. Technical studies referenced to estimate decibel (dB) levels at various distances from the project work areas are discussed on page 131.

**TABLE 7: HABITATS AND LAND COVER TYPES AND AREAS WITHIN THE BIOLOGICAL STUDY AREA**

Habitat/Land Cover Type		Area (square feet)	Area (acres)	Percent of Biological Study Area
Developed	Marginal Wharf	18,800	0.43	7.6
	Pier 36	86,000	1.97	34.9
	<b>Sub-Total</b>	<b>104,800</b>	<b>2.41</b>	<b>42.5</b>
San Francisco Bay	San Francisco Bay (40-foot buffer zone)	94,000	2.16	38.2
	Collapsed wharf extension	47,000	1.08	19.1
	<b>Subtotal</b>	<b>141,000</b>	<b>3.24</b>	<b>57.3</b>
<b>Total Biological Study Area</b>		<b>245,800</b>	<b>5.65</b>	<b>100</b>
Portion of San Francisco Bay under Pier 36		86,000	1.97	--

<b>Total Biological Study Area, including San Francisco Bay under Pier 36</b>	<b>331,800</b>	<b>7.62</b>	<b>--</b>
Total Existing Developed Area	104,800	2.41	
Proposed New Wharf/Park	57,000	1.31	--
<b>Total Increase in Open Waters of San Francisco Bay</b>	<b>47,800</b>	<b>1.10</b>	<b>--</b>

## Biological Conditions

This section describes the general biological conditions in and around the Biological Study Area with particular emphasis on its dominant habitat types.

### Background

The Biological Study Area includes developed wharf and pier areas, as well as aquatic habitat in the waters of San Francisco Bay; it does not contain upland or wetland vegetation communities. The communities, land uses, and aquatic habitat are described briefly below.

### Developed Land

The Biological Study Area contains approximately 2.41 acres of developed land that include a marginal wharf and Pier 36, which includes a warehouse structure. This area lacks vegetation other than small weeds that are found within cracks in the deck of the wharf and pier. Wildlife habitat is limited to bird perches and nesting sites on the roof of the warehouse, along the edges of the pier, and on remnant piles located at the east end of Pier 36.

### Pilings

Pilings can provide potential habitat for epibenthic invertebrates such as barnacles, mussels, and clams that secure themselves to hard bottom substrates. In the brackish and salty parts of the estuary, many bottom-dwelling animals, including clams, crabs, barnacles, and worms, drift as larvae for the early part of their life as zooplankton. Drifting larvae are the dispersing life cycle of otherwise sedentary adult forms, distributing these animals throughout and between estuaries. Pilings also provide substrate for spawning Pacific herring (*Clupea pallasii*).

Numerous piles support the current Pier 36 structure, as well as remnant piles protruding through the surface water located at the east end of Pier 36. These piles are treated with creosote. Creosote is a coal tar distillate used to preserve wood pilings and is composed primarily of polycyclic aromatic hydrocarbons (PAHs). In some cases, creosote has been shown to leach from pilings into the marine and freshwater

environment, resulting in elevated concentrations of PAHs in the surrounding waters and sediments. Creosote-derived PAHs have been linked with sediment toxicity and elevated tissue concentrations in biota.<sup>51, 52, 53</sup> Creosote also represents a potential human health risk associated with harvest and consumption of PAH-contaminated shellfish.

### **Open Water Habitat**

Open water habitat within the Biological Study Area consists of 3.24 acres of San Francisco Bay. This includes the collapsed wharf extension area (1.08 acres) and a 40-foot buffer zone where marine cranes will be operating along the existing wharf edge (2.16 acres). Including the portions of the bay that are covered and shaded underneath, Pier 36 adds an additional 1.97 acres of bay waters for a total of 4.21 acres (Table 7). The bay waters within the Biological Study Area vary in depth, but are generally less than 10 feet deep.

The open water areas of the central San Francisco Bay are characterized as euhaline (exhibiting approximately the same salinity as ocean waters) and provide habitat for marine invertebrates, fishes, birds, and marine mammals. Major harbors and ship channels in the estuary are located in Central Bay and are a mix of the benthic community (the sediment surface and some sub-surface layers of the bay) from surrounding areas (deep- and shallow-water and slough marine communities). Within the soft bottom bay sand and mud are relatively high numbers of subsurface deposit feeding oligochaetes (earthworms) and polychaetes (annelid worms). There are also filter feeding and deposit-feeding amphipods (form of crustaceans) (*Grandidierella japonica*, *Monocophium acherusicum*, and *Monocorophium alienense*), and carnivorous polychaete species (*Exogone lourei*, *Harmothoe imbricata*, and *Glycinde armigera*). Mobile invertebrates of the euhaline salinity zone are characterized by crustaceans such as blackspotted

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<sup>51</sup> U.S. EPA (U.S. Environmental Protection Agency), 2008. Creosote- Preliminary Risk Assessment for the Reregistration Eligibility Decision Document (RED). PC Codes 022003, 025003, and 025004.

<sup>52</sup> Vines, C. A., T. Robbins, F. J. Griffin, and G. N. Cherr, 2000. The effects of creosote derived compounds on development in Pacific herring (*Clupea pallasii*). *Aquatic Toxicology* 51: 225–239.

<sup>53</sup> Goyette, D. and K. M. Brooks, 1998. Creosote evaluation: phase II Sooke Basin study -- baseline to 535 days post construction 1995–1996. Prepared for Creosote Evaluation Steering Committee Regional Program. Report PR98-04

shrimp (*Crangon nigromaculata*), California bay shrimp (*Crangon franciscorum*), and the slender rock crab (*Cancer gracilis*).<sup>54</sup>

The fish community is primarily dominated by elasmobranchs (sharks, skates, and rays), such as the brown smoothhound (*Mustelus henlei*) and leopard shark (*Triakis semifasciata*). Also present are the brown rockfish (*Sebastes auriculatus*), plainfin midshipman (*Porichthys notatus*), Longfin smelt (*Spirinchus thaleichthys*), and flatfishes such as the California halibut (*Paralichthys californicus*) and the speckled sanddab (*Citharichthys stigmaeus*).<sup>55</sup> Pacific herring (*Clupea pallasii*), a species of ecological and economic importance, spawns within the Central Bay. Listed species that may use the Central Bay include steelhead, Chinook salmon and green sturgeon.

Common marine birds observed in the Central Bay include California brown pelican (*Pelecanus occidentalis*), western gull surf scoter (*Melanitta perspicillata*) and wintering species such as western grebe (*Aechmophorus occidentalis*). Bird species of conservation concern that use portions of the San Francisco waterfront include double-crested cormorant and Caspian tern (*Sterna caspia*).<sup>56</sup>

Marine mammal species that feed over soft bottom substrates such as those in the Central Bay include harbor seals (*Phoca vitulina*) and harbor porpoise (*Phocoena phocoena*). California sea lions (*Zalophus californianus*) also occasionally feed on species associated with soft bottom habitat.

## Description of Physical Conditions

Further description of the physical conditions of the Biological Study Area, including its climate, topography, and hydrology are described below. These characteristics are the context for the biological conditions and the species descriptions that follow.

### Climate and Topography

The Biological Study Area is in the San Francisco Bay Area, which has a Mediterranean-type climate characterized by moist, mild winters and dry summers. The Biological Study Area is on the northeast

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<sup>54</sup> NOAA, 2007. Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay. National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), Santa Rosa Office, June 2007. [http://swr.nmfs.noaa.gov/hcd/HCD\\_webContent/nocal/SHABTinSFBay.htm](http://swr.nmfs.noaa.gov/hcd/HCD_webContent/nocal/SHABTinSFBay.htm)

<sup>55</sup> NOAA, 2007, Ibid

<sup>56</sup> Weeden and Lynes, 2008, Ibid

waterfront of the City of San Francisco, where the average annual rainfall is 20.59 inches. The majority of precipitation occurs between October and April. Average annual high air temperature for San Francisco is 63.7 degrees Fahrenheit (°F), and average annual low temperature is 51.1 °F.<sup>57</sup>

The Biological Study Area includes the bay and a developed wharf area, and there is no topographic relief. The average elevation of the terrestrial portions of the Biological Study Area is slightly above sea level. There are no exposed tidal habitats at lower tide levels. Bay depths as referenced to mean lower low water (MLLW) vertical datum along the Embarcadero range from approximately - 3 to - 9 feet MLLW along the wharf edge to - 10 to - 16 feet MLLW along the outer edge of the Biological Study Area.

### **Hydrology**

The project site is located in an urbanized area of the San Francisco peninsula, on the western shore of San Francisco Bay. The former shore and Bay shallows in this area have been filled and are now occupied by industrial and commercial structures, piers, streets, and paved surfaces. San Francisco Bay estuary is the largest coastal embayment on the Pacific coast of the United States. This aquatic regime provides habitat for a wide variety of species, including migratory and resident birds and anadromous fishes.

No natural seeps, springs, or streams are present within the project boundary. The nearest natural water body is the San Francisco Bay. The San Francisco Bay estuary is a complex, dynamic water system composed of interconnected embayments, sloughs, marshes, and channels. It is the largest coastal embayment on the Pacific coast of the United States. The ocean, river, and waste waters that mix in this system vary depending on location and season. The Bay is composed of two estuarine reaches the northern and southern reaches. The Central Bay is often described as being a distinct sub-unit of the Bay's geography. Central Bay is most strongly influenced by tidal currents due to its close proximity to the Pacific Ocean. Pier 36 is located near the interface between the Central and South Bay. Within the Bay system, the South Bay receives less than 10 percent of the fresh water budget. The south bay also receives 75 percent of the volume of waste water discharged into the Bay. During the summer months it has been reported that sewage discharge exceeds fresh water in-flow in this area. It is characterizes as a tidally oscillating lagoon type estuary.

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<sup>57</sup> WRCC (Western Regional Climate Center), 2010. 1906–2007 data. Reno, NV. Available at:  
<http://www.wrcc.dri.edu> Accessed February 2010.



In addition, the Biological Study Area is adjacent to the Channel basin which is one of eight subwatersheds in the City of San Francisco. The Channel basin occupies 8.7 square miles in the northeastern section of the city. The Biological Study Area includes a section of upland area along the Embarcadero Promenade that is within this watershed. This area comprises a very small portion (less than 1.5 acres) of the watershed. The upland portion of the Biological Study Area and the adjacent upland area has been highly modified by urban development along the Embarcadero, including commercial and high-density residential development and high-use automotive transportation arterials. Runoff within these areas flows into storm drains and into a combined stormwater and sewage treatment system that flows to the Southeast Water Pollution Control facility in the Bayview-Hunters Point neighborhood for treatment prior to discharge. An overflow structure associated with the San Francisco combined sewer system is located at the project site near the intersection of Brannan Street and the Embarcadero.

## **Soils**

Two soil mapping units (soil series) are present within the Biological Study Area and its vicinity. These soil mapping units are not listed on the National Hydric Soil List.<sup>58</sup>

The western section of the Biological Study Area contains one soil type: Urban Land-Orthents, reclaimed complex, 0 to 2 percent slopes (134). The Urban Land-Orthents series is found in highly modified, urban areas. No salt marshes are found within the Biological Study Area that would qualify as hydric soil areas within this soil unit. The eastern section is designated as Water.<sup>59</sup>

## **Chemical Indicators**

### **Water Quality**

In addition to fresh and marine water, past and present urban uses in the area have contributed to industrial discharges and urban stormwater runoff that has influenced the water quality in the Biological Study Area. Pollutant sources discharging into the surface waters include both point and nonpoint discharges. A point source is any discernible, confined, and discrete conveyance (e.g. a pipe discharge) of

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<sup>58</sup> USDA (U.S. Department of Agriculture), Natural Resources Conservation Service (NRCS), 2010. National Cooperative Soil Survey, Web Soil Query for San Mateo County, Eastern Part, and San Francisco County, California. Available at <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed on February 27, 2010.

<sup>59</sup> USDA, 2010, Ibid

pollutants to a water body from such sources as industrial facilities or wastewater treatment plants. Nonpoint pollutants sources are source that do not have a single, identifiable discharge point but are rather a combination of many sources.

Point sources in the project area include discharges through pipelines and other discharge that drain into the immediate surface waters. These are permitted discharges that are subject to prohibitions by regulatory agencies, water quality requirements, periodic monitoring, annual reporting, and other requirements designed to protect the overall water quality of the Bay.

A nonpoint source can be stormwater runoff from land that contains, for example, petroleum from parking lots or roadways, pesticides from lawns or parks, or sediment from soil erosion. Overland stormwater flow and urban runoff cause nonpoint pollution along the waterfront. Nonpoint source discharges from the project site could potentially present a water quality concern due to current conditions, demolition and construction. Nonpoint sources specific to the site may include sediment, petroleum and oils from runoff, polyaromatic hydrocarbons from wood chips from decaying piles, and litter. Pier 36 is located on the southern waterfront between Piers 30-32 and Pier 38 and was a part of the Port's working maritime waterfront. The Biological Study area is part of an urban area and is subject to stormwater runoff and other urban influences; however, surface waters are an insignificant percentage of the complex and dynamic water system merging ocean, river and storm waters of San Francisco Bay.

### **Sediment Quality**

The proposed project is located within the San Francisco Bay/Delta estuarine system. The San Francisco Bay/Delta estuarine system drains over 40 percent of the land area in the state of California. Shoaling of navigation channels results from a combination of new sediments entering the system (primarily from the Sacramento/San Joaquin rivers) and resuspension of existing sediment resulting from fluvial, tidal, and wind-driven waves and currents. Annual amounts of new and resuspended sediments for the entire San Francisco Bay Area are estimated to be eight million cubic yards (mcy) and 100 mcy, respectively.

The sediment that accumulates along the San Francisco waterfront is characterized by the recent deposition of unconsolidated (loose) sediment. Material that accretes or accumulates is a result of natural sediment inflows from rivers, creeks, surface runoff, and, especially, from re-settlement of sediment suspended in Bay waters by natural processes (i.e., tidal action, wind, etc).

Sediment which has accumulated within the Biological Study Area has not been recently analyzed for various chemical constituents. However, sediments from berths at Piers 40, 48-50, and 30-32 in proximity

to the Biological Study Area have been tested for the Dredge Material Management Offices standard suite of chemicals and biological toxicity tests (Figure 11). It is reasonable to assume that sediment concentrations within the study area would be similar to sediments north and south along the waterfront.

Over the decades, the Port has characterized numerous berths for dredging and disposal at permitted and approved aquatic disposal sites such as the Alcatraz Disposal site and the San Francisco Deep Ocean Disposal Site (SFDODS). Sediment samples are collected and submitted for the full suite of physical, chemical, and biological analyses as per Public Notice (PN) 01-01. All guidance for testing dredged materials for in-Bay disposal as provided in U.S. Environmental Protection Agency/U.S. Army Corps of Engineers (USEPA/USACE) 1998, Inland Testing Manual (ITM) are strictly followed.

Test samples exhibited bioassay results that passed regional and federal guidelines indicating a lack of toxicity in both the elutriate phase for larval and water column species and solid phase for benthic organisms. Chemical concentrations within test sediments were similar to concentrations previously approved for aquatic disposal of dredge material. Calculation of the water-column concentration using the approved dilution models resulted in no exceedances of the water quality guidelines. The results of the chemical, biological, and water quality criteria (WQC) compliance calculations were found to pose no environmental risk for these sediments.

## Habitat Assessment

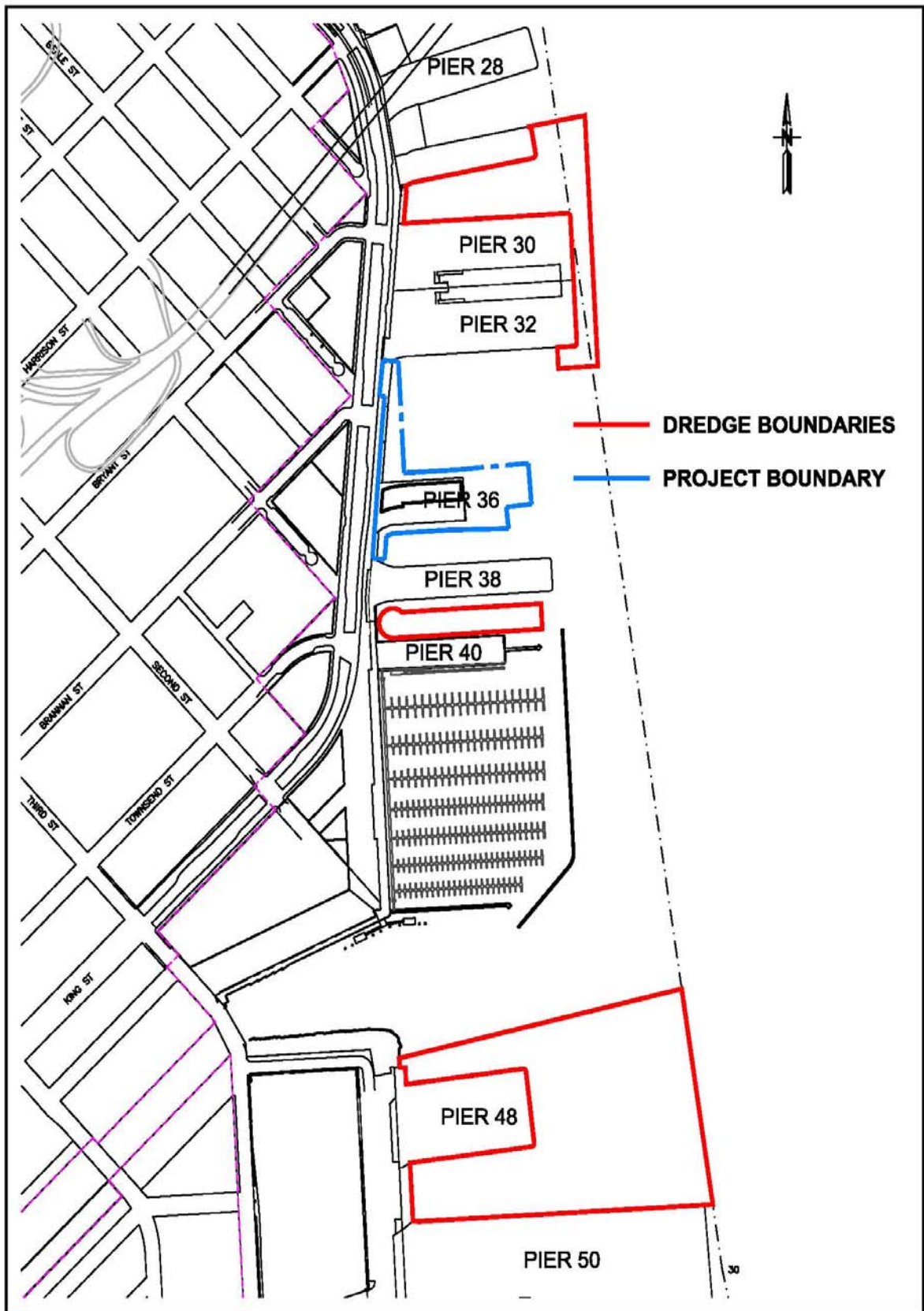
Reconnaissance-level wildlife habitat assessments were conducted on May 6, 2009 and February 3, 2010.

<sup>60</sup> These surveys were conducted from land by walking the existing wharf edge. The warehouse structure, wharf, old piers, and nearshore tidal habitat were visually inspected. The surveys were conducted to look for birds, bats, their nests or roosts, and marine mammals.

During the May 2009 survey, the interior of the warehouse structure on site was searched extensively for signs of nesting birds and for roosting bats (i.e., urine staining and/or guano), and other wildlife usage. The warehouse structure is in a dilapidated condition from disuse, corrosion, and extensive vandalism. The surveyor used binoculars to survey for birds and bats, and a headlamp to illuminate crevices in the building for bat sign.

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<sup>60</sup> Kobernus, Patrick and Carbiener, Michael, 2010. Biological Assessment, Essential Fish Habitat Assessment, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Pier 36 Demolition- Brannan Street Wharf Project. Coast Range Ecology and URS Corporation.



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Figure 11 – Port of San Francisco Sediment Characterization Areas

One active rock dove (*Columba livia*) nest was observed within the interior of the building, and a number of active western gull (*Larus occidentalis*) nests were observed on the roof of the warehouse building. No other wildlife sign was detected other than that of rats (Norway and/or roof rats [*Rattus* sp.]).

At the east end of Pier 36, a number of old creosote piles are elevated approximately 5 to 15 feet above the water. Birds observed roosting on these piles included western gull and double-crested cormorant (*Phalacrocorax auritus*). Other birds observed within the wharf area included common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), and Canada goose (*Branta canadensis*). During the February 3, 2010 survey, two Pacific harbor seals (*Phoca vitulina richardsi*) were observed swimming and foraging offshore within 300 feet of the wharf edge.

The results of these surveys eliminated the need for further consideration and study of the majority of species listed in Table 8 because there was no suitable habitat in the Biological Study Area for those species. Discussion following Table 8 presents the species that warranted further study to assess the possibility of their presence in or around the Biological Study Area and that are under the purview of the USFWS, the NMFS, and CDFG.

### **Special-Status and Protected Species**

For the purposes of this section, special-status species include:

- species listed, proposed, or candidate species for listing as Threatened or Endangered by the USFWS pursuant to the Federal Endangered Species Act (FESA) of 1973, as amended;
- species listed as Rare, Threatened, or Endangered by the California Department of Fish and Game (CDFG) pursuant to the California Endangered Species Act (CESA) of 1970, as amended;
- species regulated under the Magnuson-Stevens Fisheries Conservation and Management Act of 1976, as amended;
- species protected under the Marine Mammals Protection Act of 1972, as amended;
- species designated as Fully Protected under Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians) of the California Fish and Game Code;
- species designated by the CDFG as California Species of Concern; and
- species not currently protected by statute or regulation, but considered rare, threatened or endangered under CEQA (Section 15380).

The resulting list of species in Table 8 was then refined to limit the remaining analysis to those federally listed species that could reasonably be expected to occur in the Biological Study Area, as discussed after Table 8. An animal listed in Table 8 which was not discussed for further analysis met either of the following criteria:

- It could not occur within the Biological Study Area due to habitat constraints.
- The Biological Study Area was outside the species' range.

Many of the species in Table 8 were found not likely to occur in the Biological Study Area; six species were found to have potential to occur and therefore warranted further study. Discussion below Table 8 presents the refined list of listed and proposed species determined to have potential to occur in the Biological Study Area.

**TABLE 8: FEDERALLY LISTED AND OTHER SPECIAL-STATUS SPECIES AND HABITATS WITHIN THE VICINITY OF THE BIOLOGICAL STUDY AREA**

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	HABITAT	LIKELIHOOD OF OCCURANCE
<i>Incisalia mossii bayensis</i>	San Bruno elfin butterfly	E	None	Grasslands and coastal scrub within the coastal fogbelt, with cliffs or rock outcrops on north facing slopes in San Mateo County; host plant is Pacific stonecrop ( <i>Sedum spathulifolium</i> ).	Suitable habitat absent. Does not occur.
<i>Plebejus icarioides missionensis</i>	Mission blue butterfly	E	None	Grasslands and rock outcrops within the coastal fogbelt in southern Marin, San Francisco, and San Mateo Counties; host plants are silver lupine ( <i>Lupinus albifrons</i> ), varied lupine ( <i>L. variicolor</i> ), and summer lupine ( <i>L. formosus</i> ).	Suitable habitat absent. Does not occur.
<i>Speyeria callippe callippe</i>	Callippe silverspot butterfly	E	None	Grasslands within the fogbelt of the San Francisco Bay Area; host plant is Johnny jump up ( <i>Viola pedunculata</i> ).	Suitable habitat absent. Does not occur.

State and Federal Status:

- E Endangered
- FP State Fully Protected Species
- P Proposed
- SC State species of concern
- T Threatened
- X Critical Habitat

Habitat or Species Presence:

- P Species or General Habitat is Present

V. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION AND IMPROVEMENT MEASURES  
D. BIOLOGICAL RESOURCES

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	HABITAT	LIKELIHOOD OF OCCURANCE
<i>Acipenser medirostris</i>	Green sturgeon, Southern DPS	T	SC	Rivers and estuaries, including the south San Francisco Bay.	Known to occur.
<i>Acipenser medirostris</i>	Critical habitat, Green sturgeon, Southern DPS	XP	NA	Critical habitat for this species includes all waters of San Francisco Bay.	Known to occur.
<i>Eucyclogobius newberryi</i>	Tidewater goby	E	SC	Coastal lagoons, estuaries and marshes in coastal California from the Smith River to Agua Hedionda Lagoon.	Species is presumed extirpated from San Francisco Bay.
<i>Hypomesus transpacificus</i>	Delta smelt	T	T	Sacramento-San Joaquin Delta, Suisun Bay, San Pablo Bay, river channels and sloughs.	Outside of known range. Does not occur.
<i>Spirinchus thaleichthys</i>	Longfin Smelt	None	T	Estuary and nearshore coastal environments from San Francisco Bay north to Lake Earl, near the Oregon border.	Known to occur.
<i>Oncorhynchus kisutch</i>	Coho salmon, Central California Coast ESU	T	E	Between Punta Gordo and San Lorenzo River; loose, silt-free, gravel beds for spawning, cover, cool water, sufficient dissolved oxygen.	Suitable habitat present. Coho has not been observed within San Francisco Bay since the 1980s. Not likely to occur.

State and Federal Status:

E Endangered  
FP State Fully Protected Species  
P Proposed  
SC State species of concern  
T Threatened  
X Critical Habitat

Habitat or Species Presence:

P Species or General Habitat is Present



SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	HABITAT	LIKELIHOOD OF OCCURANCE
<i>Oncorhynchus mykiss</i>	Steelhead, Central California Coast DPS	T	SC	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. Needs clean, cool water with appropriate substrate for spawning.	Known to occur.
<i>Oncorhynchus mykiss</i>	Critical Habitat Steelhead, Central California Coast DPS	X	None	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.	Within designated critical habitat. Known to occur.

State and Federal Status:

E Endangered  
 FP State Fully Protected Species  
 P Proposed  
 SC State species of concern  
 T Threatened  
 X Critical Habitat

Habitat or Species Presence:

P Species or General Habitat is Present

V. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION AND IMPROVEMENT MEASURES  
D. BIOLOGICAL RESOURCES

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	HABITAT	LIKELIHOOD OF OCCURANCE
<i>Oncorhynchus mykiss</i>	Steelhead, California Central Valley DPS	T	None	Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH, and Feather River Hatchery steelhead hatchery programs.	May occur as incidental and transitory migrants only.
<i>Oncorhynchus mykiss</i>	Critical Habitat Steelhead, California Central Valley DPS	X	None	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. Also includes designated reaches of rivers and creeks below specified migration barriers.	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.
<i>Oncorhynchus tshawytscha</i>	Chinook salmon, Central Valley spring-run ESU	T	T	Central Valley rivers and their tributaries, west to the Pacific Ocean, inclusive.	May occur as incidental and transitory migrants only.

State and Federal Status:

E Endangered  
FP State Fully Protected Species  
P Proposed  
SC State species of concern  
T Threatened  
X Critical Habitat

Habitat or Species Presence:

P Species or General Habitat is Present

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	HABITAT	LIKELIHOOD OF OCCURANCE
<i>Oncorhynchus tshawytscha</i>	Critical Habitat Chinook salmon, Central Valley spring-run ESU	X	None	Includes the San Francisco Bay estuary, up to the point of higher high tide	Within designated critical habitat. Known to occur.
<i>Oncorhynchus tshawytscha</i>	Chinook salmon, Sacramento River winter-run ESU	E	E	Sacramento River from Keswick Dam (near Redding) south to Chipps Island, then west through Carquinez Strait, and the Pacific Ocean.	May occur as incidental and transitory migrants only.
<i>Oncorhynchus tshawytscha</i>	Chinook salmon, Sacramento River winter-run ESU	X	None	Includes the San Francisco Bay estuary, up to the point of higher high tide	Within designated critical habitat. Known to occur.
<i>Rana aurora draytonii</i>	California red-legged frog	T	SC,P	Lowlands and foothills with deep water remaining for at least 11 weeks; water source is usually associated with abundant emergent and or shoreline vegetation.	Suitable habitat absent. Does not occur.
<i>Thamnophis sirtalis tetrataenia</i>	San Francisco garter snake	E	E, FP	Ponds, marshes, streams and other wetlands in San Mateo County	Suitable habitat absent. Does not occur

State and Federal Status:

E Endangered  
 FP State Fully Protected Species  
 P Proposed  
 SC State species of concern  
 T Threatened  
 X Critical Habitat

Habitat or Species Presence:

P Species or General Habitat is Present

V. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION AND IMPROVEMENT MEASURES  
D. BIOLOGICAL RESOURCES

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	HABITAT	LIKELIHOOD OF OCCURANCE
<i>Brachyramphus marmoratus</i>	Marbled murrelet	T	E	Mature Douglas fir and redwood forest within 35 miles of the coast; forages in the nearshore waters of the Pacific Ocean.	Outside of known nesting and foraging range. Does not occur.
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	T	SC	Coastal beaches, sandy areas near estuaries, salt ponds, river mouths, levees along inland salt ponds.	Suitable habitat absent. Does not occur.
<i>Rallus longirostris obsoletus</i>	California clapper rail	E	E,FP	Salt marshes dominated by pickleweed and cordgrass, brackish marshes, tidal sloughs, and channels.	Suitable habitat absent. Does not occur.
<i>Sterna antillarum browni</i>	California least tern	E	E,FP	Flat, open areas along coast near inshore estuaries, river mouths, or shallows, sandy ground with little or no vegetation, bays, freshwater ponds, channels, lakes.	Suitable foraging habitat present, though the nearest nesting colonies are in Alameda, California. Not likely to occur.
<i>Enhydra lutris nereis</i>	Southern sea otter	T, MMPA	FP	Pacific Ocean nearshore marine waters; historically in San Francisco Bay.	Suitable habitat present. Outside of species normal range. May occur as incidental and transitory.

State and Federal Status:

E Endangered  
FP State Fully Protected Species  
P Proposed  
SC State species of concern  
T Threatened  
X Critical Habitat

Habitat or Species Presence:

P Species or General Habitat is Present

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	HABITAT	LIKELIHOOD OF OCCURANCE
<i>Eschrichtius robustus</i>	Gray whale	D, MMPA	None	Open waters, nearshore waters; occasional inshore waters.	Suitable habitat absent. Does not occur except as incidental and transitory.
<i>Megoptera noveangliae</i>	Humpback whale	E, MMPA	None	Open waters; occasional inshore waters.	Suitable habitat absent. Does not occur except as incidental and transitory.
<i>Phoca vitulina</i>	Pacific harbor seal	MMPA	FP	Bays, estuaries, and inshore waters of the Pacific Ocean; sloping rock ledges and beaches.	Suitable habitat present. May occur.
<i>Phocoena phocoena</i>	Harbor porpoise	MMPA	None	Open water, bays, natural and engineered harbors.	Suitable habitat present. May occur.
<i>Zalophus californianus</i>	California sea lion	MMPA	None	Islands and coastal waters, beaches, and rock outcrops, infrequently bays and rivers; piers, buoys, jetties.	Suitable habitat present. May occur.
<i>Reithrodontomys raviventris</i>	Salt marsh harvest mouse	E	E, FP	Salt marsh where pickleweed ( <i>Salicornia virginica</i> ) is the dominant vegetation.	Suitable habitat absent. Does not occur.

State and Federal Status:

E Endangered  
 FP State Fully Protected Species  
 P Proposed  
 SC State species of concern  
 T Threatened  
 X Critical Habitat

Habitat or Species Presence:

P Species or General Habitat is Present

From field reconnaissance and a background review, it was determined that the Biological Study Area, as well as areas immediately adjacent to it, provide habitat suitable to support seven federally and state listed species under NMFS or CDFG jurisdiction. The listed status, habitat requirements, and life history of these seven species are discussed below.

### **Steelhead**

Steelhead in California exhibit life-history characteristics that are generally similar to Pacific salmon, but there are some major differences. Juvenile steelhead typically rear in freshwater for a longer period (usually from 1 to 3 years) than other salmonids and both adults and juveniles are more variable in the amount of time they spend in freshwater and saltwater. Throughout their range, steelhead typically remain at sea for one to four growing seasons before returning to freshwater to spawn.<sup>61</sup> 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 requires cool, clean, well-oxygenated water, and appropriate gravel for spawning. Spawning habitat condition is strongly affected by water flow and quality, especially temperature, dissolved oxygen, shade, and silt load, all of which can greatly affect the survival of eggs and larvae.<sup>62</sup> 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 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 result of urban and agricultural development within

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<sup>61</sup> Burgner, R. L., J. T. Light, L. Margolis, T. Okazaki, A. Tautz, and S. Ito, 1992. Distribution and origins of steelhead trout (*Oncorhynchus mykiss*) in offshore waters of the north Pacific Ocean. International North Pacific Fisheries Commission. Bull. nr. 51.

<sup>62</sup> USFWS (U.S. Fish and Wildlife Service), 2006. Ventura Fish and Wildlife Office Species Profiles. Online: <http://www.fws.gov/ventura/sppinfo/profiles/index.cfm>.

watersheds, and the removal of woody vegetation for flood control purposes has severely impacted steelhead summer rearing habitat in many California streams.

### California Central Valley (CCV) Steelhead

The CCV steelhead (*Oncorhynchus mykiss*) Distinct Population Segment (DPS) was listed as a threatened species on March 19, 1998 (Federal Register 63: 13347-13371) and this status was reconfirmed on January 5, 2006 (Federal Register 71: 834-862). This DPS includes all naturally spawned anadromous populations below natural and manmade impassable barriers in the Sacramento and San Joaquin rivers and their tributaries, excluding steelhead from San Francisco and San Pablo bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH and Feather River Hatchery steelhead hatchery programs (Federal Register 71: 834-862).

### Central California Coast Steelhead

The CCC steelhead (*Oncorhynchus mykiss*) DPS was listed as a threatened species on August 18, 1997 (Federal Register 62:43937-43954). 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.<sup>63</sup> 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 Basin, as well as two artificial propagation programs: the Don Clausen Fish Hatchery, and Kingfisher Flat Hatchery/Creek (Monterey Bay Salmon and Trout Project) steelhead hatchery programs.<sup>64</sup>

### Chinook Salmon

Chinook salmon populations along the West Coast have been divided into 17 evolutionarily significant units (ESUs) in order to distinguish the various runs of the species that are substantially reproductively isolated from other conspecific populations and represent an important component in the evolutionary legacy of the biological species.<sup>65</sup> Of the six ESUs of Chinook salmon in California, occurrence in the biological study area of one federally Endangered ESU (Sacramento River winter-run) and one

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<sup>63</sup> NOAA, 2007b. Ibid

<sup>64</sup> NOAA, 2007b. Ibid

<sup>65</sup> NOAA, 2005. Endangered and Threatened Species: Final Listing Determinations for 16 ESUs of West Coast Salmon, and Final 4(d) Protective Regulations for Threatened Salmonid ESUs. June 28, 2005. National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA). Federal Register 70 (123): 37160-37204.

Threatened ESU (Central Valley spring-run) are evaluated in this document. Each is discussed separately below.

Chinook salmon have two basic life history types, stream-type and ocean-type. Stream-type adults run up streams before they have reached full maturity, in spring or summer, and juveniles usually spend more than one year in fresh water. Ocean-type adults spawn soon after entering fresh water, in summer and fall, and juveniles spend 3 months to a year rearing in fresh water. These variations of life history are named for the timing of spawning runs of adults, such as spring-run or fall-run.<sup>66</sup>

When in fresh water, juvenile Chinook salmon are opportunistic drift feeders and eat a wide variety of terrestrial and aquatic insects. As they 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 pools up to two meters deep 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.<sup>67</sup>

Once juvenile 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, stream-type juveniles move downstream and out to sea as smolts, at lengths of 80 to 150 millimeters, but ocean-type juveniles move downstream at lengths of 30 to 50 millimeters to rear in the estuary.<sup>68</sup>

### Sacramento River Winter-Run Chinook Salmon

The Sacramento River winter-run Chinook salmon was listed as a threatened species on January 4, 1994 and reaffirmed on June 28, 2005.<sup>69, 70</sup> 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 from the Livingston Stone National Fish Hatchery (NFH), and winter-run

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<sup>66</sup> Moyle, P. B. 2002. Inland fishes of California. University of California Press; Berkeley, CA. 501 pp.

<sup>67</sup> Moyle, P. B. 2002, Ibid

<sup>68</sup> Moyle, P. B. 2002, Ibid

<sup>69</sup> NOAA, 1994. Endangered and Threatened Species: Status of Sacramento River Winter-run Chinook Salmon. January 4, 1994. National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA). Federal Register 59 (2): 440-450.

<sup>70</sup> NOAA, 2005, Ibid



Chinook in a captive broodstock program maintained at Livingston Stone NFH and the University of California Bodega Marine Laboratory.

Immigrating adult winter-run Chinook pass under the Golden Gate Bridge from November through May, and enter the Sacramento River from December through early August. Winter-run Chinook spawn in the upper mainstem Sacramento River from mid-April through August. Fry and smolts emigrate downstream from July through March in the Sacramento River, reaching the Delta from September through June.

Historically, winter-run Chinook 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, however, were able to take advantage of cool summer water releases downstream of Keswick Dam. In the 1940s and 1950s the population recovered. However, beginning in 1970, the population experienced a dramatic decline, to a low of approximately 200 spawners by the early 1990s. The run was classified as endangered under the state ESA in 1989, and as endangered under the federal ESA in 1994.<sup>71</sup>

### Central Valley Spring-Run Chinook Salmon

The Central Valley spring-run Chinook salmon was listed as a threatened species on September 16, 1999 and reaffirmed on June 28, 2005.<sup>72, 73</sup> 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 program.

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 three to 15 months before migrating to the ocean. The Central Valley spring-run Chinook salmon historically made up one of the largest sets of runs on the Pacific Coast.<sup>74</sup> 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 river.

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<sup>71</sup> CDFG, 2010, Ibid

<sup>72</sup> NOAA, 1994, Ibid

<sup>73</sup> NOAA, 2005, Ibid

<sup>74</sup> Moyle, 2002, Ibid

The principal habitats remaining open to the Central Valley spring-run Chinook salmon are Deer Creek, Mill Creek, Butte Creek, and the mainstem of the Sacramento River.

### **Green Sturgeon**

The southern DPS of green sturgeon (*Acipenser medirostris*) was listed as federally threatened on April 6, 2006 by NMFS. This DPS of green sturgeon consists of all coastal and Central Valley populations south of the Eel River, with the only known spawning population in the Sacramento River (Federal Register 62:43937-43954).

The green sturgeon, like all sturgeon species, 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 fresh water 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 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 in between cobbles. Spawning occurs in the Sacramento River in late spring and early summer (March through July). San Francisco Bay and the Central Valley river system contain the southernmost spawning population of green sturgeon. Green sturgeon spawning in the southern DPS occurs predominantly in the upper Sacramento River.<sup>75</sup>

Once green sturgeon outmigrate 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 at least Alaska in marine waters, and is observed in bays and estuaries up and down the West Coast of North America. Sturgeons tagged in the Sacramento River are captured primarily in coastal and estuarine waters to the north.<sup>76</sup> They are also found throughout the San Francisco Bay and Delta during periods of migration. Adults feed on benthic invertebrates and to a lesser extent, small fish. Juveniles feed on opossum shrimp and amphipods in the San Francisco Estuary. Within the southern San Francisco Bay, green sturgeon are year-round residents.<sup>77</sup>

The principal factor for decline of the southern DPS is the reduction of the spawning area to a limited area of the Sacramento River. Sample surveys conducted by NMFS in the late 1990s and early 2000s suggest that the southern DPS abundance has been stable except for a large increase in the 2001 estimate

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<sup>75</sup> Moyle, 2002, Ibid

<sup>76</sup> Moyle, P.B., R.M. Yoshiyama, J.E. Williams, and E.D. Wikramanayake. 1995. Fish Species of Special Concern in California. Second edition. Final report to CA Department of Fish and Game, contract 2128IF

<sup>77</sup> Moyle, et al, 1995, Ibid

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 (Federal Register, Volume 68, No. 19, p. 4439).

A number of other presumed spawning populations (Eel River, South Fork Trinity River, San Joaquin River) have been lost in the past 25 to 30 years.<sup>78</sup> However, green sturgeon juveniles have recently been collected in Willow Creek, a tributary to the Trinity River and are assumed to be from spawning adults within the Trinity River.<sup>79</sup> Green sturgeon are also extremely susceptible to overfishing, as sexual maturity is not reached until 15 to 20 years of age.<sup>80</sup>

### **Longfin Smelt**

The longfin smelt (*Spirinchus thaleichthys*) was listed by CDFG as Threatened in March 2009 (CCR Title 14, Section 670.5), primarily due to a loss of habitat.<sup>81</sup> The longfin smelt is a small fish, native to California's San Francisco Estuary and some other estuaries along the Northeast Pacific coast. The longfin smelt found in California is a euryhaline (i.e., able to live in waters with a wide variation in salinity) and anadromous member of the family Osmeridae. Adults and juveniles can be found in the Sacramento-San Joaquin Delta in waters ranging from nearly pure sea water to completely fresh water. Adults are concentrated in Suisun, San Pablo, and north San Francisco bays. The species feeds exclusively on zooplankton and spawns in freshwater.

Spawning may begin as early as November, although most spawning occurs from January through April. Longfin smelt congregate for spawning in freshwater habitats at the upper end of Suisun Bay and in the lower and middle Delta. The lower end of the spawning habitat appears to be upper Suisun Bay around Pittsburg and Montezuma Slough.<sup>82</sup> Newly hatched larvae drift downstream into brackish-water nursery

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<sup>78</sup> Moyle, et al, 1995, Ibid

<sup>79</sup> Scheiff, A.J., J.S. Lang, W.D. Pinnix. 2001. Juvenile salmonid monitoring on the mainstem Klamath River at Big Bar and mainstem Trinity River at Willow Creek 1997-2000. USFWS, AFWO, Arcata, CA 95521, 114 pp.

<sup>80</sup> Moyle, 2002, Ibid

<sup>81</sup> California Department of Fish and Game. 2009. Report to the Fish and Game Commission: A status review of the longfin smelt (*Spirinchus thaleichthys*) in California

<sup>82</sup> CDFG (California Department of Fish and Game). 1995. Stanislaus River Basin and Calaveras River Water Use Program. Threatened and Endangered Species Report. Bay Delta and Special Water Projects Division. March.

areas in the western Delta and Suisun and San Pablo bays. Pre-spawning adults and yearling juveniles are most abundant in the San Pablo Bay, South Bay, and the open ocean.<sup>83</sup>

The United States Fish and Wildlife Service has made preliminary estimates of adult (>30 mm) longfin smelt abundance during fall months within the upper San Francisco Estuary (a subset of their geographic range) based upon *Fall Midwater Trawl Survey* data for the period 1975-2007. The estimates suggest that abundance peaked in the “tens of millions” in 1982 and decline to the “tens of thousands” by 2007. The accuracy of the absolute estimates is disputable due to the potential selection biases of the trawl, incomplete sampling of longfin smelt habitat and month-to-month variation in catches. However, evidence of a decline of at least two orders of magnitude in the relative abundance of the fall upper estuary population between 1982 and the present is quite strong.<sup>84</sup>

Factors associated with the decline of longfin smelt relate primarily to environmental conditions in Sacramento-San Joaquin Delta spawning area, including surface water diversion and sediment and water column contaminants in the Sacramento-San Joaquin Delta (mercury, selenium, organochlorines, pyrethroid insecticides and ammonia). Surface water in the Sacramento-San Joaquin Delta are currently being diverted for a number of commercial purposes, including power plants, local water districts, agricultural diversions, wildlife diversions, the State Water Project, the Central Valley Project, dredging operations, and sand mining operations. These diverted flows entrain longfin smelt and similar fishes, with most of these fish lost.<sup>85</sup>

### **Pacific Herring**

The Pacific herring (*Clupea pallasii*) is not protected under the Federal of California ESA, though it does constitute a state fishery regulated under Sections 8550-8559 of the California Fish and Game Code. It is a schooling planktivore (an animal feeding primarily on plankton) that is found throughout the coastal zone from Baja California to the northern rim of the Pacific basin and the east coast of Asia.<sup>86</sup> This species spawns within shallow areas of protected bays, broadcasting adhesive eggs over kelp, rocks, or other

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<sup>83</sup> Goals Project, 2000. Baylands Ecosystem Species and Community Profiles: Life Histories and Environmental Requirements of Key Plants, Fish and Wildlife. Prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. P. R. Olofson, editor. San Francisco Bay Regional Water Quality Control Board, Oakland, California <http://www.springerlink.com/content/xg0r66h0g47074r6/>.

<sup>84</sup> CDFG, 2009, Ibid

<sup>85</sup> CDFG, 2009, Ibid

<sup>86</sup> Bartling, Ryan, 2006. Pacific Herring – Status of the Fisheries Report. Prepared for California Department of Fish and Game. Accessed at: [www.dfg.ca.gov/marine/status/report2006/herring.pdf](http://www.dfg.ca.gov/marine/status/report2006/herring.pdf).

structures. After hatching, fry and juveniles inhabit nearby protected and inshore waters. As the herring grow, they move offshore until reaching sexual maturity.<sup>87</sup>

Although the Pacific herring is not a special-status species, it is an important component of the San Francisco Bay ecosystem and supports one of the few remaining urban fisheries on the Pacific Coast. It is an important food source for marine mammals, sea birds, as well as other fish. Stock sizes within the bay fluctuate widely and are dependent on a variety of environmental factors, including El Niño events and near-shore productivity levels.<sup>88</sup>

### Essential Fish Habitat

On October 11, 1996, Congress passed the Sustainable Fisheries Act (Public Law 104-297) which amended the habitat provisions of the Magnuson Act. Toward this end, the act was designed to protect habitat for commercially important species such as Pacific Coast groundfish, three species of salmon, and five species of coastal pelagic fish and squid. The Act requires cooperation among the National Marine Fisheries Service (NMFS), the Fishery Management Councils, and Federal agencies to protect, conserve, and enhance "essential fish habitat". Congress defined essential fish habitat for federally managed fish species as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Table 9 lists the federally managed species within Central San Francisco Bay.

**TABLE 9: FEDERALLY MANAGED FISH SPECIES OF CENTRAL SAN FRANCISCO BAY**

Fisheries Management Plan	Species, Common Name	Species, Scientific Name	Life Stage*	Abundance
Coastal Pelagic	Northern anchovy	<i>Engraulis mordax</i>	J, A	Abundant
	Jack mackerel	<i>Trachurus symmetricus</i>	E,L	Present
	Pacific sardine	<i>Sardinops sagax</i>	J, A	Present
Pacific Groundfish	English sole	<i>Parophrys vetulus</i>	J, A	Abundant
	Sand sole	<i>Psettichthys melanostictus</i>	L, J, A	Present
	Curlfin sole	<i>Pleuronichthys decurrens</i>	J	Present
	Pacific sanddab	<i>Citharichthys sordidus</i>	E,L,J,A	Present
	Starry flounder	<i>Platichthys stellatus</i>	J, A	Abundant

<sup>87</sup> Bartling, Ryan, 2006. Ibid

<sup>88</sup> Bartling, Ryan, 2006, Ibid

	Lingcod	<i>Ophiodon elongatus</i>	J, A	Present
	Brown rockfish	<i>Sebastes auriculatus</i>	J	Abundant
	Pacific whiting (hake)	<i>Merluccius productus</i>	E,L	Present
	Kelp greenling	<i>Hexagrammos decagrammus</i>	J,A	Present
	Leopard shark	<i>Triakis semifasciata</i>	J, A	Present
	Spiny dogfish	<i>Squalus acanthias</i>	J, A	Present
	Skates	<i>Raja</i> ssp.	J, A	Present
	Soupin shark	<i>Galeorhinus galeus</i>	J, A	Present
	Bocaccio	<i>Sebastes paucispinis</i>	J, A	Rare
	Cabazon	<i>Scorpaenichthys marmoratus</i>	J	Few
Pacific Coast Salmon	Chinook salmon	<i>Oncorhynchus tshawytscha</i>	J,A	Seasonally Present
	Coho salmon	<i>Oncorhynchus kisutch</i>	J,A	Not Present

Source: NFMS, 2008

Notes: A = Adult

J = Juvenile

L = Larvae

E = Egg

## REGULATORY SETTING

### FEDERAL REGULATIONS

#### Federal Endangered Species Act (FESA)

The Federal Endangered Species Act (FESA) was enacted in 1973. Under the FESA, the Secretary of the Interior and the Secretary of Commerce, jointly have the authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). FESA is administered by both the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS Fisheries) and the USFWS. NOAA Fisheries is accountable for animals that spend most of their lives in marine waters, including marine fish, most marine mammals, and anadromous fish such as Pacific salmon. The USFWS is accountable for all other federally-listed plants and animals.

Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed threatened or endangered species may be present in the project site and determine whether the proposed project would have a potentially-significant impact on

such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]). If so, project-related impacts to these species or their habitats would be considered significant and would require mitigation.

Projects that would result in “take” of any federally-listed threatened or endangered species are required to obtain authorization from NOAA Fisheries and/or USFWS through either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project. The Section 7 authorization process is used to determine if a project with a federal nexus would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species. The Section 10(a) process allows take of endangered species or their habitat in non-federal activities. The proposed project is undergoing Section 7 authorization with NMFS.

### **Migratory Bird Treaty Act**

The Federal Migratory Bird Treaty Act (16 USC, Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Birds which fall under the MBTA that could be encountered within the project area include the following list: Brown Pelican (*Pelecanus occidentalis*), Caspian Tern (*Hydroprogne caspia*), Double Crested Cormorant (*Phalacrocorax auritus*), and Western Gull (*Larus occidentalis*). Appropriate surveys and protective measures will be implemented to ensure compliance with the MBTA.

### **Rivers and Harbors Act**

Under section 10 of the Rivers and Harbors Act, the U.S. Army Corps of Engineers (“Corps”) has jurisdiction over navigable waters of the U.S. to the historic limits of mean high water. Section 10 requires that a permit be obtained from the Corps for all activities in navigable waters that involve excavating, filling, dredging, construction, or placement of an obstruction in or to a navigable water body. Section 10 jurisdiction extends to the entire surface and bed of all water bodies subject to tidal action (33 Code of Federal Regulations (CFR) 329.12[b]).

## **Marine Mammal Protection Act**

The Marine Mammal Protection Act (MMPA) of 1972 was the first article of legislation to call specifically for an ecosystem approach to natural resource management and conservation. MMPA prohibits the taking of marine mammals, and enacts a moratorium on the import, export, and sale of any marine mammal, along with any marine mammal part or product within the United States. U.S. Congress defines "take" as "the act of hunting, killing, capture, and/or harassment of any marine mammal; or, the attempt at such. The MMPA provides for enforcement of its prohibitions, and for the issuance of regulations to implement its legislative goals.

Authority to manage the MMPA was divided between the Secretary of the Interior through the U.S. Fish and Wildlife Service (Service), and the Secretary of Commerce, which is delegated to the National Oceanic and Atmospheric Administration (NOAA). Subsequently, a third Federal agency, the Marine Mammal Commission (MMC), was established to review existing policies and make recommendations to the Service and the NOAA better implement the MMPA. Coordination between these three Federal agencies is necessary in order to provide the best management practices for marine mammals.

Under the MMPA, the Service is responsible for ensuring the protection of sea otters and marine otters, walrus, polar bears, three species of manatees, and dugongs. The NOAA was given responsibility to conserve and manage pinnipeds including seals and sea lions and cetaceans such as whales and dolphins.

The Marine Mammal Protection Act (MMPA) generally prohibits "take" of marine mammals in U.S. waters by any person and by U.S. citizens in international waters and on the importing of marine mammals and marine mammal products into the United States. If the project could result in a "take" of any marine mammal then an Incidental Harassment Authorization is necessary. The amended MMPA in 1981, provided for "incidental take" authorizations for maritime activities, as long as NMFS found the "takings" would be of small numbers and have no more than a "negligible impact" on those marine mammal species not listed as depleted under the MMPA (i.e., listed under the Endangered Species Act (ESA), and not having an "unmitigable adverse impact" on subsistence harvests of these species).

The definition of "take" is the same as in the Endangered Species Act (ESA) and "harassment levels" are defined in the 1994 amendments to the MMPA. Some marine mammals are listed under the Endangered Species Act. When the ESA and the MMPA both apply, the MMPA compliance is integrated into the FESA Section 7 consultation. As detailed in the Biological Assessment, early consultation with the NOAA Fisheries occurred to identify potential impacts and the determination that an Incidental Harassment Authorization will be requested by the USACE and Port for the Brannan Street Wharf project.



## **Magnuson-Stevens Fisheries Conservation and Management Act (MSFCMA)**

San Francisco Bay, including the Biological Study Area, is classified as Essential Fish Habitat (EFH) under the Magnuson-Stevens Fisheries Conservation and Management Act (MSFCMA). The MSFCMA, also known as the Sustainable Fisheries Act (Public Law 104-297), 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 marine and anadromous fish species. The EFH provisions of the Sustainable Fisheries Act are designed to protect fisheries habitat from being lost due to disturbance and degradation.

The MSFCMA requires implementation of measures to conserve and enhance EFH. Guidelines from the MSFCMA direct NMFS to use a coordinated process to evaluate projects that may affect EFH under Section 305(b) of the MSFCMA, with required Section 7 consultation process under the federal ESA. Under existing guidelines, if NMFS determines that a proposed project is not likely to adversely affect species listed under ESA that are also managed under the MSFCMA, and an informal consultation process is pursued, no EFH conservation recommendations are necessary in most cases.

The central portion of the bay (east of the Golden Gate and south of the Richmond Bridge to the San Mateo Bridge) serves as habitat for 20 species of commercially important fish and sharks that are federally managed under two fisheries management plans (FMP), the Pacific Groundfish FMP and the Coastal Pelagic FMP (Table 9). This portion of the bay is classified as EFH for these species.

In addition, the entire San Francisco Bay is classified as EFH for species managed under the Pacific Coast Salmon Plan, including Chinook salmon (*Oncorhynchus tshawytscha*), and coho salmon (*Oncorhynchus kisutch*). Chinook salmon have the potential to occur in the Biological Study Area during the migration season from November 15 through May 31. Chinook salmon are known to spawn in portions of the Sacramento and San Joaquin River drainages, both of which drain into San Francisco Bay.

In addition to EFH designations, San Francisco Bay is designated as a Habitat Area of Particular Concern for various fish species within the Pacific Groundfish and Coastal Pelagic FMPs, as this estuarine system serves as breeding and rearing grounds important to these fish stocks. The Pacific Groundfish FMP is designed to protect habitat for a variety of fish that associate with the underwater substrate. This includes both rocky/hard substrates and muddy/soft substrates. Table 9 provides a summary list of the species managed under this plan that may occur in the project vicinity. The Biological Assessment will provide detail

on the analysis of potential impacts from the project to EFH and submittal of the BA will initiate formal consultation with NMFS.

## **STATE REGULATIONS**

### **California Endangered Species Act**

The California Endangered Species Act (CESA) was enacted in 1984. Under the CESA, the CFGC has the responsibility for maintaining a list of threatened and endangered species. CDFG also maintains lists of species of special concern impacts to which would be considered significant under *CEQA Guidelines* Section 15380 and would require mitigation. Pursuant to the requirements of CESA, an agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project site and determine whether the project would have a potentially-significant impact on such species. In addition, CDFG encourages informal consultation on any project which may impact a candidate species. CESA prohibits the take of California-listed animals and plants in most cases, but CDFG may issue incidental take permits under special conditions.

### **Fish and Game Code - Sections 3503, 3503.5, 3513**

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act. These regulations could require that elements of the project (particularly vegetation removal or construction near nest trees, or buildings with nest sites) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds would not be disturbed, subject to approval by CDFG and/or USFWS.

### **Fish and Game Code - Sections 3511, 4700, 5050, AND 5515**

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as “fully protected.” Fully protected species, or parts thereof, may not be taken or possessed at any time, and no provision of the California Fish and Game Code or any other law may be construed to authorize the issuance of permits or licenses to take any fully protected species. No such permits or licenses heretofore issued may have any force or effect for any such purpose, except that the California Fish and Game Commission may authorize the collecting of such

species for necessary scientific research. Legally imported and fully protected species or parts thereof may be possessed under a permit issued by CDFG.

### **CEQA Guidelines Section 15380**

Although threatened and endangered species are protected by specific federal and state statutes, *CEQA Guidelines* section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals, and allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFG (i.e., species of concern) would occur. Whether a species is rare, threatened, or endangered can be legally significant because, under *CEQA Guidelines* Section 15065, an agency must find an impact to be significant if a project would “substantially reduce the number or restrict the range of an endangered, rare, or threatened species.” Thus, CEQA provides an agency with the ability to protect a species from a project’s potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

## **LOCAL AND REGIONAL REGULATIONS**

### **Construction Work Windows and Restrictions**

Construction activities with potential to impact aquatic and terrestrial wildlife habitat and migration activity are limited by construction work windows, as determined in coordination with the Corps “Long Term Management Strategy (LTMS) for the Placement of Dredged Material in the San Francisco Bay.” This plan was reviewed by the USFWS, NOAA Fisheries and CDFG, and work windows were established. Construction work windows include time periods where construction activities are allowed, restricted or prohibited. Different restrictions and requirements are enforced depending on the affected species and time of year. Construction can occur during restricted periods, but measures must be implemented to reduce potential impacts. Other periods prohibit all construction activities for a specific period. Table 10, presents the work windows and restrictions for construction along the San Francisco Bay waterfront.

**TABLE 10: WORK WINDOWS AND RESTRICTIONS FOR CONSTRUCTION ALONG SAN FRANCISCO BAY WATERFRONT<sup>1</sup>**

Activity	Dates Allowed	Restricted	Prohibited	Comment
<b>Pile-Driving</b>	Allowed year-round, with restrictions	December 1 - February 28 (Pacific Herring Spawning Season)		<p><b>Restrictions on noise generation:</b> Piles can be driven using a vibratory hammer any time of year without noise attenuation measures. If any pile-driving is done by impact hammer, noise attenuation may be required depending on size of piles, tidal conditions, and other factors that impact noise generation. The potential impacts of pile-driving for the project on fish will be evaluated by NOAA Fisheries as part of the Army Corps of Engineers permitting process and resultant permit conditions. The proposed project would require that sound attenuation (i.e. bubble curtain, air barrier or other sound attenuation measures) is implemented during project construction<sup>2</sup>.</p> <p><b>Restrictions on activities that generate sediment or could result in covering surfaces where herring eggs might settle</b> (e.g. placement of riprap, covering existing piles): Activities with significant potential to generate sediment, including pile-driving, should be scheduled to occur outside of herring spawning season. If such activities must occur during herring spawning season, then a trained herring observer must be on-site during work. If a herring spawn is observed, then work within 200 ft. of spawning area must be stopped for two weeks.</p>

*Sources:*

1. *Environmental Work Windows Guidance*, available on-line at: <http://www.spn.usace.army.mil/conops/guidance.html>, Accessed 12/18/08.
2. *Bach, Carol, Environmental & Regulatory Affairs Manager, Port of San Francisco, Personal Communication with David Woodbury, National Marine Fisheries Service, 7/9/08, Port of San Francisco, 2008 .*

## IMPACTS

### SIGNIFICANCE CRITERIA

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the State CEQA Guidelines, which has been adopted and modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the project would result in a significant impact on biological resources. Implementation of the proposed project would have a significant effect on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The Initial Study (see Appendix A, Initial Study Section 12, Biological Resources, pages 63-64), assessed the biological impacts associated with the proposed project potential conflicts with City's Urban Forestry Ordinance and determined the impact to be less-than-significant.

## METHODOLOGY

A literature review was conducted to investigate the potential presence of listed, proposed, and candidate species within the Biological Study Area (which contains the entire project footprint) and in the action area. The action area includes the entire project footprint as well as an area outside of the proposed project's footprint in which noise and light-related effects on species may occur. This review was supplemented with field surveys conducted on May 6, 2009, and February 3, 2010 to determine if any special-status species, or their potential habitat are present within the Biological Study Area.

The information review included:

- The Sacramento Office of the USFWS online database for the San Francisco North, San Francisco South, Pt. Bonita, San Quentin, San Rafael, Oakland West, Richmond, and Hunters Point U.S. Geological Survey 7.5-minute quadrangles;
- California Department of Fish and Game's (CDFG's) Wildlife Habitat Relations System;<sup>89</sup>
- CNDDDB Rare Find 3, occurrence records from those same 7.5-minute quadrangles ;<sup>90</sup>
- The Golden Gate Audubon Society's Summary Report of Avian Surveys Conducted along the Port of San Francisco's Southern Waterfront Properties;<sup>91</sup>
- Species-specific studies presented in scientific journals and other publications.

A list of species likely to occur in and/or be affected by the proposed was derived from the CNDDDB and USFWS database queries, and is provided in Table 8 above. As stated in the above Existing Conditions discussion, species appearing in the query results, but were not discussed further either have no suitable habitat in the project site, or their known range does not include the project site. For this reason, these species are not being addressed in this document.

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<sup>89</sup> CDFG (California Department of Fish and Game), 2005. California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group Accessed March 2010. Life History Account for Least Tern. <http://nrm.dfg.ca.gov/taxaquery> Accessed March 2010.

<sup>90</sup> CDFG (California Department of Fish and Game), 2010. California Natural Diversity Database (CNDDDB) Program Rarefind 3. Created by the California Department of Fish and Game, January 2010 version.

<sup>91</sup> Weeden, N. and M. Lynes, 2008. Summary Report of Avian Surveys Conducted in 2008 at Dilapidated Piers and Other Structures along the Port of San Francisco's Southern Waterfront Properties. Golden Gate Audubon Society 2008.

Potential impacts of the proposed project on these resources were identified by first comparing the habitat requirements of those species identified during the above review to the habitat available on and adjacent to the project site. A determination was then made as to what effect the loss of that potential habitat could have on those species.

## **IMPACT EVALUATION**

**Impact BIO-1: Construction of the proposed project would have a substantial adverse effect, either directly or through habitat modifications, on threatened, endangered or protected species. (Less than Significant with Mitigation)**

The National Marine Fisheries Service identified federally listed species and essential fish habitat the proposed project has the potential to directly impact.<sup>92</sup> NMFS identified two federally listed fish species (California Central Coast Steelhead, and green sturgeon) that have the potential to occur within the Biological Study Area. Potential impacts could be through behavioral changes, injury, or mortality associated with the underwater noise generated during pile-driving activities, as well as through water quality impacts and temporary modifications to aquatic habitat. Designated critical habitat is present for these federally listed fish species as well. In addition, State listed species such as the longfin smelt and herring also have the potential to be directly impacted by project activities within the Biological Study Area. The discussion of potential impacts to these species is discussed below. The following discussion considers these potential impacts and the methods used to assess them.

### *Impacts to California Central Coast Steelhead, green sturgeon, and long fin smelt and herring*

#### **Sound Impacts from Proposed Pile Driving**

Construction of the Brannan Street Wharf requires that approximately 269 piles at a rate of between two to six piles per day be driven into the waters of San Francisco Bay. When piles are driven into or adjacent to water, the activity can produce high-intensity noise under the water surface that can cause barotrauma or harassment to fish. Barotrauma is the term used to describe the damage inflicted to soft tissue, such as the gas bladder or eyes by intense underwater noise.

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<sup>92</sup> NOAA JANUARY 13, 2011

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. Decibels are measured 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 (re) 1 microPascal ( $\mu\text{Pa}$ ).

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".<sup>93</sup> 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  $\mu\text{Pa}^2\text{-sec}$ . 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. Table 11 contains the definitions of terms commonly used to describe underwater sounds.

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. Noise levels from vibratory driving are typically 10 to 20 dB lower than impact driving for a particular pile type.<sup>94</sup>

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<sup>93</sup> Finneran, J. J., D. A. Carder, J. A. Schlundt, and S. A. Ridgway, 2005. Temporary threshold shift in bottlenose dolphins (*Tursiops truncatus*) exposed to mid-frequency tones. *Journal of the Acoustic Society of America*. Vol.118, No. 4, pp. 2696-705.

<sup>94</sup> Caltrans, 2009. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. Final Report. Prepared for California Department of Transportation by ICF Jones & Stokes, Sacramento, CA. [http://www.caltrans.ca.gov/hq/env/bio/files/Guidance\\_Manual\\_2\\_09.pdf](http://www.caltrans.ca.gov/hq/env/bio/files/Guidance_Manual_2_09.pdf)



**TABLE 11: DEFINITIONS OF UNDERWATER ACOUSTICAL TERMS**

Term	Definition
Peak Sound Pressure, unweighted (decibels [dB])	Peak sound pressure level based on the largest absolute value of the instantaneous sound pressure. This pressure is expressed in this report as a decibel (referenced to a pressure of 1 microPascal [ $\mu$ Pa]) but can also be expressed in units of pressure, such as $\mu$ Pa or pounds per square inch.
Sound Exposure Level, dB re 1 $\mu$ Pa <sup>2</sup> sec	Proportionally equivalent to the time integral of the pressure squared and is described in this report in terms of $\mu$ Pa <sup>2</sup> sec over the duration of the impulse. This is similar to the unweighted Sound Exposure Level standardized in airborne acoustics to study noise from single events.
Waveforms, $\mu$ Pa over time	A graphical plot illustrating the time history of positive and negative sound pressure of individual pile strikes shown as a plot of $\mu$ Pa over time (i.e., seconds)

Source: Illingworth & Rodkin, 2008.

On July 8, 2008, the Fisheries Hydroacoustic Working Group (FHWG), whose members include NMFS’s Southwest and Northwest Divisions, California, Washington, and Oregon departments of transportation, the 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. 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 two grams.<sup>95</sup> The FHWG has determined that noise at or above these levels can cause damage to auditory tissues and temporary threshold-hearing shifts in fish. Behavioral effects are not covered under these criteria but could occur at these levels or lower. A specific criterion has not yet been set for continuous noise, such as vibratory driving, so the same criteria as impulse-type noise will be used for this analysis. Since green sturgeon and listed anadromous fish spawn in freshwater, no young less than 2 grams would be expected in the Biological Study Area. Stream-type juvenile Chinook salmon (winter and spring-runs) migrate downstream at smolts, between the sizes of 80 to 150 millimeter fork length. Fall-run Chinook migrate downstream at smaller sizes (30 to 50 mm FL). Regardless, fall-run Chinook collected at four locations within the San Francisco Estuary in 1997 found no juveniles less than 6 grams total weight.<sup>96</sup> The 183 dB

<sup>95</sup> Fisheries Hydroacoustic Working Group (FHWG), 2008. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish.

<sup>96</sup> McFarlane, R. B. and E. Norton, 2002. Physiological ecology of juvenile Chinook salmon (*Oncorhynchus tshawytscha*) at the southern end of their distribution, the San Francisco Estuary and Gulf of the Farallones, California. *Fishery Bulletin* 100 (2):244-257.

SEL criterion for smaller fish would thus not apply for listed species. The 183 dB SEL criterion for fish of less than 2 grams will thus not apply for the listed species potentially present in the Biological Study area. Therefore, for the purposes of this analysis, 206 dB peak level and 187 dB SEL will be used as a threshold for potential harm to listed fish species.

The following analysis assumes that a receptor (such as a fish) that is within the area of noise effects is stationary during the pile driving and does not relocate away from the activity during driving. This allows a calculation of the worst-case scenario for accumulated sound effects SEL on fish. The following analysis also assumes an attenuation factor of 16 (~5 dB per doubling of distance) within the Biological Study area. This is a conservative value for attenuation and the attenuation in the study area will likely be greater than 16.

The limits of the study area are determined by the 187 dB SEL threshold. While underwater sound produced by the proposed 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 occurring within this area of the waterfront.

#### **Estimation of Project Pile-Driving Impacts**

The most significant source of underwater noise during construction would be during the installation of the 24-inch octagonal concrete piles, 24-inch hollow steel piles, 36-inch hollow steel piles, and during demolition of concrete piles of Pier 36 and the bulkhead wharf. These piles will be driven in the bay just off shore, in waters ranging from approximately -2 to -15 ft MLLW, using a combination of impact and vibratory driving methods. Generally, pile driving on land or in extremely shallow water 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.

As stated previously, the analysis of pile driving impacts assumes that a receptor (such as a fish) within 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

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assumes an attenuation factor of 16 (~5 dB per doubling of distance) within 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 study area will likely be greater than 16.<sup>97</sup>

### **24-Inch Octagonal Concrete Piles**

Approximately 140 24-inch octagonal piles will be driven into the bay to support the Brannan Street Wharf. These piles will be driven to a depth of approximately 60 feet below the mudline elevation. Impact pile driving will employ a “soft start” technique to give fish an opportunity to move out of the area. The substrate at the site includes approximately 20 feet of Bay Mud underlain by a sand mixture. The total time of pile driving for each pile is estimated to be 20 minutes in duration. During one work day, five to eight of these piles may be installed. If necessary, a water jet may be used to increase driving efficiency. Up to 800 blows from an impact driver will occur for each pile, using the following impact driver: DelMag D46-32 diesel hammer, producing approximately 122,000 foot-pounds (ft-lbs) maximum energy per blow, 1.5 seconds per blow (sec/blow) average.

A review of measured sound levels from other relevant projects indicates that 24-inch concrete piles driven in sand/clay substrate with an impact hammer typically produce maximum underwater sound levels of about 175 to 185 dB peak and around 155 to 170 dB SEL (single strike).<sup>98</sup> For the proposed 24-inch octagonal concrete piles, up to 800 strikes will be required to install each pile, for a total of 6,400 strikes when driving eight piles a day. Using the source levels discussed above, the accumulated SEL is expected to be 192 to 208 dB. Based on the above sound values, installation of the 24-inch concrete piles will not be expected to produce noise levels higher than the peak criteria of 206 dB, but will exceed the accumulated SEL criteria of 187 dB SEL for fish over 2 grams. Table 12 summarizes the maximum sound levels expected during pile driving and the distance over which the 187 dB SEL may be exceeded.

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<sup>97</sup> CALTRANS, 2009, Ibid

<sup>98</sup> CALTRANS, 2009, Ibid

**TABLE 12: EXPECTED PILE DRIVING SOUND LEVELS AND DISTANCES OF CRITERIA LEVEL EXCEEDANCE WITH IMPACT DRIVER**

Impact Driving						
Pile Type	Attenuation Device	Maximum Source Levels(dB)			Distance of Threshold* (meters)	
		Peak Sound Level	SEL, Single Strike	SEL, Accumulated	206 dB Peak	187 dB SEL
24-inch octagonal concrete	None	185	170	208	NA	679
24-inch steel shell	None	205	178	210	NA	869
36-inch steel shell	None	210	183	217	59	2392
24-inch steel shell	Bubble Curtain	200	173	205	NA	423
36-inch steel shell	Bubble Curtain	205	178	212	NA	1165
Vibratory Driving						
Pile Type	Attenuation Device	Peak Sound Level	SEL, 1 Second	SEL, Accumulated	206 dB Peak	187 dB SEL
24-inch steel shell	None	175	163	197	NA	154
36-inch steel shell	None	180	170	203	NA	318
24-inch steel shell	Bubble Curtain	170	158	193	NA	76
36-inch steel shell	Bubble Curtain	175	165	198	NA	157

Notes:

dB        decibels

NA        not applicable

SEL        sound exposure level

\*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.

### 24-Inch Steel Piles

The two rows of pier support piles installed nearest the shoreline will be 24-inch steel piles. These will be used instead of concrete piles due to the presence of rock dike material along the shoreline. These piles will be driven at a water depth ranging approximately from -0 to -6 ft MLLW, depending on the location and tides. As with the concrete piles, they will be driven to a depth of approximately 60 feet below the mudline. The substrate at the site includes a layer of rocky dike material and bay mud underlain by a sand/clay mixture. During one work day, three to five of these piles may be installed. Installation will begin with approximately eight minutes of vibratory pile driving, and finish with up to 300 blows from

an impact hammer using a DelMag D46-32 diesel hammer, producing approximately 122,000 ft-lbs max energy per blow, 1.5 sec/blow average. During impact pile driving associated with other relevant projects, which occurred under similar circumstances, peak noise levels ranged from 195 to 205 dB, and the SEL (single strike) ranged between 163 and 178 dB.<sup>99</sup> For the vibratory phase on pile driving, noise levels would be much lower, as shown in Table 12, and do not pass the 206 dB threshold for peak sound levels. The contribution of accumulated sound from the vibratory portion of the pile driving to the impact portion is minor, but may increase the distance to the 187 dB threshold incrementally. During installation of the 24-inch steel piles for the proposed project, up to 1,500 strikes could occur per day; as a result, the accumulated SEL is expected to be 195 to 210 dB. This conservative assessment assumes all piles strikes occurring within one work day are at the same distance from the receiver (i.e., a fish) and all pile strikes produce the maximum SEL. Based on the above sound levels, installation of the 24-inch steel piles without any attenuation system has the potential to produce accumulated SEL values above the aforementioned thresholds of 187 dB SEL, but not above the peak threshold of 206 dB. The actual sound levels would likely be less than these potential values, due to the shallow water depth at the installation site, which provides attenuation at the water-air interface.

The cumulative SEL exceedance would result in a potentially significant impact to federally listed fish species. With **Mitigation Measure M-BIO-1c**, an unconfined bubble curtain system will be used during placement the 24-inch steel piles when the water depth is greater than -2 ft MLLW. The unconfined bubble curtain system attenuates the noise energy by disrupting the sound waves. On other projects in the San Francisco Bay area, such systems have been shown to reduce peak sound levels by 5 to 15 dB, provided no strong water currents are present that would carry the bubble column away from the pile.<sup>100</sup> Table 12 summarizes the expected sound levels with attenuation, and the distances over which the 187 dB threshold for accumulated SEL may be exceeded. The SEL exceedance would result in a potentially significant impact to federal and State listed fish species. With **Mitigation Measure M-BIO-1a**, the use of a bubble curtain would reduce the cumulative SEL value to a **less-than-significant** level.

#### **Mitigation Measures M-BIO-1a: Pile-driving Noise Measures for Aquatic Species.**

Prior to the start of construction, the Port will develop a NMFS-approved sound attenuation and monitoring plan. This plan will provide detail on the sound attenuation system and detail the methods

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<sup>99</sup> CALTRANS, 2009, Ibid

<sup>100</sup> CALTRANS, 2009, Ibid

used to monitor and verify sound levels during pile driving activities. The sound monitoring results will be made available to the NMFS.

- While pile driving may occur during migration periods for some fish species, the USACE and Port will undertake formal consultation with NOAA, NMFS and CDFG to address potential impacts to resources..
- Pile driving will employ a “soft start” technique to give fish an opportunity to move out of the area. Vibratory hammers will be used to the extent practicable to reduce hydroacoustic effects.
- Using bubble curtains in deeper water will further reduce noise levels.
- If marine mammals are observed within 1,000 feet of the project site, allow them to completely exit the project site before pile driving resumes.

### **36-Inch Steel Piles**

Installation of the proposed floating dock requires the placement of four 36-inch steel piles. These piles would be driven in an area with a water depth of approximately -10 to -15 ft MLLW. As with the concrete piles, they will be driven to a depth of approximately 60 feet below the mudline. The substrate at the site includes approximately 20 feet of bay mud underlain by a sand/clay mixture. It is estimated that each pile would be driven in 20 to 30 minutes. All four of these piles would be installed in one work day. Installation would begin with five to 15 minutes of vibratory driving and finish with approximately 600 blows from the following impact hammer: DelMag D62-22 diesel hammer, producing approximately 165,000 ft-lbs max energy (may not need full energy), 1.5 sec/blow average.

As with the 24-inch piles, other projects conducted under similar circumstances were reviewed in order to approximate the sound effects of the 36-inch steel piles. During impact pile driving associated with these similar projects, which occurred under similar circumstances, peak noise levels ranged from 195 to 210 dB, and the SEL (single strike) ranged between 170 and 183 dB.<sup>101</sup> For the vibratory phase on pile driving, noise levels would be much lower, as shown in Table 12, and do not pass the 206 dB threshold for peak sound levels. The contribution of accumulated sound from the vibratory portion of the pile driving to the impact portion is minor, but may increase the distance to the 187 dB threshold incrementally.

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<sup>101</sup> CALTRANS, 2009, Ibid

During installation of the proposed 36-inch steel piles, approximately 2,400 strikes would occur within a 24-hour period; as a result, the accumulated SEL is expected to be 205 to 217 dB. This conservative assessment assumes all piles strikes occurring within one work day are at the same distance from the receiver (i.e., a fish) and all pile strikes produce the maximum SEL. Based on the above sound levels, installation of the 36-inch steel piles, without any attenuation system, has the potential to produce both peak sound and SEL values above the aforementioned thresholds of 206 dB peak and 187 dB SEL, respectively. The cumulative SEL exceedance would result in a potentially significant impact to federal and State listed fish species. With **Mitigation Measure M-BIO – 1a**, an unconfined bubble curtain system will be used during placement the 36-inch steel piles when the water depth is greater than two feet.

The unconfined bubble curtain system attenuates the noise energy by disrupting the sound waves. On other projects in the San Francisco Bay area, such systems have been shown to reduce peak sound levels by 5 to 15 dB, provided no strong water currents are present that would carry the bubble column away from the pile.<sup>102</sup> Table 12 summarizes the expected sound levels with attenuation, and the distances over which the 187 dB threshold for accumulated SEL may be exceeded. The SEL exceedance for an estimated 35 days of construction would result in a potentially significant impact to federally listed fish species. With **Mitigation Measure M-BIO-1a**, the use of a bubble curtain would reduce the cumulative SEL value to a **less-than-significant** level. Therefore, none of the proposed pile driving will exceed the 206 db threshold, and no barotrauma or other injury to listed fish will occur.

### *Shading*

Demolition of Pier 36 and portions of the marginal wharf area will remove 68,970 feet of shaded area (shadow fill) over the bay. Construction of the new wharf will create 21,055 square feet of shadow fill; the net change in area of shadow fill over the bay will be a reduction of 47,915 feet (1.1 acres).

Overwater 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.<sup>103</sup> Light reduction reduces the amount of energy available for the photosynthesis of phytoplankton, benthic algae and attached macroalgae. These

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<sup>102</sup> CALTRANS, 2009, Ibid

<sup>103</sup> TRAC (Washington State Transportation Center), 2001. Executive Summary Overwater Structures: Marine Issues. Research Project 1803, Task 35, Overwater Whitepaper by Barbara Nightingale Charles A. Simenstad Research Assistant Senior Fisheries Biologist, School of Marine Affairs School of Aquatic and Fishery Sciences, University of Washington, Seattle, Washington. June 2001.

photosynthesizers are an important part of the food webs supporting juvenile salmon and other fish species in estuarine and nearshore marine environments. Without proper precautions, shade cast from docks, piers, and pilings reduces the amount of ambient light wavelengths within the marine environment. In the Pacific Northwest, distributions of invertebrates, fishes, and plants in non-shaded vegetated habitats have been found to significantly differ from distributions found in under-dock environments.<sup>104 105</sup>

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.<sup>106</sup> Shading of the nearshore environment may reduce biological productivity of these waters, and increase predation rates on fishes. While shading from artificial structures may negatively impact juvenile salmonids and other fishes, shading may have beneficial impacts for predatory species such as striped bass (*Morone saxatilis*). Overall impacts, however, from reduction of shading are expected to be positive to the benthic community and fishes due to the restoration of ambient light wavelengths within the natural marine environment.<sup>107</sup>

The project as designed would remove approximately 1.1 acres of shadow fill from marine structures (shading) over the bay. This is expected to be a beneficial impact to the benthic invertebrate and fish communities through restoration of ambient light conditions and increased biological productivity within the estuarine environment of San Francisco Bay. In addition, the project will integrate glass pavers and/or deck prisms into portions of the decking of the new wharf to allow light penetration to bay water below the wharf. Therefore, the proposed projects impacts to shading would be **less than significant**.

#### *Creosote-Treated Wood*

Pile supported structures provide substrate for the growth of the marine invertebrates such as clams, mussels, barnacles and other species. Pilings treated with creosote have been shown to cause harm to hard-bottom, sediment dwelling benthic invertebrates and fishes in the bay through the release of polycyclic aromatic hydrocarbons.<sup>108, 109, 110</sup> The project would remove approximately 350 - 400 creosote-

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<sup>104</sup> TRAC, 2001, Ibid

<sup>105</sup> Shafer, D. J., 1999. The effects of dock shading on the seagrass *Halodule wrightii* in Perdido Bay, Alabama. *Estuaries* 22:936- 943.

<sup>106</sup> TRAC, 2001, Ibid

<sup>107</sup> TRAC, 2001, Ibid

<sup>108</sup> U.S. EPA (U.S. Environmental Protection Agency), 2008. Creosote- Preliminary Risk Assessment for the Reregistration Eligibility Decision Document (RED). PC Codes 022003, 025003, and 025004.



treated piles from the bay, and install approximately 269 concrete and steel piles as part of the new wharf. This is expected to be a beneficial impact to the estuarine environment of the bay through the removal of potential sources of PAHs related to creosote treated piles from the bay and the creation of non-creosote substrate for the growth of macroalgae, barnacles, anemone, and echinoderms within the project area. It is anticipated that one of the subtidal restoration recommendations from the Draft San Francisco Bay Subtidal Habitat Goals project will be to remove or encapsulate creosote pilings in the bay, especially those that are abandoned and are located in Pacific herring spawning locations.<sup>111</sup> Therefore, the removal of creosote-treated piles could potentially result in water quality improvement and exposure to aquatic species, which would result in **less-than-significant** impact.

#### *Water Quality*

Removing existing piles and driving new piles into the bay may potentially cause temporary increases in suspended sediments and turbidity within the water column. Total suspended solids (TSS) and turbidity are measures of the amount of sediment and associated material that is stirred up from the bottom during removal activities. Activities involved in the removal of piles could potentially lead to the disturbance and subsequent suspension of fine particles (sediment). This can reduce visibility, affecting the foraging and social activities and predator/prey interactions of a number of marine species including marine mammals, fish and sea birds. However, given that the project site is in a high energy environment, it is likely that any suspended sediment released into the water column will be rapidly dispersed. The removing of piles is likely to have a negligible effect on sediment suspension and turbidity as well. Water quality degradation by increased turbidity/TSS from construction activities is expected to be localized and short-term in nature. With **Mitigation Measures BIO-1b and BIO-1c**, and implemented BMPs related to equipment fueling and materials storage and handling and a spill prevention control plan, the impact to water quality will be reduced to **less than significant**.

#### **Mitigation Measure M-BIO-1b: Best Management Practices (BMP's)**

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<sup>109</sup> Vines, C. A., T. Robbins, F. J. Griffin, and G. N. Cherr, 2000. The effects of creosote derived compounds on development in Pacific herring (*Clupea pallasii*). *Aquatic Toxicology* 51: 225–239.

<sup>110</sup> Stratus Consulting, 2006. Creosote-Treated Wood in Aquatic Environments: Technical Review and Use Recommendations. Prepared for NOAA Fisheries, Southwest Division, Habitat Conservation Division, Santa Rosa, California. December 31.

<sup>111</sup> San Francisco Bay Subtidal Habitat Goals Project. An interagency partnership between the San Francisco Bay Conservation and Development Commission (BCDC), the California Coastal Conservancy, National Oceanic and Atmospheric Administration (NOAA), and the San Francisco Estuary Partnership. Website accessed May 14, 2009. [http://www.bcdc.ca.gov/planning/shg/subtidal\\_habitat.shtml](http://www.bcdc.ca.gov/planning/shg/subtidal_habitat.shtml).

Standard Best Management Practices (BMPs) will be applied to protect individuals of these 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 a project will be fueled and serviced in a manner that will not affect federally protected species in the Biological Study Area or their habitats. The BMP's associated with the proposed project would include the following requirements:

- Well-maintained equipment will be used to perform the 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, the leak will be cleaned up, and the cleaning materials will be collected and will be properly disposed.
- Fueling of marine-based equipment will occur at designated safe locations either offsite or adjacent to the project. Fueling of land-based equipment will occur in a staging area or over pavement, and the location will be inspected after fueling to document that no spills have occurred. Spills will be cleaned up immediately using spill response equipment.
- The Port of San Francisco will reduce the amount of disturbance within the Biological Study Area to the minimum necessary to accomplish the project.
- The Port of San Francisco will exercise every reasonable precaution to protect these species and their habitat(s) from construction by-products and pollutants such as demolition debris, construction chemicals, fresh cement, saw-water, or other deleterious materials. Demolition will be conducted from both land and water, and care will be used by equipment operators to control debris so that it does not enter the bay. During demolition, the barges performing the work will be moored in a position to capture and contain the debris generated during the dismantlement of the building and wharf. In the event that debris does reach the bay, personnel in workboats within the work area will immediately retrieve the debris for proper handling and disposal.
- Fresh cement or concrete will not be allowed to enter San Francisco Bay. Construction waste will be collected and transported to an authorized

upland disposal area, as appropriate, and per federal, state, and local laws and regulations.

- All hazardous material will be stored upland in storage trailers and/or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted with the same anti-spill precautions.
- All construction material, wastes, debris, sediment, rubbish, trash, fencing, etc., will be removed from the site once the project is completed and transported to an authorized disposal area, as appropriate, in compliance with applicable federal, state, and local laws and regulations.

**Mitigation Measure M-BIO-1c: Spill Prevention Control and Countermeasure (SPCC) Plan**

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.

**Impact BIO-2: Operation of the proposed project would diminish and alter sensitive natural communities, critical habitat or special aquatic sites. (Less than Significant with Mitigation)**

The demolition of Pier 36 and Bulkhead Wharf Section 11, 11a, and 12, and construction of the Brannan Street Wharf may affect potential habitat in the project area by removal of shading structures which will increase light availability and can increase overall productivity of a given location. In contrast, the removal of Pier 36 also has the potential to decrease the amount of cover and substrate for growth and survival of benthic invertebrates that provide a food source for fish species. Completion of the project would result in the net reduction of structures over San Francisco Bay by 1.10 acres. In addition, the replacement of the existing creosote-treated wood piles with concrete piles will improve habitat within the action area by reducing potential leaching of PAHs into the water column and adjacent sediments. Approximately 350 - 400 creosote-treated wood piles would be removed, along with other debris from Pier 36.

The specific elements of the project that could impact groundfish, pelagic, and salmonid species, and the impact mechanisms that avoid and minimize impacts are identified below.

Potential effects to Essential Fish Habitat (EFH) from the proposed project include temporary resuspension of sediments and displacement of benthic habitat during removal of piles and pile

installation, which could potentially affect foraging and prey availability. Although some EFH is likely to be disturbed during removal of Pier 36 and 420 piles, and installation of 269 new piles for the construction of the Brannan Street Wharf, these activities will be of short duration, and temporary in nature. Benthic species (fish prey) will only be disturbed in the area immediately within the pile driving surface area and would recolonize rapidly after disturbance.

The San Francisco Estuary Institute’s estimate of 120,000 acres (485 km<sup>2</sup>) for the Central Bay (Table 13) may be used to represent the total active area for EFH where the project site is located. The total area of the Pier is 3.6 acres; of this the only intrusion into the water column and sediment would be during pile removal and then installation. As a worst case scenario to establish surface area potentially impacted by pile driving, the greatest diameter pile of 36 inches represents 7.1 sq ft. which would in turn represent 1,910 sq ft for all 269 piles. Given the total area calculated above, the project site only affects an area equal to approximately 0.003 percent in the Central Bay.

**TABLE 13: AREAS (KM<sup>2</sup>) OF SAN FRANCISCO BAY**

<b>Sub area of San Francisco Bay</b>	<b>Estimated Area (km<sup>2</sup>)</b>	<b>Estimated Area in Acres/ (sq ft)</b>
North Bay	434	107,243/ (4,671,537,114)
Central Bay	214	52,900/(2,303,476,826)
South Bay	485	120,000/(5,220,496,544)

Notes: Source: Tsai and Hoenicke 2001

Given the short daily durations of high levels of noise generation, the relatively small areas being affected in proportion to nearby similar habitats, compliance with the required work windows, discussed under Regulatory Settings, and the implementation of **Mitigation Measure M- BIO – 1a**, the proposed project is not likely to permanently adversely affect EFH. However, the disturbance to the individual fish species listed in Table 13 could constitute temporary impacts to potential habitat within the project area. The potential impact for pacific herring, longfin smelt, steelhead, and green sturgeon could be adversely affected by the proposed project. However, with the implementation of **Mitigation Measures M-BIO-1a, M- BIO-1b, and M-BIO-1c**, and impacts to critical habitat and sensitive natural communities would be reduced to **less than significant**.

**Impact BIO-3 Construction of the project would impede the implementation of the Migratory Bird Treaty Act (Less than Significant with Mitigation)**

Western gulls (*Larus occidentalis*) are known to nest on the pier shed at Pier 36. A survey of the project site performed on July 18, 2008 by the Golden Gate Audubon society revealed 16 active nests in the vicinity of Piers 32-36.<sup>112</sup> Double Crested Cormorant (*Phalacrocorax auritus*) and Brown Pelicans (*Pelecanus occidentalis*), also protected under Migratory Bird Treaty Act, are known to roost and in the vicinity of the project site, though no suitable nesting habitat is present. Demolition or other construction-related activities conducted during the Western Gull nesting season, which extends from March 15 and August 31, could result in nest abandonment and/or the loss of chicks. Loss of active nests would be considered a violation of the Migratory Bird Treaty Act, which would result in a potentially-significant impact. Implementation of **Mitigation Measure M-BIO-3**, below, would reduce this potentially-significant impact of the proposed project to a **less-than-significant** level.

**Mitigation Measure M-BIO- 3: Migratory Bird Treaty Act**

To the extent feasible, the Project Sponsor will not undertake construction or demolition activities between March 1 and August 1. If construction is anticipated to occur within the nesting season (March 1 through August 1), the Project Sponsor shall implement the following measures.

- Prior to the nesting season, all potential nesting areas on the roofs of the Pier 36 can be netted to prevent gulls from nesting there. The size of the potential nesting area presents some unique challenges, but bird netting is available in sizes large enough to cover the area required. The netting materials to be used are specifically developed for bird exclusion. The netting shall be inspected weekly to ensure that the barrier is functioning properly.
- An alternate method to prevent gulls from nesting on the roof would be to set up a grid of wires (no more than 1 foot squares) across the nesting area, approximately 1 foot or more above the surface. The wires would have to be thin enough to not provide a stable surface for gulls to perch on, but strong enough that they do not break. The grid wires shall be inspected weekly to ensure that the barrier is functioning properly.

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<sup>112</sup> N. Weedon and M. Lynes. 2008. "Summary Report of Avian Surveys Conducted in 2008 at Dilapidated Piers and Other Structures along the Port of San Francisco's Southern Waterfront Properties". Golden Gate Audubon Society and San Francisco Bay Bird Observatory.

- If netting the entire potential nesting area is not feasible, netting could be installed over smaller areas covering only where the birds are known to nest, followed by hazing of the areas outside the netting. Hazing is the intentional disturbance and removal of nests prior to egg laying to prevent birds from nesting during the construction period. Beginning at least two weeks prior to the onset of nesting season, hazing would require that one or more persons inspect the roof at least every other day with a broom or leaf blower to disrupt any nests outside the netted areas before they have eggs in them (once they have eggs, they can't be disturbed). There must be no more than two days between visits, and hazing must be repeated throughout the nesting season, while construction is occurring.

**Impact BIO-4 Construction of the project would impact species protected under the Marine Mammal Protection Act (MMPA) (Less than Significant with Mitigation)**

Several marine mammals are known to frequent waters of San Francisco Bay. They include: California seal lions (*Zalophus californicus*), Pacific harbor seal (*Phoca vitulina richardii*), harbor porpoise (*Phocoena phocoena*), and occasionally the gray whale (*Eschritius robustus*), and rarely humpback whale (*Megaptera novaeangliae*). Under the MMPA, it is illegal to “take” a marine mammal without prior authorization from NMFS. “Take” is defined as harassing, hunting, capturing, or killing, or attempting to harass, hunt, capture or kill any marine mammal. “Harassment” is defined as any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal in the wild, or has the potential to disturb a marine mammal in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.

The possible primary impact on marine mammals from the proposed project is underwater sound from pile driving. Pile driving can create large amounts of noise that travels through the water as pressure waves, when as sufficient size, can injure marine mammals and even kill fish.

Sounds introduced into the sea by man-made devices could have a deleterious effect on marine mammals by causing stress or injury, interfering with communications and predator/prey detection, and changing behavior. Acoustic exposure to loud sounds may result in temporary or permanent loss of hearing (termed a temporary or permanent threshold shift) depending upon the location of the marine mammal in relation to the source of the sound. NMFS is currently in the process of determining safety criteria for marine species exposed to underwater sound. Pending adoption of these criteria, NMFS has determined, based on past projects, consultations with experts, and published studies, that 180 dB re 1 $\mu$ Pa<sub>RMS</sub> (190 dB

re 1@P<sub>ARMS</sub> for pinnipeds) is the impulse sound pressure level that can be received by marine mammals without injury. Marine mammals have shown behavioral changes when exposed to impulse sound pressure levels of 160 dB re 1@P<sub>ARMS</sub> and when exposed to continuous sound levels of 120 dB re 1@P<sub>ARMS</sub>. Even with proposed attenuation measures, sound levels would result in harassment of marine mammals.

In 1994, MMPA section 101(a)(5) was amended to establish an expedited process by which project proponents can apply for authorization to incidentally take small numbers of marine mammals by harassment (“Incidental Harassment Authorization (IHA)”). For this project, the USACE has initiated consultation with NMFS regarding the IHA and NMFS has deemed it necessary to obtain authorization. Implementation of Mitigation Measure **M-BIO-4**, which requires that an Incidental Harassment Authorization will be obtained from NOAA under the MMPA and compliance with any measures that result from that process shall be implemented during the project would reduce the impact to a **less-than-significant** level.

#### **M-BIO-4, Incidental Harassment Authorization**

An Incidental Harassment Authorization will be obtained from NOAA under the Marine Mammals Protection Act (MMPA) and compliance with any measures that result from that process shall be implemented for the construction and demolition of the proposed project.

#### **Cumulative Effects**

**BIO-CU-5 Construction and operation of the proposed project would not contribute to cumulative loss of native plant and wildlife habitat and special-status species. (Less than Significant)**

No other projects involving similar construction elements such as pile driving and deck construction are in progress in the biological study area. The 34<sup>th</sup> America’s Cup facilities improvement project could include water construction elements such as pile driving, dredging, floatable docks, and floatable wave attenuators within the vicinity of the biological study area. The specifics of these proposals has not been defined, therefore, potential cumulative biological impacts cannot be determined. Additionally, the 34<sup>th</sup> America’s Cup will be reviewed under a separate environmental impact report (EIR).

Of the construction projects located within the Central and South San Francisco Bay such as the California Department of Transportation’s Bay Bridge Eastern Span Project as well as other ongoing or planned projects within the Central and South San Francisco Bay, none of these are likely to constitute cumulative impacts to native plant and wildlife habitat and special-status species within this projects biological study

area. Nonfederal actions, including changes in state fishing regulations, changes in land use and agriculture resulting in the runoff of sediment and pollutants, and state and private restoration activities are not planned within the biological study and would therefore not have any influence upon species. Therefore, implementation of the project would not result in a cumulative loss of habitat.

Construction-related impacts are mitigated to less than significant at the project level, and operational activities would be similar to existing conditions in the surrounding waterfront. Therefore, the proposed project's contribution to the loss of plant and wildlife habitat in the region would be less than considerable and this is a **less-than-significant** cumulative impact. No additional mitigation would be required.



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## VI. OTHER CEQA ISSUES

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This chapter discusses other CEQA-required topics, including growth inducement, significant and unavoidable environmental effects of the proposed project, significant irreversible changes involved in the proposed project, and areas of controversy and issues to be resolved.

### A. GROWTH INDUCING IMPACTS

A project would be growth inducing if (1) its construction and use would encourage a substantial population increase; (2) it would indirectly stimulate new development that would not occur without the proposed project; and (3) it would involve new infrastructure (such as water or sewer utilities) with capacity to serve other projects.

The proposed project would not result in an increase of daily population within the vicinity of the project site because the proposed project would construct an open space project that would not include residential units. The project site is currently occupied by Pier 36, portions of the bulkhead wharf Sections 11,11a, and 12, and the adjacent waters of the San Francisco Bay. Pier 36 was condemned in 2004 and no longer employs any persons, and there are no residents on the project site. Therefore, the proposed project would not encourage a substantial population increase nor create substantial demand for new housing in the City. The project would be located in an already urbanized area in San Francisco; it would not result in the extension of utilities or roads into undeveloped areas, and would not stimulate new development. For these reasons, the proposed project would not cause, directly or indirectly, a substantial amount of growth.

### B. SIGNIFICANT UNAVOIDABLE IMPACTS

In accordance with CEQA, this section identifies environmental impacts that mitigation measures could not eliminate or reduce to a less-than-significant level as described in Chapter V. Environmental Setting, Impacts, and Mitigation Measures, pages 32 through 145 (CEQA Statutes Section 21100(b)(2)(A) and CEQA Guidelines Section 15126.2). This chapter is subject to final determination by the Planning Commission as part of its certification of the EIR, and staff will revise it to reflect the findings of the Planning Commission, if necessary.

Implementation of the mitigation measures outlined in Chapter V of this EIR and in the Initial Study (Appendix A) would reduce all potentially significant impacts of the proposed project to a less-than-significant level, except for the historic architectural resource impact and air quality, which would remain significant and unavoidable.

### C. SIGNIFICANT IRREVERSIBLE IMPACTS

In accordance with Section 21100(b)(2)(B) of CEQA, and Section 15126.2(c) of the *CEQA Guidelines*, an EIR must identify any significant irreversible environmental changes that could result from implementation of the proposed project. This may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. According to the *CEQA Guidelines*, irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The proposed project would intensify development at the project site consistent with development in San Francisco's urban environment. Although the effects would not be irreversible, the effects of the proposed project would be difficult to change in the short-run. The proposed project would commit future generations to an irreversible commitment of energy resources, primarily in the form of fossil fuels, and during demolition and construction and ongoing use of the site. Because the proposed project would comply with CCR Title 24, it would not use energy in a wasteful manner. The consumption of other non-renewable or slowly renewable resources would also occur during construction, and use of the site. These resources include, but are not limited to concrete, sand and gravel, asphalt, masonry, metals, and water. The proposed project would also irreversibly use solid waste landfill resources. However, the proposed project would not involve a large commitment of those resources relative to supply, nor would it consume any of those resources wastefully.

### D. AREAS OF KNOWN CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR assesses the significance of the proposed project's effect on land use, cultural resources, air quality, and biological resources. This EIR discusses air quality because since the time of the publication of the Initial Study, the *Bay Area Air Quality Management District (BAAQMD)* issued revised guidelines that supersede the 1999 *BAAQMD CEQA Guidelines*. Therefore, the Air Quality section of this EIR discusses the adopted 2010 BAAQMD CEQA Guidelines and air quality thresholds. The Initial Study (Appendix A) assessed the significance of the proposed project on land use, aesthetics, population and

housing, transportation, noise, air quality, wind, shadow, recreation, utilities and service systems, public services, geology and soils, hydrology and water quality, hazardous materials, mineral and energy resources, and agricultural resources. The Initial Study (Appendix A) found those impacts to be less than significant, except for historic architectural resources and air quality, which would be significant and unavoidable; and archaeological resources, construction noise, biological resources, and hazardous building material impacts, which would be less than significant after proposed mitigation measures.

On December 23, 2009, the Planning Department issued a "Notice of Preparation of an Environmental Impact Report." Concerns and issues raised by the public regarding the environmental review are summarized below and have been addressed in the Initial Study (IS) or this EIR, as indicated below (in parentheses).

- Development projects proposed near rail corridors must be planned with the safety of rail corridors in mind. (*EIR, Chapter III.E, Planning Code; and V.A, Land Use compatibility discussion*).
- Any intrusion onto the operating area of transit operations should have appropriate mitigation measures implemented, including potentially operating bulletin changes for the trains or conducting hazard management analysis. (*IS, Section E.5, Transportation and Circulation*).

With the publication of the Draft EIR, there will be a period of formal public comment on the accuracy and adequacy of the Draft EIR from February 9, 2011 to March 28, 2011, with a public hearing before the Planning Commission scheduled for March 24, 2011. A Comments and Responses document will be prepared that includes all comments submitted at the hearing or in writing during this period, contains written responses to the comments, and specifies any changes to the Draft EIR. This document, together with the Draft EIR, will constitute the Final EIR. The Planning Commission will decide on the adequacy of the environmental analysis contained in the EIR during a certification hearing.

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## VII. ALTERNATIVES

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This chapter identifies alternatives to the proposed project and discusses potential environmental impacts associated with each alternative. Project decision-makers could approve any of the following alternatives instead of the proposed project if the alternative is feasible, would reduce or eliminate any of the project's significant impacts, and would attain most of the project sponsor's objectives. The determination of feasibility will be made by project decision-makers based on substantial evidence in the record, which shall include, but not be limited to, information presented in this Draft EIR and comments received on it.

As discussed in Chapter V.B Cultural Resources, the proposed project would result in significant and unavoidable historic architectural resources from the demolition of four contributing resources and new construction that is incompatible within the Port of San Francisco Embarcadero Historic District. The character-defining features of the historical Pier 36 and the bulkhead wharf Sections 11, 11a, and 12 are listed below. The character-defining features of the seawall are not discussed below because only repairs will be made for the proposed project or the Preservation Alternative.

### **Pier 36 – Character-Defining Features**

- Maritime industrial design including but not limited to building profile, roof configuration, pile supported pier deck rectangular in dimension with perpendicular orientation to the seawall and bulkhead wharf;
- Exterior facades of pier shed, including architectural composition, massing, materials, finish, molding ornamentation, scored stucco and neon identification sign;
- Transit shed of concrete walls (north, east, and south façades), including architectural composition, materials, and finishes punctuated with metal sash and wood windows and roll-up cargo doors ;
- Transit shed steel structural system, including open truss configuration;
- Expression of historic rail functions including the extra wide south apron with railroad spur and opening in the pier shed that accommodated rail access through the building.

### Bulkhead Wharf Sections 11, 11a, and 12 – Character-Defining Features

- Location – Arranged parallel to the seawall projecting outward forming the bay edge.
- Dimensions – Variable width, length and elevation. The dimensions of the bulkhead wharf generally correspond to the dimensions of the underlying section of the seawall to which it is attached.
- Design – A cantilevered pile supported deck that extends outward into the bay from the top of the seawall. Portions of the bulkhead wharf act as the foundation for bulkhead or other buildings or provide open air access to and between pier facilities, berthed vessels, railroad spurs and the Embarcadero.
- Materials – Generally concrete and steel construction with decking and an asphalt surface treatment.
- Function – Industrial function as a maritime, public access, in some instances supports buildings and commercial/recreation uses, connects piers to the seawall.

Alternatives were selected that would reduce identified historic architectural resources impacts of the proposed project and include the following:

- Under the CEQA-required *No-Project Alternative*, there would be no change on the project site and no environmental impacts.
- The Preservation Alternative, would not demolish Pier 36, but would retain Pier 36 and its pier shed building, and rehabilitate them in a manner consistent with the Secretary of Interior's Standards, and adaptively reuse them for a maritime or light industrial use. Additionally, the bulkhead wharf Sections 11, 11a, and 12 would be reconstructed within the same footprint in a manner consistent with the *Secretary of the Interior Standards (Secretary Standards)*. The bulkhead wharf cannot be rehabilitated because it is deteriorated beyond repair and the design of the existing facility would not meet current code and public safety standards. The Preservation Alternative would also construct the Brannan Street Wharf to be reconfigured to provide approximately 57,000 sq. ft. of public open space, in a pile-supported platform configured like a short finger pier, extending perpendicularly from The Embarcadero. The pier shaped Brannan Street Wharf would connect to the reconstructed Bulkhead Wharf, and would be 140 feet in width and 411 feet in length. The type of landscaping and open space improvements would be similar to the proposed project, providing a 26,000 square-foot lawn area in a raised platform, with hardscape surfacing for pedestrian circulation areas, benches, lighting and public furnishings, and a 2,400 square-foot floating dock for access by small craft located on the eastern edge of the pier-shaped Brannan Street Wharf. This alternative would have a less-than-significant impact on

## VII. ALTERNATIVES

historical architectural resources, thereby avoiding the proposed project's significant and unavoidable impact. However, the significant and unavoidable air quality impacts would not be avoided. Similar to the proposed project, this alternative would also require mitigation measures for archaeological resources, biological resources (endangered species), noise (pile driving), and hazardous materials, which would be reduced to less than significant with the same mitigation measures as the proposed project. All other impacts would be less than significant as they would under the proposed project.

These alternatives take into consideration the comments made on the NOP (Appendix B), and reflect the intention of the Planning Department to select alternatives that would reduce or avoid the potential environmental impacts of the project. Decision-makers could also consider other alternatives, but additional environmental assessment may be required if those other alternatives differ substantially from the proposed project or the alternatives identified in this EIR.

### A. ALTERNATIVE A: NO PROJECT

CEQA and the *CEQA Guidelines* require EIRs to include a No Project Alternative so decision-makers can compare the effects of the proposed project with the effects of not approving a project.

#### DESCRIPTION

Alternative A, the No Project Alternative, would entail no changes to the project site. The existing Pier 36, Pier 36 warehouse building, and the bulkhead wharf Section 11, 11a, and 12 on the project site would remain. The proposed, "Brannan Street Wharf", which would be a 57,000 square-foot open space within the South Beach neighborhood would not be constructed. This alternative would not preclude future proposals for redevelopment of the project site. This alternative would not require the proposed project's approvals: findings of *General Plan* and Priority Policies consistency; approvals for expenditure of capital funds, for pile removal, pile driving, and new construction; for a major permit for pier removal and wharf construction; design review by the Port's Waterfront Design Advisory Committee and the San Francisco Bay Conservation and Development Commission (BCDC) Design Review Board; demolition and site permits; and EIR certification.

#### IMPACTS

If the No-Project Alternative were implemented, none of the proposed project's impacts discussed in Chapter V, Environmental Setting, Impacts, and Mitigation and Improvement Measures, or in the Initial

Study (Appendix A), would occur, and none of the mitigation measures would be required. This alternative would avoid the proposed project's significant and unavoidable historical architectural resources and air quality impacts identified in this EIR. It would also avoid the proposed project's biological resources and archaeological resources impacts identified in this EIR, which would be reduced to a less-than-significant level through mitigation. It would also avoid the proposed project's noise (pile driving) and hazardous building materials impacts and their associated mitigation measures and improvement measures identified in the Initial Study (Appendix A). In addition, it would avoid the proposed project's less-than-significant impacts that would not require mitigation measures and that are discussed in the Initial Study (Appendix A) in the following areas: land use, aesthetics, population and housing, transportation, air quality, wind and shadow, recreation, utilities and service systems, public services, geology and soils, hydrology and water quality, mineral and energy resources, and agricultural resources.

The No Project Alternative would not meet the objectives of the project sponsor, the Port of San Francisco, as follows: (1) to provide a major public park in the South Beach waterfront, (2) to implement the objectives of the Waterfront Land Use Plan and Design & Access Element, to create a network of diverse waterfront public open spaces that complements waterfront development and rehabilitation, (3) to remove blight, (4) and to work in partnership with the BCDC to implement shared public open space objectives which also meet BCDC policies to remove San Francisco Bay fill, create open water basins, provide high quality public access and public views of the Bay, for the enjoyment of San Francisco Bay Area and San Francisco residents, workers and visitors.

The No Project Alternative would be a feasible alternative, in that it could occur in the absence of the proposed project. However, the No Project Alternative would not meet the project sponsor's objectives. The site would remain vacant and no open space park would be constructed.

If the Planning Commission selected this alternative, and a different development proposal were submitted at a later time, that proposal would be subject to a separate project-specific CEQA environmental review.

## **B. ALTERNATIVE B: PRESERVATION ALTERNATIVE**

### **DESCRIPTION**

Alternative B, the Preservation Alternative, would not demolish Pier 36 and the pier shed building, which are a contributing resource to the Port of San Francisco Embarcadero Historic District, but would retain Pier 36 and the pier shed building, and rehabilitate them in a manner consistent with the Secretary of

## VII. ALTERNATIVES

Interior's Standards, and adaptively reuse them for a maritime or light industrial use (see Figure 11 – Alternative B: Preservation Alternative). Additionally, the bulkhead wharf would be reconstructed within the same footprint according to the *Secretary Standards* because the bulkhead wharf is deteriorated beyond repair and the existing design of the facility does not meet current code and public safety standards.

The Preservation Alternative would also construct the Brannan Street Wharf to be reconfigured to provide approximately 57,000 sq. ft. of public open space as shown in Figure 11. Instead of the wedge-shaped site adjacent to bulkhead wharf and Embarcadero Promenade, the Preservation Alternative would provide open space in a pile-supported platform configured like a short pier, extending perpendicularly from The Embarcadero, which would be consistent with the rectangular shape and perpendicular orientation of contributing resources of the Embarcadero National Register Historic and in conformance with the *Secretary Standards*. Alternative B would construct the Brannan Street Wharf in the footprint of the former Pier 34. Pier 34 was demolished by the Port in 2001 (prior to its demolition it was condemned for several years). The rectangular finger pier shaped Brannan Street Wharf would connect to the reconstructed bulkhead wharf, and would be 140 feet in width and 411 feet in length. The type of landscaping and open space improvements would be similar to the proposed project, providing a 26,000 square-foot lawn area in a raised platform, with hardscape surfacing for pedestrian circulation areas, benches, lighting and public furnishings, and a 2,400 square-foot floating dock for access by small craft located on the eastern edge of the pier shaped Brannan Street Wharf.

Like the proposed project, the Preservation Alternative would require approvals for expenditure of capital funds, for pile removal, pile driving, and new construction, for a major permit for pier removal and wharf construction, design review by the Waterfront Design Advisory Committee and the BCDC Design Review Board, demolition and site permits, and EIR certification.

### IMPACTS

This alternative would avoid the proposed project's significant and unavoidable historical architectural resources impacts identified in this EIR, including two significant individual impacts to the Embarcadero National Register Historic District. However, this alternative would not avoid the significant and unavoidable air quality impacts because construction activities would be similar to the proposed project, and the distance and exposure to sensitive receptors to toxic air contaminants would remain the same. It would have the same potentially significant impacts to biological resources, archaeological resources, noise (pile driving), and hazards (hazardous building materials), that the Initial Study (Appendix A) and this EIR identify (see Table S-1, Summary of Impacts and Mitigation Measures, page S-4). These



potentially significant impacts would be reduced to a less-than-significant level after implementation of required mitigation measures for both the proposed project and this alternative. This Preservation Alternative would have impacts similar to the proposed project's less-than-significant impacts without mitigation as discussed in the Initial Study (Appendix A). These impacts are in the following areas: land use, aesthetics, population and housing, transportation, air quality, wind and shadow, recreation, utilities and service systems, public services, geology and soils, hydrology and water quality, mineral and energy resources, and agricultural resources.

The Preservation Alternative would meet the Port of San Francisco's objectives to : (1) to provide a major public park in the South Beach waterfront; (2) to implement the objectives of the Waterfront Land Use Plan and Design & Access Element, to create a network of diverse waterfront public open spaces that complement waterfront development and rehabilitation, and (3) to remove blight. However, this alternative would not meet the Port objectives to work in partnership with the San Francisco Bay Conservation and Development Commission (BCDC) to implement shared public open space objectives that remove San Francisco Bay fill (the Brannan Street Wharf project would result in a net reduction of 1.10 acres of bay fill while Alternative B would not result in any reduction of bay fill), or create open water basins. Although technically feasible, this alternative would only meet some of the project sponsor's objectives, would conflict with BCDC policies to remove Bay fill and create open water basins, would conflict with Port of San Francisco policies to remove unsafe structures and blight, and would be financially prohibitive. The estimated construction cost for Alternative B is \$51.5 million.<sup>113</sup> This alternative would produce a 57,000 square-foot pier-shaped open space and would adaptively reuse the Pier 36 and the Pier 36 warehouse building, and would reconstruct the bulkhead wharf Section 11, 11a, and 12.

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<sup>113</sup> Port of San Francisco, Brannan Street Wharf – Project Alternative Cost Estimate (Repair/Rehabilitate Pier 36 & Marginal Wharf, and Construct BSW at Pier 34), July 12, 2010.

VII. ALTERNATIVES

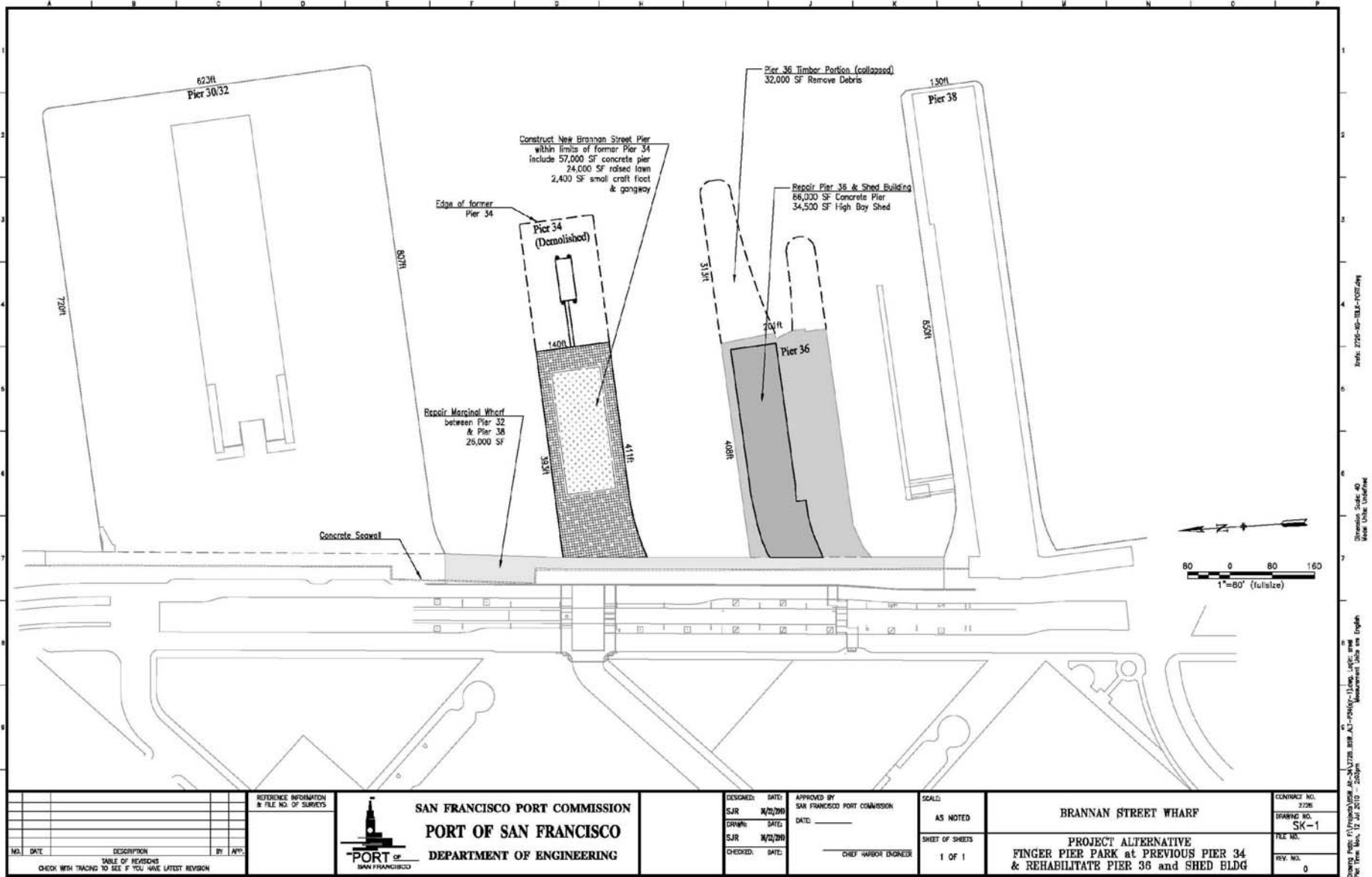


Figure 12 - Alternative B: Preservation Alternative

#### D. ALTERNATIVES CONSIDERED BUT REJECTED

There were several alternatives that were considered for the proposed project to reduce the impacts to historic architectural resources. Whether property is owned or can reasonably be acquired by the project sponsor has a strong bearing on the feasibility of developing a project alternative at a different site. The project sponsor, the Port of San Francisco, does have alternative sites in San Francisco; however, an alternative location for the Brannan Street Wharf would conflict with BCDC and the Port adopted planning policy, including the San Francisco Bay Plan, and the South Beach/China Basin Sub-Area Plan, which specifies the size, shape, and location of the proposed Brannan Street Wharf. Additionally, an alternative was considered that would reuse the existing Pier 36 platform and demolish the Pier 36 warehouse building. However, this alternative was rejected because it would not avoid all of the projects significant and unavoidable impacts historic architectural resources impacts. No alternatives other than those assessed in this chapter were identified that could substantially reduce the environmental impacts of the proposed project. Therefore, no off-site alternative is analyzed.

#### E. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As discussed in the preceding subsections, the proposed Brannan Street Wharf project would have two significant and unavoidable architectural historical resource impacts and three air quality impacts and less-than-significant impacts with proposed mitigation for impacts to biological resources (endangered species), archaeological resources, noise (pile driving), and hazards (hazardous building materials), that the Initial Study (Appendix A) and this EIR identify (see Table S-1, Summary of Impacts and Mitigation Measures, page S-4). The Preservation Alternative would avoid the proposed project's two significant and unavoidable historical architectural resource impacts for both demolition and new construction, and have similar potentially significant archaeological, biological resources (endangered species), noise (pile driving), and hazardous materials impacts. The Preservation Alternative would not avoid the significant and unavoidable air quality impacts. Both the proposed project and the Preservation Alternative (Alternative B) would have impacts similar to the proposed project's less-than-significant impacts without mitigation as discussed in the Initial Study (Appendix A). These impacts are in the following areas: land use, aesthetics, population and housing, transportation, air quality, wind and shadow, recreation, utilities and service systems, public services, geology and soils, hydrology and water quality, mineral and energy resources, and agricultural resources.

The No Project Alternative would avoid all impacts of the proposed project until another project is proposed.

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Table 14 compares significant impacts of the proposed project to the preservation alternative. The No Project Alternative is not included in this table.

The Preservation Alternative would avoid the proposed project's significant and unavoidable historical architectural impact and would be the environmentally superior alternative.

**TABLE 14: COMPARISON OF SIGNIFICANT IMPACTS – PROPOSED PROJECT AND ALTERNATIVE B: PRESERVATION ALTERNATIVE**

	<b>Proposed Project</b>	<b>Alternative B: Preservation Alternative</b>
<b>DESCRIPTION:</b>	<ul style="list-style-type: none"> <li>Demolish Pier 36, and bulkhead wharf Section 11, 11a, and 12</li> <li>Construct the 57,000 square-foot, wedge-shaped, 830 foot-long, Brannan Street Wharf open space park from Pier 30-32 to Pier 38</li> <li>Construct a 2,000 sq.ft. small craft float</li> <li>Requires driving 269 new piles</li> </ul>	<ul style="list-style-type: none"> <li>Restores/adaptively reuses Pier 36 for light industrial use (substructure, pier deck, and superstructure/transit shed)</li> <li>Construct a pier shaped 57,000 –square-foot, Brannan Street Wharf in the footprint of the former Pier 34</li> <li>Construct a 2,000 square-foot small craft float.</li> <li>Requires Driving 269 new piles</li> <li>Demolish and Rebuild bulkhead wharf Sections 11, 11a, and 12</li> </ul>
<b>IMPACTS</b>		
<i>Land Use</i>	Less Than Significant	Less Than Significant
<i>Aesthetics</i>	Less Than Significant	Less Than Significant
<i>Population and Housing</i>	No Impact	No Impact
<i>Cultural Resources</i> <i>Historic Architectural Resources</i> <i>Archaeological Resources</i>	Significant and Unavoidable with Mitigation Less than Significant with Mitigation	Less Than Significant Less than Significant with Mitigation
<i>Transportation</i>	Less Than Significant	Less Than Significant
<i>Noise</i>	Less than Significant with Mitigation	Less than Significant with Mitigation
<i>Air Quality</i>	Significant and Unavoidable with Mitigation	Significant and Unavoidable with Mitigation
<i>Wind and Shadow</i>	Less Than Significant	Less Than Significant
<i>Recreation</i>	No Impact	No Impact
<i>Utilities and Service Systems</i>	Less Than Significant	Less Than Significant
<i>Public Services</i>	Less Than Significant	Less Than Significant

VII. ALTERNATIVES

<i>Biological Resources</i>	Less than Significant with Mitigation	Less than Significant with Mitigation
<i>Geology and Soils</i>	Less Than Significant	Less Than Significant
<i>Hydrology and Water Quality</i>	Less Than Significant	Less Than Significant
<i>Hazards and Hazardous Materials</i>	Less than Significant with Mitigation	Less than Significant with Mitigation
<i>Mineral and Energy Resources</i>	No Impact	No Impact
<i>Agricultural Resources</i>	No Impact	No Impact

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## VIII. EIR PREPARERS, AND PERSONS AND ORGANIZATIONS CONTACTED

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PLEASE RETURN THIS POSTCARD TO REQUEST A COPY OF  
THE FINAL ENVIRONMENTAL IMPACT REPORT

(NOTE THAT THE DRAFT EIR PLUS THE COMMENTS AND RESPONSES  
DOCUMENT CONSTITUTE THE FINAL EIR)

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REQUEST FOR FINAL ENVIRONMENTAL IMPACT REPORT  
Planning Department Case No. XXXX.XXXE, Project Common Name

*Check one box:*     Please send me a copy of the Final EIR on CD-ROM.  
                           Please send me a paper copy of the Final EIR.

Signed: \_\_\_\_\_

Name: \_\_\_\_\_

Street: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

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## **IX. APPENDICES**

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APPENDIX A: Initial Study

# APPENDIX A

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## Initial Study



# SAN FRANCISCO PLANNING DEPARTMENT

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## Notice of Preparation of an Environmental Impact Report

*Date:* December 23, 2009  
*Case No.:* **2009.0418E**  
*Project Title:* **Brannan Street Wharf/Pier 36**  
*Zoning:* M-2 (Heavy Industrial) Use District  
40-X Height and Bulk District  
*Block/Lot:* Block 9900, Lot 034, 036  
*Lot Size:* 3.6 acres (156,000 square feet)  
*Project Sponsor:* Diane Oshima, Port of San Francisco, (415) 274-0553  
*Lead Agency:* San Francisco Planning Department  
*Staff Contact:* Chelsea Fordham – (415) 575-9071  
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**415.558.6377**

### PROJECT DESCRIPTION

The project site is located between Pier 30-32 and Pier 38, fronting on the east side of The Embarcadero, in proximity to the intersections of Brannan Street and Townsend Street, within the South of Market (SOMA) district of San Francisco. The proposed project involves the demolition of the existing Pier 36, including 133,000 square feet (sq.ft) of pile-supported concrete and wooden decks and piles, the 35,000 sq. ft. Pier 36 warehouse building, and approximately 18,800 sq.ft. of marginal wharf which runs between Piers 30-32 and Pier 38, and construction of a new approximately 57,000 sq.ft. open space park. The proposed open space, “the Brannan Street Wharf”, would be approximately 830 feet long (parallel to The Embarcadero), and would vary in width from 10 feet to 140 feet. The proposed park would consist of a raised lawn that could accommodate a variety of passive recreational uses and would include a 2,000 square-foot craft float that would provide a temporary boat tie-up area for landing and launching of hand-powered and small craft boats. The construction of the proposed Brannan Street Wharf would require driving 400 new piles and reinforcing the adjacent seawall. Demolition of Pier 36 and the marginal wharf would require removal or re-use of approximately 115, 42-inch diameter caissons located at Pier 36, and removal of 190, 12-inch diameter timber piles at the marginal wharf. Pier 36, the Pier 36 warehouse building, and the marginal wharf are contributing resources to the San Francisco Embarcadero National Register Historic District.

## FINDING

This project may have a significant effect on the environment and an Environmental Impact Report is required. This determination is based upon the criteria of the State CEQA Guidelines, Sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and for the reasons documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

## PUBLIC SCOPING PROCESS

Written comments will be accepted until the close of business on **January 22, 2010**. Written comments should be sent to Bill Wycko, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

If you work for a responsible State agency, we need to know the views of your agency regarding the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. Please include the name of a contact person in your agency.

December 17, 2009  
Date

  
Bill Wycko  
Environmental Review Officer

# INITIAL STUDY

## Case Number 2009.0418E – Brannan Street Wharf Project/Pier 36

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# INITIAL STUDY

## Case Number 2009.0418E – Brannan Street Wharf Project/Pier 36

### A. PROJECT DESCRIPTION

#### Project Location and Site Characteristics

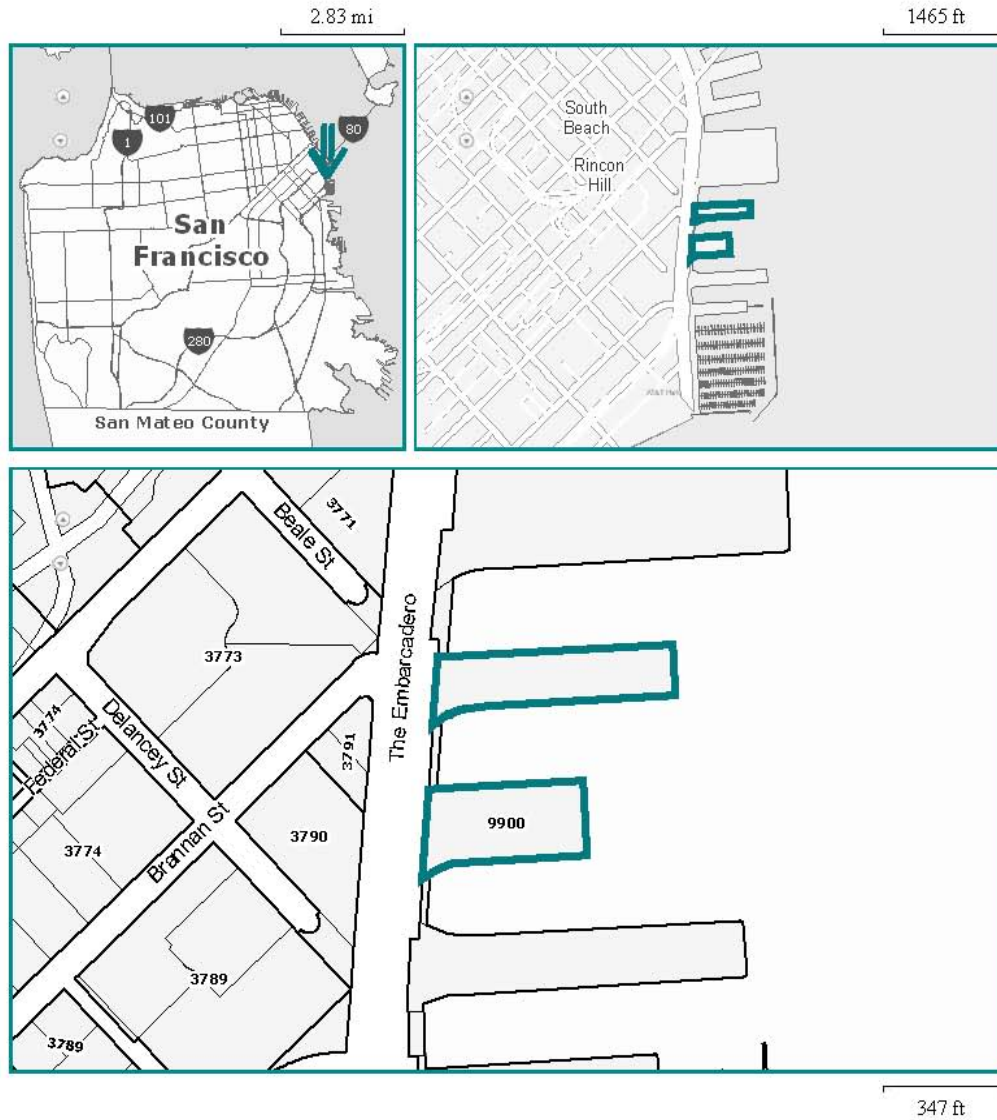
The project site (Assessor's Block 9900, Lot 034, 036) is located between Pier 30-32 and Pier 38, on the San Francisco Bay, in the Rincon Point - South Beach area of the South of Market (SOMA) district.

The project site fronts The Embarcadero on the east side, and is located in close proximity to the intersections of Brannan Street and Townsend Street to the north and south, respectively (see Project Location: Figure 1, page 4). The approximately 156,000-square-foot (3.6 acre) project site contains the existing Pier 36, the previously demolished Pier 34, the marginal wharf between Pier 38 and Pier 30-32, the seawall, and portions of the San Francisco Bay. Pier 36, built in 1909, is located on the southern portion of the site and extends perpendicularly from The Embarcadero, and is a 133,000 square-foot (sq.ft.) pile-supported pier with a 35,000 sq.ft. warehouse shed building. The pier platform is approximately 86,000 sq.ft., and is a steel and concrete structure supported on approximately 420 42-inch diameter concrete cylinders (or caissons). At the east end of the pier there was an approximately 47,000 sq.ft. timber wharf extension that was used for rail ferry operations, which has collapsed into the Bay. The marginal wharf is a 20-foot wide concrete and steel wharf supported on a mixture of concrete and timber piles that connects between the seawall and piers. Between the southern edge of Pier 32 and the northern edge of Pier 38, the marginal wharf is approximately 18,800 sq.ft. and approximately 940 feet long. The concrete seawall is located at the interface of the marginal wharf and The Embarcadero and is supported with timber piling and founded on a rock dike. The majority of the marginal wharf and all of Pier 36 was condemned in 2004 due to severely deteriorated deck and pilings, and would be demolished as part of the project. Pier 34 was removed in 2004 because it was condemned as well.

The project site is located within a Heavy Industrial (M-2) zoning district and 40-X height and bulk district.



### Brannan Street Wharf / Pier 36



**Figure 1** Project Site Location

## Project Description

The proposed project would demolish the existing Pier 36 and the marginal wharf at the site, and construct a new 57,000 square foot public open space, known as the Brannan Street Wharf (see Figure 2 - 4, pages 6-9). The proposed Brannan Street Wharf would consist of a 26,000 sq.ft. lawn, shade structure, tables, chairs and benches, litter receptacles, drinking fountain, lighting, space for public art installations, and a 2,000 sq.ft. small craft float with accessible gangway. Brannan Street Wharf would be wedge-shaped, generally oriented in a north-south configuration, connecting alongside The Embarcadero Promenade. The north end of the park would begin south of Pier 30-32, extending south for about 830 feet to a point south of Pier 36. The park would be approximately 10 feet wide at its narrowest point at the north end, widening to approximately 140 feet at the south end. The new small craft float would be approximately 30 feet by 68 feet with a low edge suitable for small human powered craft such as kayaks and row boats, and which complies with Americans with Disability Act (ADA) requirements and would connect the float to the wharf. The lawn would primarily be flat with the lawn laid in a raised planter about 18 inches in height, and would accommodate a variety of passive recreation uses.

The proposed Brannan Street Wharf project would be supported by approximately 400 precast concrete piles, 24-inch in diameter and octagonal shaped, to be driven to depths of over 60 feet below the bay floor. The wharf structure would cantilever over the existing seawall and interface with the existing Embarcadero sidewalk. The new small craft float with accessible gangway would be constructed of reinforced concrete (or steel with a concrete surface) and stabilized by six 30-inch diameter steel guide piles. Additionally, the seawall, to which the proposed project would connect, is in fair condition and would require maintenance to repair cracks, and to accommodate the interface with the new Brannan Street Wharf.

Project construction is estimated to take approximately 21 months with a construction cost of approximately \$25 million. The Port currently is coordinating with the U.S. Army Corps of Engineers (Army Corps) regarding implementation of the project. The Army Corps has received federal funding for the demolition of Pier 36, and it is anticipated that they would take the lead for that component of the project. The Port of San Francisco would be the project sponsor for the new construction of the Brannan Street Wharf.



Figure 2 Demolition Plan

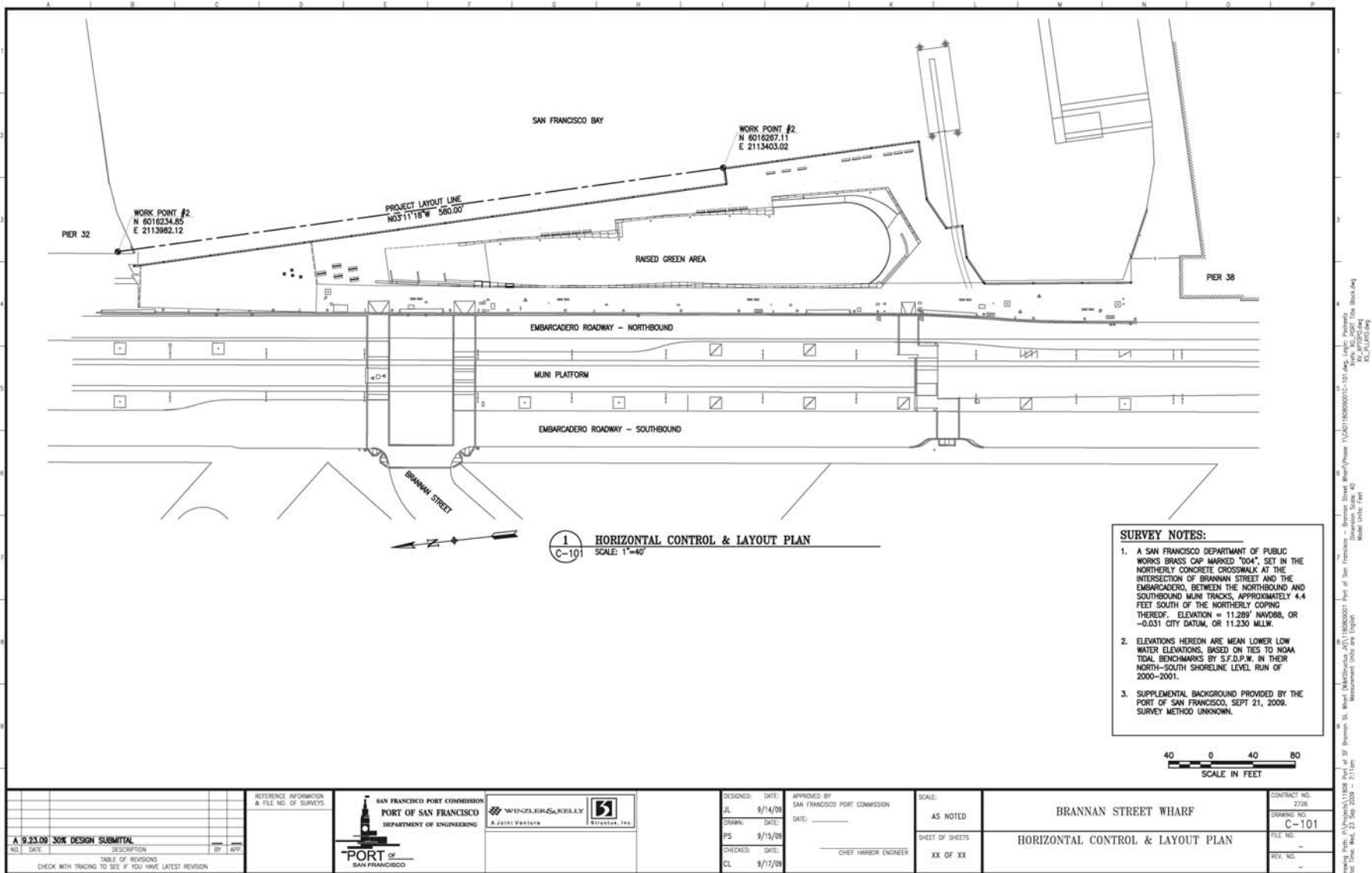


Figure 3 Layout Plan

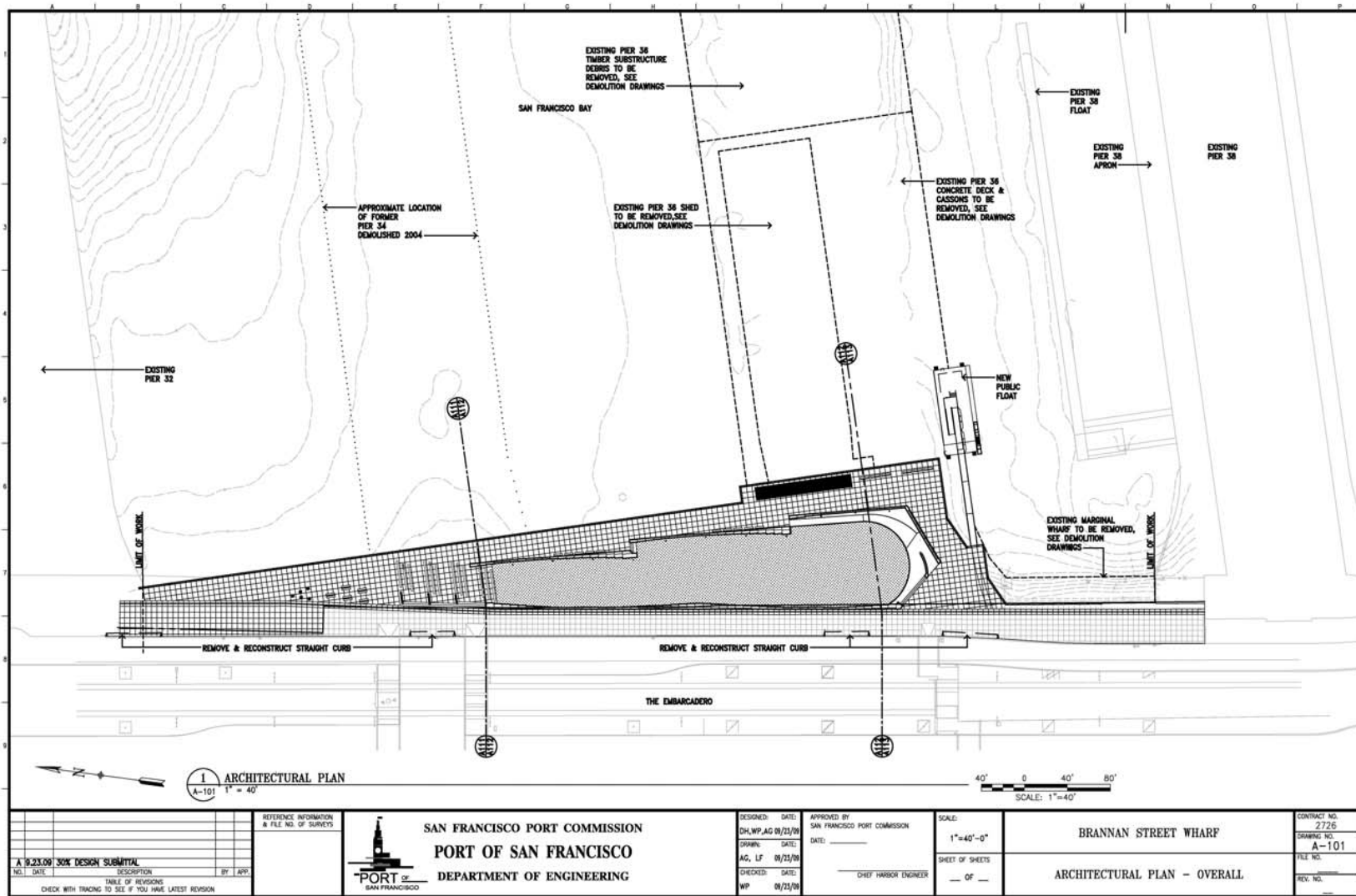


Figure 4 Architectural Plan

## B. PROJECT SETTING

The project site (Assessor's Block 9900, Lot, 034, 036) is located between Pier 30-32, and Pier 38, in the South Beach neighborhood, within the South of Market district. The project site is bounded by the east side of The Embarcadero, near the intersection of Brannan Street and The Embarcadero, and Townsend and The Embarcadero (see Project Location: Figure 1, page 4).

As discussed above under the Project Description, the project site is occupied by the existing Pier 36, the marginal wharf between Pier 38 and Pier 30-32, the seawall, and portions of the San Francisco Bay. North of the project site, on the west side of The Embarcadero is Pier 30-32, a 13 acre pier currently used for parking, special events and cruise ship calls as a back-up to the Port's cruise terminal operations at Pier 35 further to the north. To the south of the project site lies Pier 38, which is currently being used for recreational yacht and vessel docking, and a marine support center. To the south of Pier 38, lies South Beach Harbor, which is a 700 berth marina, and Pier 40. The South Beach Harbor complex includes public open space and access to South Beach Park and Pier 40 Breakwater public access; and the South Beach Harbor Center provides community meeting rooms, operational space for the South Beach Harbormaster, and the location of the South Beach Yacht Club.

Adjacent to the project site, west of The Embarcadero, there are several mixed-use residential and commercial building. These include the 4-story Bayside Village apartment complex located at Brannan and Beale Streets; the Delancey Street project, a 4-story, multi-unit residence and rehabilitation center located immediately across The Embarcadero from the project; the South Beach Marina Apartments at Townsend Street and The Embarcadero, which is a 414 unit complex in two 13-story towers and two low-rise (3- and 4-story) structures; the Steamboat Point apartments, a 4-story, multi-family residential building, which is a located at King and The Embarcadero; the Portside condominiums at Bryant and The Embarcadero, which is an 8-story, multi-family residential building; the One Embarcadero South located at 88 King Street, which is two 13- and 14- story towers containing 233 dwelling units; The Brannan, consisting of three towers and 130 units, and the 21-story Watermark condominiums at the corner of Bryant and Beale Streets. Further south of the project site, fronting on China Basin Channel and King Street is AT&T Ballpark.

### C. PREVIOUS ENVIRONMENTAL REVIEW

The proposed Brannan Street Wharf project was previously analyzed as part of the San Francisco Cruise Terminal Mixed-Use Project and Brannan Street Wharf Project EIR. The Cruise Terminal EIR included development of Pier 30-32, which was the proposed location for the Bryant Street Pier Cruise Terminal and Mixed Use Development, the development of the Brannan Street Wharf, and the development of the Watermark condominiums, located at the corner of Bryant and Beale Streets, on a portion of Seawall Lot 330. While the Cruise Terminal EIR secured government approvals, the construction costs to repair and improve Pier 30-32 to become the Bryant Street Pier Cruise Terminal and Mixed Use Development became economically infeasible, and the developer terminated the project. The Watermark condominiums have subsequently been developed since the approvals of the project have been granted for the previous Cruise Terminal EIR. The Port of San Francisco now proposes development of Brannan Street Wharf on its own.

The Brannan Street Wharf project requires that a Subsequent EIR be prepared from the Cruise Terminal EIR because new information of substantial importance has changed since the time the previous EIR was certified. This information is that Pier 36, and warehouse building, and the marginal wharf were determined to be contributing resources to the San Francisco Embarcadero National Register Historic District in 2006, subsequent to the adoption of the Cruise Terminal EIR in 2001.

### D. COMPATIBILITY WITH ZONING, PLANS, AND POLICIES

	<i>Applicable</i>	<i>Not Applicable</i>
Discuss any variances, special authorizations, or changes proposed to the Planning Code or Zoning Map, if applicable.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discuss any conflicts with any adopted plans and goals of the City or Region, if applicable.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discuss any approvals and/or permits from City departments other than the Planning Department or the Department of Building Inspection, or from Regional, State, or Federal Agencies.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### SAN FRANCISCO PLANNING CODE

The *San Francisco Planning Code (Planning Code)*, which incorporates the City's Zoning Maps, governs permitted uses, densities, and configuration of buildings within the City. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless (1) the proposed project



conforms to the *Planning Code*, (2) allowable exceptions are granted pursuant to provisions of the *Planning Code*, or (3) amendments to the *Planning Code* are included as part of the proposed project.

The project site is located within a Heavy Industrial (M-2) zoning district and a 40-X height and bulk district. As described in Section 210.6 of the *Planning Code*, M-2 Districts are intended to serve as heavy industrial districts with fewer requirements for screening and enclosures from residential districts than in light industrial districts. The heavier industries are permitted, with fewer requirements as to screening and enclosure than in M-1 Districts, but many of these uses are permitted only as conditional uses or at a considerable distance from Residential Districts. Most of the land zoned M-2 is controlled by the Port of San Francisco. Waterborne commerce, navigation, fisheries and recreation, and industrial, commercial, and other operations directly related to the conduct of waterborne commerce, navigation, fisheries or recreation on property subject to public trust are principal permitted uses in the M-2 Districts (Section 227). The proposed project would be related to recreation on property subject to public trust, therefore, the proposed open space project would be principal permitted use within the M-2 zoning district.

The proposed project is also located within the Waterfront Special Use District No. 1. The primary uses allowed within this special use district are maritime uses and related accessory uses. Maritime uses include those uses that require access to or use of San Francisco Bay waters in order to function or operate in the normal course of business, including but not limited to those uses associated with waterborne commerce, navigation, fisheries and recreation, and industrial, commercial and other operations directly related to the conduct of waterborne commerce, navigation, fisheries and recreation.

Within the Waterfront Special Use District No. 1, principal permitted uses include maritime uses and uses permitted in the underlying zoning district (in this case M-2, see above) that are also identified as an acceptable, existing or interim land use in the Waterfront Plan. There is also a requirement that any project involving any use other than maritime be subject to review of the urban design of the proposed use under the waterfront design review process. Section 240(c) establishes the rules and procedures for a Waterfront Design Advisory Committee (WDAC) made up of representatives of the Port, the Planning Department and the Mayor's Office, whose role is to review the urban design of new developments on certain lands located within the Waterfront Special Use Districts. The Brannan Street Wharf has undergone several reviews through the Waterfront Design Advisory Committee. At its September 14, 2009 joint meeting, the WDAC and the Design Review Board of the San Francisco Bay Conservation (BCDC) and Development Commission concluded that the Brannan Street Wharf has completed its formal design review necessary for the project and endorsed the proposed Brannan Street Wharf design.

## PLANS AND POLICIES

### San Francisco Plans and Policies

#### *San Francisco General Plan*

The *San Francisco General Plan* provides general policies and objectives to guide land use decisions. The *General Plan* contains 10 elements (Commerce and Industry, Recreation and Open Space, Housing, Community Facilities, Urban Design, Environmental Protection, Transportation, Air Quality, Community Safety, and Arts) that set forth goals, policies, and objectives for the physical development of the City.

Additionally, the proposed project is in the part of San Francisco covered by the Northeastern Waterfront Plan, an area plan of the *General Plan*. Objectives and policies in the various elements of the *General Plan* are typically duplicated in area plans, and the objectives and policies in an area plan are generally more detailed and focused.

The compatibility of the proposed project with *General Plan* policies that do not relate to physical environmental issues will be considered by decision makers as part of their decision whether to approve or disapprove the proposed project. Any potential conflicts identified as part of this process would not alter the physical environmental effects of the proposed project.

#### *Northeastern Waterfront Plan*

The *Northeastern Waterfront Plan*, an area plan of the General Plan, guides growth and development along San Francisco's northeastern waterfront, an irregularly shaped area that includes four subareas: Fisherman's Wharf, Base of Telegraph Hill, Ferry Building, and South Beach. The project site is within the *Northeastern Waterfront Plan's* South Beach subarea. Map 2 of the Plan indicates that the Brannan Street Wharf site is located within the 40-X Height and Bulk District. The *Northeastern Waterfront Plan* recommends objectives and policies designated to, "contribute to the waterfront's environmental quality, enhance the economic vitality of the Port and the City, preserve the unique maritime character, and provide for the maximum feasible visible and physical access to and along the Bay." Specifically, the *Northeastern Waterfront Plan* has policies for Pier 36 which recommends "improve shoreline appearance, provide public access and open space, and expand views of open water by removing deteriorating Piers 34 and 36 and extending the PortWalk out over the water to create a Brannan Street Wharf public open space. Develop the layout, design, improvements, and any allowances for accessory uses to promote the use of this open space in coordination with the community."

### *Proposition M—The Accountable Planning Initiative*

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the City *Planning Code* to establish eight Priority Policies. These policies, and the sections of this Environmental Evaluation addressing the environmental issues associated with the policies, are: (1) preservation and enhancement of neighborhood-serving retail uses; (2) protection of neighborhood character (Question 1c, Land Use); (3) preservation and enhancement of affordable housing (Question 3b, Population and Housing, with regard to housing supply and displacement issues); (4) discouragement of commuter automobiles (Questions 5a, b, f, and g, Transportation and Circulation); (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership (Question 1c, Land Use); (6) maximization of earthquake preparedness (Questions 13 a-d, Geology, Soils, and Seismicity); (7) landmark and historic building preservation (Question 4a, Cultural Resources); and (8) protection of open space (Questions 8 a and b, Wind and Shadow, and Questions 9a and c, Recreation). Prior to issuing a permit for any project that requires an Initial Study under the California Environmental Quality Act (CEQA), and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action that requires a finding of consistency with the *General Plan*, the City is required to find that the proposed project or legislation would be consistent with the Priority Policies. As noted above, the consistency of the proposed project with the environmental topics associated with the Priority Policies is discussed in the Evaluation of Environmental Effects, providing information for use in the case report for the proposed project. The case report and approval motions for the proposed project will contain the Department's comprehensive project analysis and findings regarding consistency of the proposed project with the Priority Policies.

### *Waterfront Land Use Plan*

The Waterfront Plan was initially adopted by the San Francisco Port Commission in 1997, and amended in July and October 2000, defining acceptable uses, policies and land use information applicable to all properties under the Port Commission's jurisdiction. Developed through a lengthy public planning process, the Waterfront Plan has enabled the Port Commission, the City and the community to jointly define locations for new public-private partnership projects, coordinated with major public open space, maritime, and historic preservation improvements along the waterfront. The Waterfront Plan is intended to: 1) actively promote the continuation and expansion of industrial, commercial and recreational maritime activities; 2) support new and existing open space and public access; 3) recognize the structure

of the Port for revenue-generating land uses to fund maritime activities, open space, and public activities along the waterfront; 4) adapt to fluctuating economic, social and political structures by identifying the range of acceptable uses for Port properties; 5) encourage efficient use of currently underutilized Port properties by allowing a range of interim uses; and 6) establish a framework for streamlining the entitlement process for new development. After Port Commission approval of the Plan, the Port worked with the City to amend the San Francisco General Plan, Planning Code, and Zoning Map to align policies and requirements within these documents, approved by the Planning Commission and Board of Supervisors.

The Waterfront Plan has seven goals: 1) to encourage the Port to function as a working Port for cargo, shipping, fishing, passenger cruise ships, ship repair, ferry and excursion boats, recreational boating and other water-dependent activities; 2) to stimulate new investment that will revitalize the waterfront, create jobs, revenues, public amenities, and other benefits; 3) to promote diversity of activities and people, including maritime, commercial, entertainment, civic, open space, recreational and other waterfront activities for all to enjoy; 4) to provide access to and along the waterfront through a network of parks, plazas, walkways, open spaces, and integrated transportation improvements that would enhance enjoyment of the Bay environment; 5) to enhance the waterfront's historic character, while creating new opportunities for San Franciscans to integrate the waterfront into their everyday lives; 6) to ensure appropriate quality of urban design along the waterfront; and 7) to provide economic access to all people in San Francisco.

To enable waterfront revitalization, the Port continues to work closely with the San Francisco Planning Commission and Board of Supervisors, the San Francisco Bay Conservation and Development Commission (BCDC), and the State Lands Commission to align the various land use plans and policies held by each entity. Port projects must comply not only with the Waterfront Plan, but also adopted plans of the Planning Commission and BCDC, and undergo public trust review by the State Lands Commission.

#### *South Beach/China Basin Sub-Area*

The proposed project is located within the South Beach/China Basin subarea of the Waterfront Plan, which extends from Pier 22 ½ to the north to Mariposa Street to the south. The Waterfront Plan contains the following objectives for the South Beach/China Basin subarea: 1) preserve and rationalize existing maritime activities in the area; 2) preserve and improve existing maritime uses that provide focal points

for public enjoyment of commercial and recreation oriented maritime activities; 3) promote activities and public access to make the waterfront inviting and safe, and improve the living environment of the new and emerging Rincon Hill, South Beach and Mission Bay neighborhoods; 4) take advantage of proximity to downtown San Francisco by providing attractions for the general public, while respecting the needs of adjacent residents; 5) create an integrated series of public access improvements that extend a shoreline Port Walk through the South Beach area; and 6) establish high standard in the design of new developments that give rise to a new architectural identity for the shoreline north of China Basin Channel.

The South Beach/China Basin subarea of the Waterfront Plan specifies acceptable land uses by the location at which they may be developed along San Francisco's Waterfront, including new uses and existing uses that may continue long term, those that may be continued as an interim use, or those that may be permitted as an accessory use. Generally, a wide variety of maritime uses (e.g., cargo shipping, maritime office and support services, and ceremonial berthing), open space/recreation, and commercial, and other uses, including general institutional, are permitted on specified sites throughout the project area.

Under the South Beach/China Basin subarea, there are development standards for the Bryant Street Pier Opportunity Area, which includes Pier 30-32, Pier 36, and Seawall Lot 330. The development standards that are applicable to the proposed Brannan Street Wharf project are:

- Provide significant maritime and public access uses with a multi-faceted mix of commercial activities, all oriented around a common theme, rather than a singular commercial attraction.
- Encourage new activities that do not generate peak traffic volumes during commute periods, to minimize congestion on roadway and public transit systems.
- Require a high standard of architectural design which is appropriate to the prominence of the site and establishes a new architectural identity and standard for waterside development in the South Beach area.
- Incorporate expansive public access on the piers that builds upon and enhances the PortWalk through the South Beach area.
- Demolish Piers 34 and 36 to create a Brannan Street Wharf open space, integrated with the Embarcadero Promenade and the public access and shoreline improvements for new development on Piers 30-32 and 38.

The South Beach/China Basin subarea of Waterfront Plan indicates that Piers 34 and 36 should be removed in order to create an open space, therefore, the proposed Brannan Street Wharf project would be consistent with the Plan. The Brannan Street Wharf project would involve removal of Pier 36 and the creation of the Brannan Street Wharf Park and previously condemned, Pier 34 was removed in mid-2001.

### *San Francisco Bay Plan*

The San Francisco Bay Conservation and Development Commission (BCDC) is a state agency with permit authority over the Bay and its shoreline. Created by the McAteer-Petris Act in 1965, BCDC regulates filling, dredging, and changes in use in San Francisco Bay. BCDC also regulates new development within 100 feet of the shoreline to ensure that maximum feasible public access to and along the Bay is provided. The Commission is also charged with ensuring that the limited amount of shoreline property suitable for regional high-priority water-oriented uses (ports, water-related industry, water oriented recreation, airports and wildlife areas) is reserved for these purposes. Land-side uses and structural changes are governed by policies regarding public access. BCDC can require, as conditions of permits, shoreline public access improvements consistent with a proposed project, such as, but not limited to, pathways, observation points, bicycle racks, parking, benches, landscaping, and signs.

Of primary concern to BCDC is the placement of new "fill" (generally defined as any material in or over the water surface, including pilings, structures placed on pilings, and floating structures) in the Bay. The McAteer-Petris Act imposes very strict standards for the placement of new fill. Placement of fill may be allowed only for uses that are (1) necessary for public health, safety or welfare of the entire Bay Area; (2) water-oriented uses, such as water-related industry, water-oriented recreation, and public assembly and the like; or (3) minor fill to improve shoreline appearance and public access. Fill must be the minimum necessary for the purpose and can be permitted only when no alternative upland location exists. While the proposed projects would result in a limited amount of new fill related to the creation of the Brannan Street Wharf, the project overall would decrease the amount of Bay fill. The Brannan Street Wharf would result in approximately 32,000 sq. ft. of new fill and a net decrease of approximately 94,800 sq. ft. due to the removal of Pier 36(133,000 sq. ft.) and the marginal wharf (18,800).

Other BCDC planning documents applicable to the northeastern waterfront include: the *San Francisco Bay Plan* (Bay Plan), adopted in 1969 and since amended, which specifies goals, objectives and policies for existing and proposed waterfront land use and other BCDC jurisdictional areas; the *Bay Area Seaport Plan*, prepared in conjunction with the Metropolitan Transportation Commission, which is BCDC's overall

policy for long-term growth and development of the Bay Area's six seaports, including the Port of San Francisco; and the *San Francisco Waterfront Special Area Plan (SAP)*, which is incorporated as a more specific element of the Bay Plan and, among other things, indicates acceptable land uses along the San Francisco Waterfront in much greater detail than does the regional Bay Plan.

In July, 2000, BCDC approved major amendments to the SAP, originally adopted in 1975, to reflect and be consistent with the Port's Waterfront Plan. The revised SAP identifies piers to be removed to create open water basins, prescribes two major new public plazas, and establishes new rules for development on certain existing piers, including allowing the repair and reconstruction of existing piers for any use consistent with the public trust, under certain conditions. The SAP establishes the requirement that the Brannan Street Wharf be constructed within 5 (the northern portion in the area of the former Pier 34) to 20 years of the issuance of a certificate of occupancy "for the major reuse of Piers 30-32, or a comparable development." The Port also adopted conforming amendments to its Waterfront Plan.

The area covered by the SAP is the land and water located along the existing shoreline of the City and County of San Francisco from the Hyde Street Pier through the India Basin, including all areas within the jurisdiction of the Port of San Francisco. The SAP divides the waterfront area into three geographic areas: Fisherman's Wharf, Northeastern Waterfront, and Southern Waterfront, to which particular permitted uses, policies, and maps are addressed. The Brannan Street Wharf project site is located within the Northeastern Waterfront. The Northeastern Waterfront extends from Pier 35 to China Basin and is characterized by three geographic areas or districts, including the Base of Telegraph Hill that extends from Pier 35 to Pier 9; the Ferry Building from Pier 7-1/2 to Pier 22-1/2; and South Beach, extending from Pier 24 to China Basin. The project sites are located within the South Beach district.

The policies in the SAP apply only to areas within the jurisdiction of BCDC for permit purposes. These policies, in addition to the McAteer-Petris Act and other sections of the Bay Plan, are the basis for BCDC permit decisions and for federal consistency review under the federal Coastal Zone Management Act of 1972, as amended. The SAP includes general policies that apply to all areas covered by the plan, and geographic-specific policies that specify permitted uses that may be allowed on fill in specified areas within BCDC's jurisdiction, describe in greater detail the limits on Bay fill, and guide the provision of public access, consistent with development projects. In the Northeastern Waterfront, the geographic-specific policies apply to the Bay Plan policies regarding filling for public trust uses. Other Northeastern Waterfront geographic-specific policies guide the provision of public benefits and public access required for development within that portion of the San Francisco Waterfront.

## *The Public Trust*

The City and County of San Francisco, through the Port Commission, hold title in trust for the people of the State of California. This is because the State, upon admission to the United States in 1850, was granted title to all submerged lands and tidelands, and Port property consists of submerged lands and tidelands. In 1968, the State Legislature adopted the Burton Act, which enabled transfer of the Port area to the City and County of San Francisco to be held in trust for the people of California for the purposes of maritime commerce, navigation and fisheries (the public trust), uses that enhance natural resources or attract people to use and enjoy the Bay and other specified uses.

The Burton Act granted the Port broad powers relative to the transferred property. There are, however, three key constraints: (1) property subject to the public trust and statutory trust imposed by the Burton Act cannot be sold or otherwise alienated by the Port, unless the property is found to be valueless for trust purposes and is a small portion of the total land held in trust by the Port; (2) the properties cannot be leased for a period exceeding 66 years; and (3) the revenues derived from the operation of the leased property must be maintained in a separate account and used only for trust purposes. The Port Commission may determine that Port property is surplus to trust purposes and may exchange that land for other property and/or use it for other purposes determined by the Port Commission and the State Lands Commission to be in the public interest. It is also acceptable for the Port to establish short-term leases (generally 10 years or less) for non-trust purposes if the property will not be required for trust purposes during the ten-year period of the lease. The State Lands Commission is the State agency that oversees compliance by the Port with its grant under the Burton Act. No formal approvals are required by the State Lands Commission for Port projects. However, the State Lands Commission acts in an advisory capacity to, and sits as a member of the BCDC Commission, with regard to BCDC's findings of trust compliance made pursuant to BCDC's San Francisco Special Area Plan.

The primary purpose of the proposed project on Pier 36 is to construct a new public open space for San Francisco. The purpose is consistent with the public trust. A final determination of trust consistency, as well as consistency with the Waterfront Plan, would be made by the Port Commission, in consultation with BCDC and the State Lands Commission. Additionally, the Brannan Street Wharf project site would remain under Port control and would not be leased to a private entity.

### **AB 1389 - State Legislation on the Public Trust**



Assembly Bill 1389 was introduced by Assembly Member Kevin Shelley, approved by the California Legislature on September 14, 2001, and signed by Governor Gray Davis on October 4, 2001 (see Appendix D for the complete text of the bill). The bill accomplishes several key items that pertain to the Brannan Street Wharf projects, as described below:

- Ratifies the BCDC Bay Plan and Special Area Plan, adopted in July, 2000, as necessary to protect the health, safety or welfare of the public in the entire Bay Area;
- Requires the construction and accelerates the completion of the Brannan Street Wharf.

### **Regional Plans and Policies**

The five principal regional planning agencies and their over-arching policy-plans to guide planning in the nine-county bay area include the Association for Bay Area Governments' (ABAG) *"A Land Use Policy Framework"* and *Projections 2005*, the Bay Area Air Quality Management District's (BAAQMD's) *Clean Air Plan* and *Bay Area 2005 Ozone Strategy*, the Metropolitan Transportation Commission's *Regional Transportation Plan – Transportation 2030*, the San Francisco Regional Water Quality Control Board's *San Francisco Basin Plan*, and the San Francisco Bay Conservation and Development Commission's *San Francisco Bay Plan*. Due to the size of the proposed project, there would be no anticipated conflicts with regional plans, except for the *San Francisco Bay Plan*, which is discussed above.

### **REQUIRED APPROVALS**

The proposed project would require the following approvals:

#### **Port of San Francisco**

- Approval of design by Waterfront Design Advisory Committee;
- Adoption of CEQA Findings and Mitigation Monitoring Program;
- Approval of construction contracts and implementation authorizations;
- Issuance of demolition and building permits;

#### **San Francisco Board of Supervisors**

- Approval of expenditure of capital funds.

#### **San Francisco Bay Conservation and Development Commission**

- Approval of design by BCDC Design Review Board (DRB)
- Approval of Major Permit for pier removal and wharf construction.

**Regional Water Quality Control Board**

- Approval of pile removal, pile driving and new construction.

**U.S. Army Corps of Engineers**

- Authorization or implementation of the demolition of Pier 36

**NEIGHBORHOOD NOTIFICATION**

A “Notification of Project Receiving Environmental Review” was sent out on June 26, 2009, to the owners of properties within 300 feet of the project site, as well as to other interested parties. The Planning Department received several emails and telephone calls in response to the notice. Respondents requested to receive further environmental review documents and/or expressed support for the proposed project.

**E. SUMMARY OF ENVIRONMENTAL EFFECTS**

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Land Use                       | <input type="checkbox"/> Air Quality                     | <input type="checkbox"/> Geology and Soils                        |
| <input type="checkbox"/> Aesthetics                     | <input type="checkbox"/> Wind and Shadow                 | <input type="checkbox"/> Hydrology and Water Quality              |
| <input type="checkbox"/> Population and Housing         | <input type="checkbox"/> Recreation                      | <input checked="" type="checkbox"/> Hazards/Hazardous Materials   |
| <input checked="" type="checkbox"/> Cultural Resources  | <input type="checkbox"/> Utilities and Service Systems   | <input type="checkbox"/> Mineral/Energy Resources                 |
| <input type="checkbox"/> Transportation and Circulation | <input type="checkbox"/> Public Services                 | <input type="checkbox"/> Agricultural Resources                   |
| <input checked="" type="checkbox"/> Noise               | <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Mandatory Findings of Signif. |

**F. EVALUATION OF ENVIRONMENTAL EFFECTS**

<u>Topics:</u>	<u>Potentially Significant Impact</u>	<u>Less Than Significant with Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>	<u>Not Applicable</u>
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**1. LAND USE AND LAND USE PLANNING—**  
Would the project:

- a) Physically divide an established community?

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial impact upon the existing character of the vicinity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### A) ESTABLISHED COMMUNITY

The proposed project would demolish the existing Pier 36, and construct a 55,000 square-foot open space park along the Embarcadero, known as the Brannan Street Wharf. Land use impacts are considered significant if they disrupt or divide the physical arrangement of an established community, or if they have a substantial impact on the existing character of the vicinity. The Brannan Street Wharf would not disrupt or divide the physical arrangement of surrounding land uses because it would be constructed in an area of the waterfront that is currently condemned and fenced-off from the general public. Therefore, the proposed Brannan Street Wharf would not change the existing street plan nor impede the passage of persons or vehicles. Therefore, the project would not physically divide an established community and would have a less-than-significant impact. Additionally, the proposed project would permit persons to access the waterfront in an area currently fenced and closed-off to the public and this topic will not be addressed in the EIR.

### B) CONSISTENCY WITH PLANS AND ZONING

The proposed project would not conflict with applicable plans, policies, and regulations such that an adverse physical change would result (see Section C. Compatibility with Existing Zoning and Plans). In addition, environmental plans and policies are those, like the *Bay Area Air Quality Plan*, that directly address environmental issues and/or contain targets or standards, which must be met in order to preserve or improve characteristics of the City's physical environment. The proposed project would not obviously or substantially conflict with any such adopted environmental plan or policy. Therefore, the proposed project would have no effect on existing plans and zoning and this topic will not be addressed in the EIR.

## C) CHARACTER

The proposed open space located along the waterfront would not introduce new or incompatible land uses to the area. As discussed above, the project site is surrounded by multi-family residential buildings, pier structures, a marina, and other open spaces. Although the demolition of the existing Pier 36 and the proposed construction of a 57,000 open space park would result in a change in character of the site, the project as proposed, would not result in a significant land use impact because it is a principally permitted use within the M-2 zoning district and is a predominant use along the waterfront. Additionally, the project would be consistent with the character of the area in terms of its proposed use and physical compatibility, and would not present a physical barrier to movement throughout the community. Therefore, land use impacts to the existing character would be less than significant and this topic will not be addressed in the EIR.

## CUMULATIVE LAND USE IMPACTS

The Port of San Francisco Proposition A Waterfront Open Space Improvements projects would construct and create new and/or improved public open spaces throughout the waterfront, including the following projects; Pier 43 Bay Trail Promenade, Bayfront Park, Blue Greenway Improvements, and Islais Creek. These Port Prop A Open Space projects, along with the proposed Brannan Street Wharf project, would not cumulatively divide an established neighborhood or conflict with any applicable land use plans, policies, or regulations. Together, the proposed Brannan Street Wharf, along with the Port Prop A Open Space projects would add and/or improve five open spaces throughout the San Francisco waterfront. In addition, the project would not disrupt or divide the existing community or adversely affect the character of the project vicinity and this topic will not be addressed in the EIR.

For the reasons discussed above, the proposed project's impacts related to land use, both individually and cumulatively, are considered less than significant. For information purposes, land use issues will be discussed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>2. AESTHETICS</b> —Would the project:					
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and other features of the built or natural environment which contribute to a scenic public setting?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area or which would substantially impact other people or properties?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## A – B ) EFFECTS ON SCENIC VISTA AND SCENIC RESOURCES

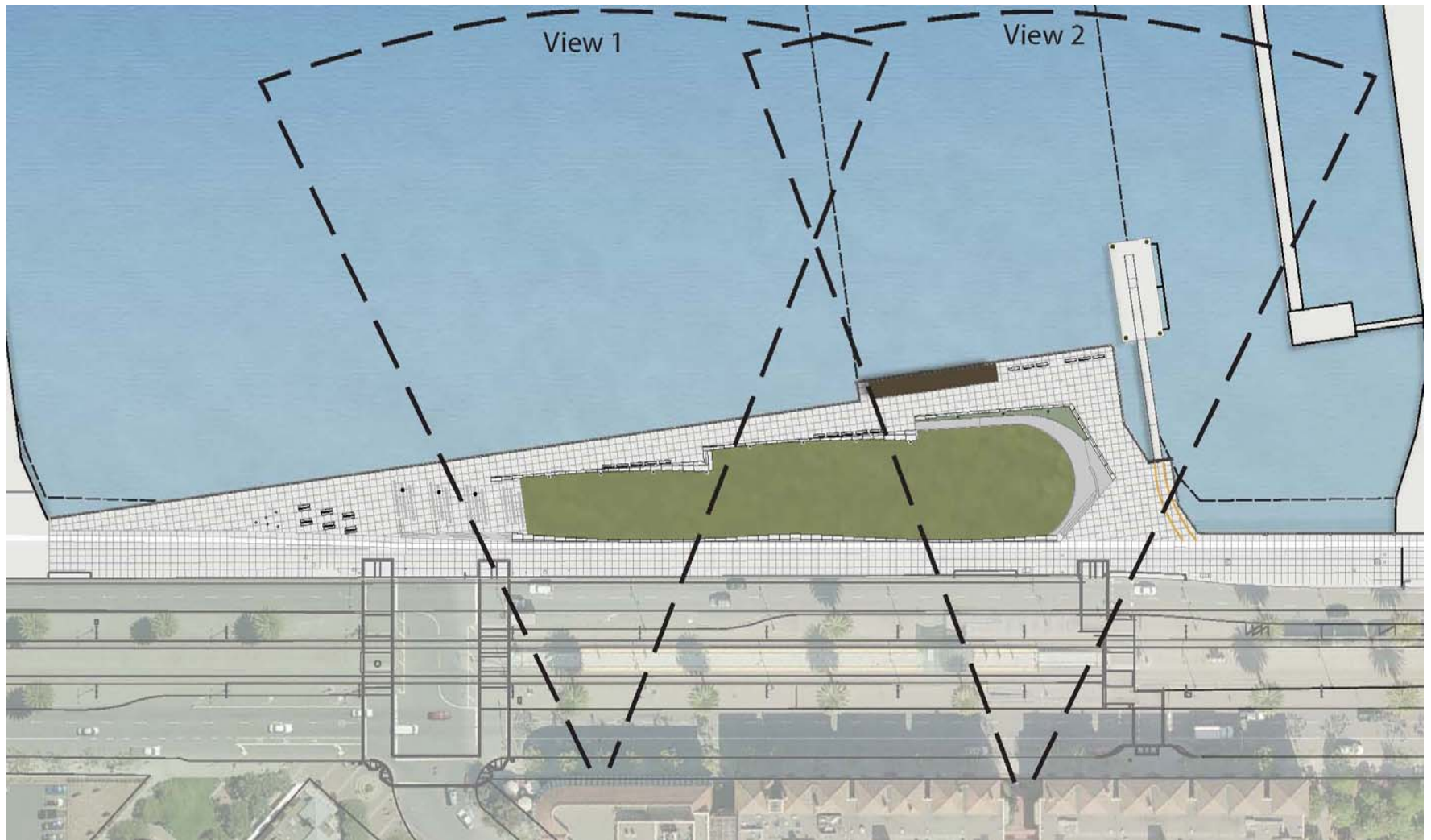
Scenic resources are the visible physical features on a landscape (e.g. land, water, vegetation, animals, structures, or other features.) The proposed project is located along the San Francisco Bay shoreline, which is considered a scenic resource and public scenic view and vista. The Urban Design Element of the General Plan classifies views along the Embarcadero as “important street view for orientation”. Figure 5 – 8, Photo Renderings of the Proposed Project, depicts the existing views and views with the proposed project from along the Embarcadero and from Delancey Street.

The proposed project would change views currently observed from streets along the Embarcadero; however, the proposed project would not eliminate any scenic view or vista now observed from public areas. The project site currently contains the existing Pier 36, the 36 warehouse shed, and waters of the San Francisco Bay. The proposed project would demolish Pier 36, the warehouse shed, and the 55,000 square-foot Brannan Street Wharf open space park. The proposed Brannan Street Wharf open space would be parallel to the Embarcadero, and would not construct any building that would interfere or block views of the waterfront. The tallest structures on the project site would be the guardrails along the perimeter of the open space, and shade structures, which would be approximately 3.5 feet tall and 17 feet tall respectively; however, they would be designed in a manner that would not interfere views of the waterfront. Additionally, the demolition of Pier 36 would create additional views of the waterfront where currently they are blocked by metal fencing and the Pier 36 warehouse shed. The proposed project would

not substantially degrade or obstruct any scenic view or vistas now observed from public areas, or damage any scenic resources. Thus, the proposed project would result in less-than-significant impacts to scenic resources and scenic vistas and this topic will not be further analyzed in the EIR.

### C) VISUAL CHARACTER

The proposed Brannan Street Wharf project would be parallel to the Embarcadero and would have a railing to a maximum height of 3.5 feet and shade structures to a height of 17 feet. The proposed Brannan Street Wharf size, scale, and height would be compatible with the existing height limits and allowable densities. The proposed project would not have a substantial, demonstrable negative aesthetic effect within its urban setting. The proposed Brannan Street Wharf would introduce a waterfront park in an area with primarily pier structures and residential/mixed-use development, however, the proposed project would not adversely affect the existing visual character of the neighborhood, nor have substantial, demonstrable negative effect within its urban setting. Therefore, the proposed project would result in less-than-significant impacts to visual character and this topic will not be further analyzed in the EIR.



**Figure 5** Viewshed Analysis for the Brannan Street Wharf



**Figure 6** View 1: Existing View and Photo Rendering of Proposed Project from the Embarcadero

Source: Port of San Francisco





**Figure 7** View 2: Existing View and Photo Rendering of Proposed Project from Delancey Street

Source: Port of San Francisco

## D) SUBSTANTIAL LIGHT AND GLARE

The project site is currently occupied by the vacant Pier 36 and waters of the San Francisco Bay. The proposed project would result in the construction of a 57,000 square-foot open space park. The Brannan Street Wharf project proposes light fixtures within the raised lawn area to ensure adequate nighttime illumination, consistent with creating a safe environment for the public. The proposed lighting is consistent with exterior lighting typical along the Embarcadero, and would not change from existing conditions. For these reasons, the proposed project would not generate obtrusive light or glare that would substantially impact other properties, and would not result in a significant effect with regard to substantial light and glare.

## CUMULATIVE AESTHETIC IMPACTS

Together, the proposed Brannan Street Wharf, along with the Port Prop A Open Space projects would add and/or improve five open spaces throughout the San Francisco waterfront. The Port of San Francisco Proposition A Waterfront Open Space Improvements projects along with the proposed Brannan Street Wharf project, would change the aesthetic along the waterfront by adding additional open space parks. These proposed projects would not substantially alter scenic vistas or result in demonstrable negative aesthetic effect within its urban setting. For the reasons discussed above, the proposed project's impacts related to aesthetics, both individually and cumulatively, would be less than significant.

For the reasons discussed above, the proposed project's impacts related to aesthetics, both individually and cumulatively, would be less than significant and aesthetics will not be further analyzed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>3. POPULATION AND HOUSING—</b> Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
b) Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## A) POPULATION GROWTH

The proposed project would not result in an increase of population within the vicinity of the project site. The proposed open space would be located adjacent to the Embarcadero and would be built on pier structures, and therefore would not substantially alter existing development patterns in the South Beach neighborhood, or be expected to induce a substantial amount of growth.

## B – C) POPULATION AND HOUSING DISPLACEMENT

Currently, the project site is occupied by Pier 36, marginal wharf, and portions of the San Francisco Bay. Pier 36 was condemned in 2004 and no longer employs any persons, and there are no residents on the project site. Therefore, the proposed project would not displace any residences or result in the displacement of any jobs.

As discussed above, the proposed project would not induce any population growth nor have significant physical environmental effects on housing demand or population. For the reasons discussed above, the proposed project's impacts related to population and housing, both individually and cumulatively, are not considered significant under CEQA and this topic will not be discussed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>4. CULTURAL AND PALEONTOLOGICAL RESOURCES—</b>					
Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco <i>Planning Code</i> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### A) ARCHITECTURAL RESOURCES

The project site is currently occupied by Pier 36, waters of the San Francisco Bay, and portions the marginal wharf. Pier 36, and the Pier 36 warehouse building were constructed from 1908 - 1909, and the marginal wharf was constructed in 1909. Pier 36 is not listed in Article 10 of the *Planning Code* (Preservation of Historical Architectural and Aesthetic Landmarks) or Article 11 of the *Planning Code* (Preservation of Buildings and Districts of Architectural, Historical, Aesthetic Importance in the C-3 districts). However, Pier 36, the Pier 36 warehouse building, and the marginal wharf are contributing resources to the San Francisco Embarcadero National Register Historic District.

The proposed project's demolition of Pier 36 buildings would cause a substantial adverse change in the significance of a historical resource. Given the buildings' status as historical resources, demolition of the pier, as proposed, has the potential to cause a significant adverse affect to a historical architectural resource. As a result, the EIR will assess this topic further, describing the history, architect, architectural character, and significance of the buildings on the project site. The EIR will include standards for retention of architectural character and appropriateness of new design, consistent with the Secretary of the Interior's Standards for Rehabilitation of Historic Buildings.

## B) ARCHEOLOGICAL RESOURCES

Factors considered in determining the potential for encountering archeological resources include the location, depth, and the amount of soils disturbance proposed, as well as any existing information about known resources in the area. The project area has potential sensitivity for pre-historic archeological resources. While there are no known archaeological resources, paleontological resources, or human remains within the project area, it is possible that such resources may be present. Archeological resources, including potential ship wrecks, could be encountered during disturbance of sediments below the Bay floor from required pile driving. Excavation and pile driving activities could adversely impact any existing prehistoric deposits, including human remains. This issue will be discussed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>5. TRANSPORTATION AND CIRCULATION –</b>					
Would the project:					
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways (unless it is practical to achieve the standard through increased use of alternative transportation modes)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels, obstructions to flight, or a change in location, that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity that could not be accommodated by alternative solutions?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.), or cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity or alternative travel modes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project site is located adjacent to The Embarcadero Roadway, in the South Beach neighborhood of San Francisco, one-half block west of Brannan Street and Delancey Street. The Embarcadero Roadway is a two-way, north-south roadway with two travel lanes in each direction, parking on one side of the street, and bicycle lanes on both sides of the street. Brannan Street is a two-lane, two-way northeast-southwest street, with parking on both sides of the street. Delancey Street is a two-way, northwest-southeast roadway, with two travel lanes in each direction and parking on both sides of the street. King Street is a major two-way, northeast-southwest thoroughfare, with two lanes in each direction parking on both sides, and a landscaped median with MUNI light rail tracks.

In the San Francisco *General Plan*, the Embarcadero and King Street are designated as a Major Arterial in the Transportation Element, part of the Congestion Management Program (CMP) Network, a Transit Preferential Street (Transit Important), a Metropolitan Transportation System (MTS) Network Street, part of the Citywide Pedestrian Network for the Bay, Ridge, and Coast Trail, Neighborhood Commercial Street, and the Citywide Bicycle Route. The intersection of the Embarcadero and Brannan is signalized with a right turn only lane onto Brannan Street.

## A – B) TRAFFIC AND LEVEL OF SERVICE

The proposed project would demolish the vacant Pier 36, and construct an approximately 57,000 sq.ft open space park on pier supported structures, to be known as the Brannan Street Wharf. The Brannan Street Wharf would be used for a variety of passive recreational uses, and would include a 26,000 square-foot raised lawn, shade structure, tables, chairs and benches, space for public art installations, and a 2,000 sq.ft. small craft float with accessible gangway. The small craft float would be approximately 30 feet by 68 feet with a low edge suitable for small human powered craft such as kayaks and row. The small craft float and ramp would primarily be for landing and launching of small human-powered craft (e.g.

kayaks, row boats), and designed to meet Americans with Disability Act (ADA) requirements. The Brannan Street Wharf would be used throughout the day, and would not generate increased trips during any certain time of the day.

The change in traffic in the project area as a result of the proposed project would be undetectable to most drivers because the proposed Brannan Street Wharf would be used as passive recreational open space along the existing Herb Caen Way/Embarcadero Promenade, and would draw people from existing neighborhoods, or nearby attractions, rather than create specific trips to the project site. Additionally, any increase in the volume of additional trips would not result in any significant individual or cumulative adverse impacts to any intersection service levels.

No off-street loading spaces would be provided for the proposed Brannan Street Wharf, and none are required in the *Planning Code* for open space parks. The proposed open space park would not have any delivery or service vehicles to the project site. Therefore, loading activity would not pose a significant impact for pedestrian flow or transit.

Construction activities would include daily vehicle trips generated by the arrival and departure of construction workers. Approximately 30 workers would commute to the construction site each day for approximately 21 months for demolition of Pier 36 and the marginal wharf, and construction of the Brannan Street Wharf. The majority of the Pier 36 demolition work will take place from water, using marine equipment for both demolition and debris removal, and will have little to no impact on vehicle, bicycle and pedestrian usage of The Embarcadero. Once Pier 36 is removed, the marginal wharf will be demolished and will require a partial closure, or narrowing of The Embarcadero Promenade, in order to gain access to the seawall. The Promenade is approximately 30 feet wide in this location; it is expected that the 15 feet closest to the Bay will be required for construction, enclosed by temporary fencing or other construction barrier along the entire project length. Construction of the Brannan Street Wharf will use either the Pier 30/32 or a section of the parking lot opposite the Pier 30/32 for construction staging for land based equipment and supplies. The temporary fence currently in place along The Embarcadero Promenade will remain in place. Pile driving for the Brannan Street Wharf will take place using marine equipment. Piles will be brought to the site via barges and maneuvered into place and driven using the marine equipment. The seawall modification will take place with a land based crew and equipment. This operation can typically take place within the 15 ft work zone along the Promenade; however, at times another 5 feet will be required over a small local area. Structural deck construction will take place after piles and seawall modifications are complete. To complete the deck of the Brannan Street Wharf,

concrete placement will utilize one or two landbased concrete boom pump trucks located along The Embarcadero Promenade and supplied by a steady stream of concrete trucks. Expected impacts include closure of the northbound bicycle lane, 1 northbound vehicle lane, and routing pedestrians into a 5 ft wide temporary path set up in the roadway. Pedestrians will also need to wait during short temporary closures required for concrete truck access. This operation will impact traffic and pedestrian flow along The Embarcadero for the duration of the pour, which is expected to last between 1.5 and 3 months. The project sponsor and construction contractor(s) would meet with the Traffic Engineering Division of the Department of Parking and Traffic (DPT), the Fire Department, Muni's Street Operations and Special Events Office, and other City agencies to determine feasible traffic modifications to reduce traffic congestion and other potential traffic disruption and pedestrian circulation effects during construction of the project (see **Improvement Measure, IM-T-1**). The impact of construction truck traffic would be a temporary lessening of the capacities of local streets due to the lane closure of the northbound lane of The Embarcadero, slower movement and larger turning radii of trucks, which may affect traffic, bicycle and pedestrian operations. Construction workers who drive to the site could cause a temporary parking demand, and the project applicant would make accommodations for construction worker parking at the existing Pier 30/32. Therefore, it is anticipated that construction workers would be accommodated without substantially affecting area wide parking conditions. The impacts of construction on parking and traffic would be limited in scope and temporary in duration, and would not be significant. However, limiting construction-related truck traffic during peak periods would further decrease the less-than-significant construction period impacts. (See Improvement Measure, IM-T-1)

#### C) AIRPORT HAZARDS

The project site is not located near a public or private airport or within an airport land use plan area. Therefore, this topic is not applicable to the proposed project.

#### D) TRAFFIC HAZARDS

The proposed project does not include any design features that would substantially increase traffic hazards (e.g., creating a new sharp curve or dangerous intersections), and would not include any incompatible uses, as discussed above in Topic 1, Land Use and Land Use Planning; therefore, there would be no impacts associated with traffic hazards for the proposed project.



## E) EMERGENCY ACCESS

The proposed project would not result in a significant impact with regard to emergency access, as the project site is accessible from major streets, including the Embarcadero and Brannan Street.

## F) PARKING

As described above, there would be negligible new vehicle trips associated with the proposed Brannan Street Wharf. Additionally, the existing parking conditions near the project site include metered parking spaces along the northbound and southbound lanes, which are generally not completely occupied, and would be sufficient for the proposed project.

San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact (CEQA Guidelines Section 15131(a)). The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation." As described in detail below, the project site is well served by public transit.

The traffic analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor, and the traffic assignments used in the transportation analysis, as well as in the associated air quality, noise and pedestrian safety analyses, reasonably addresses potential secondary effects. In view of the above discussion, the proposed project's parking effect would not rise to a level considered significant.

#### **G) TRANSIT AND ALTERNATIVE MODES OF TRANSPORTATION IMPACTS**

The project is well served by public transit, with MUNI providing service in the immediate vicinity. MUNI lines passing within two blocks of the project site include the N and T Muni Metro (light rail) lines, 80X – Gateway Express, 82 - Levi Plaza Express, and the 10 – Townsend bus lines. The Brannan Street Muni Metro station is located parallel to the project site in the median of the Embarcadero. The nearest BART station (Embarcadero and the Montgomery) is approximately one mile west of the project site on Market Street. The increase in transit demand associated with the project would not noticeably affect transit services in the area or affect acceptable transit operations because the project would be a passive open space park that would not generate new transit trips, and would rather draw people from existing neighborhoods, or nearby attractions. In view of the above, project impacts on public transit would not be significant.

Pedestrian conditions in the vicinity of the project, on both sidewalks and crosswalks, were observed to be operating at acceptable levels of service. The project is not expected to substantially change the existing pedestrian conditions because the project would be located adjacent to the Embarcadero, and would add additional pedestrian walking space to the already existing 20-foot sidewalk. Therefore, the proposed project would not result in any significant impacts on pedestrian conditions.

In the vicinity of the project site, King, 2nd, Folsom, and Townsend Streets are designated Citywide Bicycle Routes. These routes are interconnected to the Citywide Bicycle Network and provide access to and from the study area from locations throughout the City. During a field survey, the number of bicyclists observed to be riding in the vicinity of the project site was relatively low. Any increase in traffic

generated by the project would not be substantial enough to affect bicycle travel in the area, and project impacts on bicycles would be less than significant.

**Improvement Measure IM-T-1: Construction Traffic Measures**

The following measures would minimize disruption of the general traffic flow on adjacent streets:

- To the extent possible, truck movements should be limited to the hours between 9:00 AM and 3:30 PM (or other times, if approved by the SFMTA).
- The project sponsor and construction contractor(s) would meet with the Traffic Engineering Division of the SFMTA, the Police Department, the Fire Department, Muni’s Street Operations and Special Events Office, the Planning Department, and other City agencies to determine feasible traffic measures to reduce traffic congestion and other potential transit disruption and pedestrian circulation effects during construction of the project.

For the reasons discussed above, the proposed project’s impacts related to transportation and circulation, both individually and cumulatively, are considered less than significant under CEQA and this topic will not be discussed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>6. NOISE</b> —Would the project:					
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Be substantially affected by existing noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### A – B, AND D) CONSTRUCTION NOISE

Demolition and project construction would temporarily and intermittently increase noise and possibly vibration levels around the project site and may be considered an annoyance by occupants of nearby properties. Noise and vibration levels over the estimated 21-month construction period would fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and listener, and presence or absence of barriers. Construction noises associated with the proposed project would include demolition, pile driving, truck traffic, and site work. Of these, demolition, pile-driving, and site work would likely generate the most construction-related noise. Throughout the construction period there would be truck traffic to and from the site, hauling away demolition materials and debris, or delivering building materials. It is anticipated that the construction hours would be normal working hours during the week, with possible limited work during nights or weekends. Noise from demolition and construction activities, especially impact tools and pile driving, could result in noise peaks and ground vibration that may disrupt nearby residents. Pile driving of approximately 400 piles would be required to construct the Brannan Street Wharf Project. Potential noise impacts would generally be limited to the period during which new piles would be driven. Noise levels would be sporadic rather than continuous in nature because of the different types of construction equipment used. According to the project sponsor, pile driving could last approximately 270 days for the construction of the Brannan Street Wharf.

The San Francisco Noise Ordinance (Article 29 of the Police Code), amended in November 2008, regulates construction-related noise. Although not listed as a mitigation measure, it is required by law

and would serve to mitigate significant negative impacts of the proposed project on sensitive receptors. The ordinance requires that noise levels from individual pieces of construction equipment, other than impact tools, not exceed 80 dBA<sup>1</sup> at a distance of 100 feet from the source. Impact tools, such as jackhammers, must have both the intake and exhaust muffled to the satisfaction of the Director of the Department of Public Works or the Director of Building Inspection. If the noise from the construction work would exceed the ambient noise levels at the property line of the site by five dBA, the work must not be conducted between 8:00 PM and 7:00 AM, unless the Director of DPW or the Director of DBI authorizes a special permit for conducting the work during that period.

Sensitive receptors are people requiring quiet, for sleep or concentration, such as residences, schools, or hospitals, and people themselves who may be relatively more susceptible to adverse health impacts from their environment, such as immune-compromised individuals, populations with elevated levels of chronic illness, children, and the aged. Sensitive noise receptors in proximity to the project area are residents across The Embarcadero from the project site, and residents in the South Beach neighborhood. Construction activities other than pile driving typically generate noise levels no greater than 90 dBA (for instance, for excavation) at 50 feet from the activity, while other activities, such as concrete work, are much less noisy. Closed windows typically can reduce daytime interior noise levels to an acceptable level. Therefore, for nearby sensitive receptors, although construction noise could be annoying at times, it would not be expected to exceed noise levels commonly experienced in an urban environment, and would not be considered significant. Pile driving construction activities under the project could temporarily exceed noise thresholds. Given the above-mentioned City noise regulations, the temporary nature of construction work, and implementation of **Mitigation Measure M-NO-1**, construction noise would have a less-than-significant effect on the environment. Additionally, Improvement Measure IM-T-1, proposed to minimize the disruption of traffic flow by limiting truck movement to the hours between 9:00 AM and 3:30 PM, would also have the secondary effect of reducing the construction noise impacts.

### C) AMBIENT NOISE LEVELS

Ambient noise levels in the project vicinity are typical of noise levels in greater San Francisco, which are dominated by vehicular traffic, including trucks, cars, Muni trains, and emergency vehicles. The Embarcadero Roadway is moderately to heavily trafficked, and generates moderate to high levels of

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<sup>1</sup> dBA is the symbol for decibels using the A-weighted scale. A decibel is a unit of measurement for sound loudness (amplitude). The A-weighted scale is a logarithmic scale that approximates the sensitivity of the human ear.

traffic noise. Observation indicates that surrounding land uses do not noticeably conduct noisy operations.

Vehicular traffic makes the greatest contribution to ambient noise levels throughout most of San Francisco. Generally, traffic must double in volume to produce a noticeable increase in the ambient noise level in the project vicinity. The proposed project would be a passive open space park that would not generate new traffic trips, and would rather draw people from existing neighborhoods, or nearby attractions. Therefore, the existing traffic in the project vicinity would not noticeably increase and the proposed project would not cause traffic volumes to double on area streets, and it would not have a noticeable effect on ambient noise levels in the project vicinity, nor would the project contribute to any potential cumulative traffic noise effects.

The proposed project would not include any mechanical equipment which would produce operational noise. Therefore, substantial increases in the ambient noise level due to building equipment noise would not be anticipated. At the project location, operational noise would not be expected to be noticeable, given background noise levels along the Embarcadero.

#### **E, F) PRIVATE AIRSTRIP**

The project site is not within an airport land use plan area, nor is it in the vicinity of a private airstrip. Therefore, this topic is not applicable.

#### **G) EXISTING NOISE LEVELS**

The Brannan Street Wharf project would be affected by elevated noise levels due to proximity to high volumes of traffic activity along The Embarcadero Roadway. There would be no impact to ambient noise levels by the project in operation, because the project does not include construction of buildings, and noise from conditioning indoor air, nor program noise-generating recreational uses. New noise exposure as a result of the project would come from adding open space recreational uses and persons to areas with elevated noise levels in the existing environment.

**Noise Compatibility.** The Environmental Protection Element of the *San Francisco General Plan* contains Land Use Compatibility Guidelines for Community Noise.<sup>2</sup> These guidelines, which are similar to but differ somewhat from state guidelines promulgated by the Governor’s Office of Planning and Research, indicate maximum acceptable noise levels for various newly developed land uses. For residential uses, the maximum “satisfactory” noise level without incorporating noise insulation into a project is 60 dBA (Ldn), while the guidelines indicate that playgrounds and parks should be discouraged at noise level ranges from 68 to 77 dBA (Ldn).<sup>3,4</sup> Based on modeling of traffic noise volumes conducted by the San Francisco Department of Public Health (DPH),<sup>5</sup> the proposed Brannan Street Wharf have ambient traffic noise levels within the ranges to discourage such uses, with some near-road portions of the proposed project having ambient conditions in excess of 70 dBA, at which level the guideline indicates some park uses should generally not be undertaken. However, since the open space would not have children’s playground facilities or facilities that would attract visitors for extended periods of time or have overnight accommodations, it would be reasonable from a health perspective to allow short term park usage.<sup>6</sup> Because impacts would be temporary, and because playground-type uses would not be programmed, the effect of this land use inconsistency with the *General Plan* would be considered less-than-significant.

In summary, the operational noise from the proposed project, including traffic-related noise, would not significantly increase the ambient noise levels in the project vicinity. Construction-related increases in noise and vibration resulting from project construction would not be considered a significant impact because of the temporary and intermittent nature of construction, and because the contractor would be required to comply with the City’s Noise Ordinance, and **Mitigation Measure M-NO-1, and Improvement Measure IM-NO-1.**

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<sup>2</sup> City and County of San Francisco, Planning Department, San Francisco General Plan, Environmental Protection Element, Policy 11.1.

<sup>3</sup> Sound pressure is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 dB to 140 dB corresponding to the threshold of pain. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Owing to the variation in sensitivity of the human ear to various frequencies, sound is “weighted” to emphasize frequencies to which the ear is more sensitive, in a method known as A-weighting and expressed in units of A-weighted decibels (dBA).

<sup>4</sup> The guidelines are based on maintaining an interior noise level of interior noise standard of 45 dBA, Ldn, as required by the California Noise Insulation Standards in Title 24, Part 2 of the California Code of Regulations.

<sup>5</sup> Traffic noise map presented on DPH website: <http://www.sfdph.org/dph/EH/Noise/default.asp>.

<sup>6</sup> Rivard, Tom. City and County of San Francisco, Department of Public Health, Memorandum to Diane Oshima, Director Waterfront Planning, Port of San Francisco, July 23, 2009.

**Mitigation Measure M-NO-1: Pile Driving**

The following measures would minimize pile driving noise for adjacent residents:

The project sponsor shall require construction contractors use noise-reducing pile driving techniques such as, use cushions between top of pile and the hammer, vibrating piles into place and use predrilling or jetting to help ease pile driving when feasible, and consider use of concrete piles instead of steel piles. The project sponsor shall also require that contractors schedule pile-driving activity for times of the day that would be in accordance with the provisions of the San Francisco Noise Ordinance, to disturb the fewest people.

**Improvement Measure M-NO-1: Pile Driving**

In addition, the following improvement measure involving pile-driving construction would be included in the implementation of open space improvements:

Prior to the start of pile driving activity, the Port would work with its construction contractors to notify and meet with neighboring property owners/businesses within 300 feet of the project site at least one month in advance, to inform them of dates, hours and duration of the pile-driving work so that these parties can plan their activities accordingly.

Implementation of **Mitigation Measure M-NO-1** would reduce this impact to a less-than-significant level. For the reasons discussed above, the proposed project’s impacts related to noise both individually and cumulatively, are considered less than significant under CEQA, and this topic not be discussed further in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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**7. AIR QUALITY**

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- |  |                          |                          |                                     |                          |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### A – B, D) CONFLICT WITH AIR QUALITY PLANS

The Federal Clean Air Act (CAA), as amended, and the California Clean Air Act (CCAA) legislate ambient air standards and related air quality reporting systems for regional regulatory agencies to then develop mobile and stationary source control measures to meet the standards. BAAQMD is the primary responsible regulatory agency in the Bay Area for planning, implementing, and enforcing the federal and State ambient standards for criteria pollutants.<sup>7</sup> Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead.

The San Francisco Bay Area Air Basin encompasses the following counties: San Francisco, Alameda, Contra Costa, Marin, San Mateo, Napa, and parts of Solano and Sonoma Counties. The San Francisco Air Basin has a history of air quality violations for ozone, carbon monoxide, and particulate matter. The Basin currently does not meet the State ambient air quality standards for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>. BAAQMD has adopted air quality management plans over the years to address control methods and strategies to meet air quality standards, the latest plans being the *Bay Area 2000 Clean Air Plan*, *2001 Ozone Attainment Plan*, and *2005 Bay Area Ozone Strategy*.

### Construction-Related Impacts

Demolition and new construction activities would temporarily affect local air quality during the project's proposed construction schedule, causing temporary increases in particulate dust and other pollutants.

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<sup>7</sup> State and federal air quality standards and the Bay Area's attainment status can be viewed on the BAAQMD website at <http://www.baaqmd.gov>.

Emissions generated from construction activities include dust (including PM-10 and PM-2.5)<sup>8</sup> primarily from “fugitive” sources, combustion emissions of criteria air pollutants (reactive organic gases [ROG], nitrogen oxides [NOx], carbon monoxide [CO], sulfur oxides [SOx], and PM-10) primarily from operation of construction equipment and worker vehicles, and evaporative emissions (ROG) from asphalt paving. The Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines recognize that construction equipment emits ozone precursors, but indicates that such emissions are included in the emission inventory that is the basis for regional air quality plans.<sup>9</sup> Therefore, construction emissions are not expected to impede attainment or maintenance of ozone standards in the Bay Area.

Project-related demolition, and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the California Air Resources Board, reducing ambient particulate matter from 1998 – 2000 levels to natural background concentrations in San Francisco would prevent over 200 premature deaths.

Dust can be an irritant causing watering eyes or irritation to the lungs, nose and throat. Demolition, excavation, grading and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to this particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil or demolition materials.

In response, the San Francisco Board of Supervisors approved a series of amendments to the San Francisco Health Code generally referred hereto as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of onsite workers minimize public nuisance complaints, and to avoid orders to stop work by the DBI.

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<sup>8</sup> Particles that are 10 microns or less in diameter and 2.5 microns or less in diameter, respectively.

<sup>9</sup> Bay Area Air Quality Management District, *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans*, December 1999.

The project sponsor and the contractor responsible for construction activities at the project site shall use the following practices to control construction dust on the site or other practices that result in equivalent dust control that are acceptable to the Director. Dust suppression activities may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco *Public Works Code*. If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 millimeter (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques.

For projects over one half-acre, the Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Health Department. DBI will not issue a building permit without written notification from the Director of Public Health that the applicant has a site-specific Dust Control Plan, unless the Director waives the requirement. Interior-only tenant improvement projects that are over one-half acre in size that will not produce exterior visible dust are exempt from the site-specific Dust Control Plan requirement.

Site-specific Dust Control Plans shall require the project sponsor to: submit of a map to the Director of Health showing all sensitive receptors within 1000 feet of the site; wet down areas of soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent, third-party to conduct inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and securing with a tarpaulin; enforce a 15 mile per hour speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and to sweep off adjacent streets to reduce

particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with dust control requirements.

The Port would evaluate project-specific conditions as the construction plans and specifications are developed, and incorporate applicable regulations into its construction contract documents. The Port and its contractors' compliance with BAAQMD regulations, the local Construction Dust Control Ordinance, and other applicable regulations would prevent significant air quality impact resulting from project construction.

### Operational Emissions

The proposed Brannan Street Wharf open space park would not have stationary source emissions generated by mechanical equipment, therefore, this impact would be considered less than significant. The proposed project would not violate any BAAQMD ambient air quality standard or contribute substantially to an existing or projected air quality violation. For all of the above reasons, the proposed project would not generate significant operational air quality impacts.

The *BAAQMD CEQA Guidelines* indicate that for any project that does not individually have significant operational air quality impacts, the determination of whether it has a significant cumulative impact should be based on whether it is consistent with the *General Plan*. The proposed project would be generally consistent with the *General Plan* and, as such, air quality management plans such as the *Bay Area 2000 Clean Air Plan*, and the *Bay Area 2005 Ozone Strategy*. Additionally, the *General Plan*, the *Planning Code*, and the City Charter implement various transportation control measures identified in the *2005 Ozone Strategy* through the City's Transit First Program, bicycle parking requirements, transit development fees, and other actions. Accordingly, the proposed project would not contribute considerably to cumulative air quality impacts, nor would it interfere with implementation of the *2005 Ozone Strategy* or the *2001 Ozone Attainment Plan*, which are the applicable regional air quality plans developed to improve air quality towards attaining the State and federal ambient air quality standards. As such, the operational characteristics of the proposed project would not result in cumulatively considerable increases in regional air pollutants.

The project would not introduce any stationary emissions sources to the project site. The project would not violate any BAAQMD ambient air quality standard or contribute substantially to an existing or projected air quality violation. Operational emissions associated with the proposed project are minimal

and would clearly not result in significant environmental impacts, nor would these emissions be cumulatively considerable in the context of global climate change. Therefore, no significant operational air quality impacts would be generated by the project.

### Traffic Emissions

The BAAQMD has established thresholds for projects requiring its review for potential air quality impacts.<sup>10</sup> These thresholds are based on minimum size projects that the BAAQMD considers capable of producing air quality problems due to vehicular emissions. The BAAQMD generally does not recommend a detailed air quality analysis for projects that would generate fewer than 2,000 vehicle trips per day. The proposed project would be a passive open space park that would not generate new traffic trips, and would rather draw people from existing neighborhoods, or nearby attractions. Therefore, the proposed project would generate a negligible amount of net new daily vehicle trips, substantially fewer than the BAAQMD threshold of 2,000 daily vehicle trips. Therefore, no detailed air quality analysis is needed, and no significant air quality impacts due to vehicular emissions would be generated by the proposed project.

### Toxic Air Contaminants

The California Air Resources Board (CARB) established its statewide comprehensive air toxics program in the early 1980s. CARB created California's program in response to the Toxic Air Contaminant Identification and Control Act (AB 1807, Tanner 1983) to reduce exposure to air toxics. CARB identifies 244 substances as Toxic Air Contaminants (TACs) that are known or suspected to be emitted in California and have potential adverse health effects. Public health research consistently demonstrates that pollutant levels are significantly higher near freeways and busy roadways. Human health studies demonstrate that children living within 100 to 200 meters of freeways or busy roadways have poor lung function and more respiratory disease; both chronic and acute health effects may result from exposure to TACs. In 2005, CARB issued guidance on preventing roadway related air quality conflicts, suggesting localities "avoid siting new sensitive land uses within 500 feet of a freeway [or other] urban roads with volumes of more

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<sup>10</sup> Ibid, page 25.

than 100,000 vehicles/day.”<sup>11</sup> However, there are no existing federal or State regulations to protect sensitive land uses from roadway air pollutants.

The San Francisco Department of Public Health (DPH) has issued guidance for the identification and assessment of potential air quality hazards and methods for assessing the associated health risks.<sup>12</sup> Consistent with CARB guidance, DPH has identified that a potential public health hazard for sensitive land uses exists when such uses are located within a 150-meter (approximately 500-foot) radius of any boundary of a project site that experiences 100,000 vehicles per day. To this end, San Francisco added Article 38 of the San Francisco Health Code, approved November 25, 2008, which requires that, for new residential projects of 10 or more units located in proximity to high-traffic roadways, as mapped by DPH, an Air Quality Assessment be prepared to determine whether residents would be exposed to potentially unhealthy levels of PM<sub>2.5</sub>. Through air quality modeling, an assessment is conducted to determine if the annual average concentration of PM<sub>2.5</sub> from the roadway sources would exceed a concentration of 0.2 micrograms per cubic meter (annual average).<sup>13</sup> If this standard is exceeded, the project sponsor must install a filtered air supply system, with high-efficiency filters, designed to remove at least 80 percent of ambient PM<sub>2.5</sub> from habitable areas of residential units.

The project site, at Pier 36 is not located within the Potential Roadway Exposure Zone, as mapped by DPH. Thus, the proposed project is not expected to result in a significant impact from exposure of sensitive receptors to high concentrations of roadway-related pollutants.

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<sup>11</sup> California Air Resources Board, 2005 Air Quality and Land Use Handbook: A Community Health Perspective, <http://www.arb.ca.gov/ch/landuse.htm>, accessed September 8, 2008.

<sup>12</sup> San Francisco Department of Public Health, Assessment and Mitigation of Air Pollutant Health Effects from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review, May 6, 2008, [http://dphwww.sfdph.org/phes/publications/Mitigating\\_Roadway\\_AQLU\\_Conflicts.pdf](http://dphwww.sfdph.org/phes/publications/Mitigating_Roadway_AQLU_Conflicts.pdf), accessed September 8, 2009.

<sup>13</sup> According to DPH, this threshold, or action level, of 0.2 micrograms per cubic meter represents about 8 – 10 percent of the range of ambient PM<sub>2.5</sub> concentrations in San Francisco based on monitoring data, and is based on epidemiological research that indicates that such a concentration can result in an approximately 0.28 percent increase in non-injury mortality, or an increased mortality at a rate of approximately 20 “excess deaths” per year per one million population in San Francisco. “Excess deaths” (also referred to as premature mortality) refer to deaths that occur sooner than otherwise expected, absent the specific condition under evaluation; in this case, exposure to PM<sub>2.5</sub>. (San Francisco Department of Public Health, Occupational and Environmental Health Section, Program on Health, Equity, and Sustainability, “Assessment and Mitigation of Air Pollutant Health Effects from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review,” May 6, 2008. Twenty excess deaths per million based on San Francisco’s non-injury, non-homicide, non-suicide mortality rate of approximately 714 per 100,000. Although San Francisco’s population is less than one million, the presentation of excess deaths is commonly given as a rate per million population.)

## C) GREENHOUSE GASES

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as a driving force for global climate change. Definitions of climate change vary between and across regulatory authorities and the scientific community, but in general can be described as the changing of the earth's climate caused by natural fluctuations and anthropogenic activities which alter the composition of the global atmosphere.

Individual projects contribute to the cumulative effects of climate change by emitting GHGs during demolition, construction and operational phases. The principal GHGs are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. (Ozone—not directly emitted, but formed from other gases—in the troposphere, the lowest level of the earth's atmosphere, also contributes to the retention of heat.) While the presence of the primary GHGs in the atmosphere are naturally occurring, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) are largely emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Carbon dioxide is the “reference gas” for climate change, meaning that emissions of GHGs are typically reported in “carbon dioxide-equivalent” measures. Emissions of carbon dioxide are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs, with much greater heat-absorption potential than carbon dioxide, include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming, although there is uncertainty concerning the magnitude and rate of the warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.<sup>14</sup> Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

The California Energy Commission (CEC) estimated that in 2004 California produced 500 million gross metric tons (about 550 million U.S. tons) of carbon dioxide-equivalent GHG emissions.<sup>15</sup> The CEC found

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<sup>14</sup> California Air Resources Board (ARB), 2006a. Climate Change website (<http://www.arb.ca.gov/cc/120106workshop/intropres12106.pdf>) accessed December 4, 2007.

<sup>15</sup> Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in “carbon dioxide-equivalents,” which present a weighted average based on each gas's heat absorption (or “global warming”) potential.

that transportation is the source of 38 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent and industrial sources at 13 percent.<sup>16</sup> In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for just over half of the Bay Area's 85 million tons of GHG emissions in 2002. Industrial and commercial sources were the second largest contributors of GHG emissions with about one-fourth of total emissions. Domestic sources (e.g., home water heaters, furnaces, etc.) account for about 11 percent of the Bay Area's GHG emissions, followed by power plants at 7 percent. Oil refining currently accounts for approximately 6 percent of the total Bay Area GHG emissions.<sup>17</sup>

### *Statewide Actions*

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of greenhouse gases (GHG) would be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.<sup>18</sup>

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires the CARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions).

AB 32 establishes a timetable for the CARB to adopt emission limits, rules, and regulations designed to achieve the intent of the Act. CARB staff is preparing a scoping plan to meet the 2020 greenhouse gas reduction limits outlined in AB 32. In order to meet these goals, California must reduce their greenhouse gases by 30 percent below projected 2020 business as usual emissions levels, or about 10 percent from

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<sup>16</sup> California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 -Final Staff Report, publication # CEC-600-2006-013-SF, December 22, 2006; and January 23, 2007 update to that report. Available on the internet at: <http://www.arb.ca.gov/cc/ccei/emsinv/emsinv.htm>.

<sup>17</sup> BAAQMD, Source Inventory of Bay Area Greenhouse Gas Emissions: Base Year 2002, November 2006. Available on the internet at: [http://www.baaqmd.gov/pln/ghg\\_emission\\_inventory.pdf](http://www.baaqmd.gov/pln/ghg_emission_inventory.pdf).

<sup>18</sup> California Air Resources Board (CARB), *Climate Change Draft Scoping Plan: A Framework for Change*, June 2008 Discussion Draft. Available on the internet at: <http://www.climatechange.ca.gov/index.php>. Accessed July 29, 2008.



today's levels. In June 2008, CARB released their Draft Scoping Plan, which estimates a reduction of 169 million metric tons of CO<sub>2</sub>-eq (MMTCO<sub>2</sub>-eq). Approximately one-third of the emissions reductions strategies fall within the transportation sector and include the following: California Light-Duty Vehicle GHG standards, the Low Carbon Fuel Standard, Heavy-Duty Vehicle GHG emission reductions and energy efficiency, and medium and heavy-duty vehicle hybridization, high speed rail, and efficiency improvements in goods movement. These measures are expected to reduce GHG emissions by 60.2 MMTCO<sub>2</sub>-eq. Emissions from the electricity sector are expected to reduce another 49.7 MMTCO<sub>2</sub>-eq. Reductions from the electricity sector include building and appliance energy efficiency and conservation, increased combined heat and power, solar water heating (AB 1470), the renewable energy portfolio standard (33 percent renewable energy by 2020), and the existing million solar roofs program. Other reductions are expected from industrial sources, agriculture, forestry, recycling and waste, water, and emissions reductions from cap-and-trade programs. Local government actions and regional GHG targets are also expected to yield a reduction of 2 MMTCO<sub>2</sub>-eq.<sup>19</sup> Measures that could become effective during implementation pertain to construction-related equipment and building and appliance energy efficiency. Some proposed measures will require new legislation to implement, some will require subsidies, some have already been developed, and some will require additional effort to evaluate and quantify. Additionally, some emissions reductions strategies may require their own environmental review under CEQA or the National Environmental Policy Act (NEPA). Applicable measures that are ultimately adopted will become effective during implementation of proposed project and the proposed project could be subject to these requirements, depending on the proposed project's timeline.

### *Local Actions*

San Francisco has a history of environmental protection policies and programs aimed at improving the quality of life for San Francisco's residents and reducing impacts on the environment. The following plans, policies and legislation demonstrate San Francisco's continued commitment to environmental protection.

*Construction and Demolition Debris Recovery Ordinance.* In 2006 the City of San Francisco adopted Ordinance No. 27-06, requiring all construction and demolition debris to be transported to a registered facility that can divert a minimum of 65 percent of the material from landfills. This ordinance applies to all construction, demolition and remodeling projects within the City.

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<sup>19</sup> Ibid.

*Greenhouse Gas Reduction Ordinance.* In May 2008, the City of San Francisco adopted an ordinance amending the San Francisco Environment Code to establish City greenhouse gas emission targets and departmental action plans, to authorize the Department of the Environment to coordinate efforts to meet these targets, and to make environmental findings. The ordinance establishes the following greenhouse gas emission reduction limits for San Francisco and the target dates to achieve them:

- Determine 1990 City greenhouse gas emissions by 2008, the baseline level with reference to which target reductions are set;
- Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2017;
- Reduce greenhouse gas emissions by 40 percent below 1990 levels by 2025; and
- Reduce greenhouse gas emissions by 80 percent below 1990 levels by 2050.

The ordinance also specifies requirements for City departments to prepare departmental Climate Action Plans that assess, and report to the Department of the Environment, GHG emissions associated with their department's activities and activities regulated by them, and prepare recommendations to reduce emissions. As part of this, the San Francisco Planning Department is required to: (1) update and amend the City's applicable *General Plan* elements to include the emissions reduction limits set forth in this ordinance and policies to achieve those targets; (2) consider a project's impact on the City's GHG reduction limits specified in this ordinance as part of its review under CEQA; and (3) work with other City departments to enhance the "transit first" policy to encourage a shift to sustainable modes of transportation thereby reducing emissions and helping to achieve the targets set forth by this ordinance.

Each of the policies and ordinances discussed above include measures that would decrease the amount of greenhouse gases emitted into the atmosphere and decrease San Francisco's overall contribution to climate change.

### *Impacts*

Although neither the Bay Area Air Quality Management District (BAAQMD) or any other agency has adopted significance criteria for evaluating a project's contribution to climate change, the Office of Planning and Research (OPR) has asked the California Air Resources Board to "recommend a method for setting thresholds of significance to encourage consistency and uniformity in the CEQA analysis of GHG emissions" throughout the state because OPR has recognized that "the global nature of climate change

warrants investigation of a statewide threshold for GHG emissions.”<sup>20</sup> In the interim, on June 19, 2008 OPR released a Technical Advisory for addressing climate change through CEQA review. OPR's technical advisory offers informal guidance on the steps that lead agencies should take to address climate changes in their CEQA documents, in the absence of statewide thresholds. OPR will develop, and the California Resources Agency will certify and adopt amendments to the CEQA Guidelines on or before January 1, 2010, pursuant to Senate Bill 97.

The informal guidelines in OPR's technical advisory provide the basis for determining proposed project's contribution of greenhouse gas emissions and the project's contribution to global climate change. In the absence of adopted statewide thresholds, OPR recommends the following approach for analyzing greenhouse gas emissions:

- 1) Identify and quantify the project's greenhouse gas emissions;
- 2) Assess the significance of the impact on climate change; and
- 3) If the impact is found to be significant, identify alternatives and/ or mitigation measures that would reduce the impact to less than significant levels.

The following analysis is based on OPR's recommended approach for determining a project's contribution to and impact on climate change.

*Identifying and quantifying a project's greenhouse gas emissions.* OPR's technical advisory states that “the most common GHG that results from human activity is carbon dioxide, followed by methane and nitrous oxide.” State law defines GHG to also include hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These latter GHG compounds are usually emitted in industrial processes, and therefore not applicable to the proposed project, however, the GHG calculation does include emissions from CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub>, as recommended by OPR. The informal guidelines also advise that lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water usage and construction activities. The calculation presented below includes construction emissions and annual CO<sub>2</sub>-eq GHG emissions from energy consumption, as well as estimated GHG emissions from solid waste disposal. While San Francisco's population and businesses are expected to increase, overall projected water demand for San Francisco in 2030 is expected to decrease from current water demand due to

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<sup>20</sup> Governor's Office of Planning and Research. *Technical Advisory- CEQA and Climate Change: Addressing Climate Change to the California Environmental Quality Act (CEQA) Review*. June 19, 2008. This document is available online at the Office of Planning and Research's website at: [www.opr.gov](http://www.opr.gov). Accessed July 24, 2008.

improvements in plumbing code requirements and additional water conservation measures implemented by the San Francisco Public Utilities Commission (SFPUC).<sup>21</sup> Given the anticipated degree of water conservation, GHG emissions associated with the transport and treatment of water usage would similarly decrease through 2030, and therefore increased GHG emissions from water usage is not expected.

Construction of the proposed project would emit 49.40 MTCO<sub>2</sub>E in 2010, 762.68 MTCO<sub>2</sub>E in 2011 and 250.77 MTCO<sub>2</sub>E in 2012..<sup>22</sup> Direct project emissions of carbon dioxide equivalents (CO<sub>2</sub>-eq) (including CO<sub>2</sub>, NO<sub>x</sub>, and CH<sub>4</sub> emissions) include 1.81 MTCO<sub>2</sub>E/year from transportation, and 0.23 MTCO<sub>2</sub>E /year from landscaping activities, for a total of 2.04 MTCO<sub>2</sub>E/year of project-emitted GHGs. The project would also indirectly result in GHG emissions from off-site electricity generation for lighting at the wharf (approximately 1.62MTCO<sub>2</sub>E/year) for a GHG emissions total of approximately 1.62 MTCO<sub>2</sub>E/year. Construction emissions for all three years (2010, 2011 and 2012) represent approximately <1 percent of Bay Area GHGs emitted in 2002, and annual emissions represent approximately <1 percent of total Bay Area GHGs emitted in 2002.<sup>23</sup>

*Assessing the significance of the impact on climate change.* The project's incremental increases in GHG emissions associated with construction, traffic increases, landscaping and electricity use, would contribute to regional and global increases in GHG emissions and associated climate change effects.

OPR encourages public agencies to adopt thresholds of significance, but notes that public agencies are not required to do so. Until a statewide threshold has been adopted, the Department analyzes a proposed project's contribution to climate change against the following significance criteria:

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<sup>21</sup> The San Francisco Public Utilities Commission's (SFPUC) *City and County of San Francisco Retail Water Demands and Conservation Potential*, November 2004, documents the current and projected water demand given population and housing projections from Citywide Planning. This document is available at the SFPUC's website at: [http://sfwater.org/detail.cfm/MC\\_ID/13/MSID/165/C\\_ID/2281](http://sfwater.org/detail.cfm/MC_ID/13/MSID/165/C_ID/2281). Accessed 07/28/2008. The analysis provides projections of future (2030) water demand given anticipated water conservation measures from plumbing code changes, measures the SFPUC currently implements, and other measures the SFPUC anticipates on implementing. Conservation measures the SFPUC currently implements results in an overall reduction of 0.64 million gallons of water per day (mgd).

<sup>22</sup> Construction emissions and annual emissions are not intended to be additive as they occur at different points in the project's lifecycle. Construction emissions are one-time emissions that occur prior to building occupancy. Annual emissions are incurred only after construction of the proposed project and are expected to occur annually for the life of the project.

<sup>23</sup> The Bay Area Air Quality Management District reported regional Bay Area GHGs emissions in 2002 at approximately 85 million CO<sub>2</sub>-eq tons. Bay Area 2002 GHG emissions are used as the baseline for determining whether a project's contributions are significant as these are the most recent emissions inventory for the bay area.

- 1) Does the project conflict with the state goal of reducing GHG emissions in California to 1990 levels by 2020, as set forth by the timetable established in AB 32 (California Global Warming Solutions Act of 2006), such that the project's GHG emissions would result in a substantial contribution to global climate change. **AND**
- 2) Does the proposed project conflict with San Francisco's Climate Action Plan such that it would impede implementation of the local greenhouse gas reduction goals established by San Francisco's Greenhouse Gas Reduction Ordinance.

The 2020 GHG emissions limit for California, as adopted by CARB in December of 2007 is approximately 427 MMTCO<sub>2</sub>E. The proposed project's annual contribution would be diminutive of this total 2020 emissions limit, and therefore the proposed project would not generate sufficient emissions of GHGs to contribute considerably to the cumulative effects of GHG emissions such that it would impair the state's ability to implement AB32, nor would the proposed project conflict with San Francisco's local actions to reduce GHG emissions.

OPR's guidance states that, "Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project". And, "In determining whether a proposed project's emissions are cumulatively considerable, the lead agency must consider the impact of the project when viewed in connection with the effects of "past, current and probable future projects." Additionally, the proposed project would be an open space park that would result in minimal increase in GHG emissions.

As discussed previously, San Francisco has been actively pursuing cleaner energy, transportation and solid waste policies. In an independent review of San Francisco's community wide emissions it was reported that San Francisco has achieved a 5% reduction in communitywide greenhouse gas emissions below the Kyoto Protocol 1990 baseline levels. The 1997 Kyoto Protocol sets a greenhouse gas reduction target of 7% below 1990 levels by 2012. The "community-wide inventory" includes greenhouse gas emissions generated by San Francisco by residents, businesses, and commuters, as well as municipal operations. The inventory also includes emissions from both transportation sources and from building energy sources.

Probable future greenhouse gas reductions will be realized by implementation of San Francisco's recently approved Green Building Ordinance. Additionally, the recommendations outlined in the Draft AB 32 Scoping Plan will likely realize major reductions in vehicle emissions.

Further, the State of California Attorney General's office has compiled a list of greenhouse gas reduction measures that could be applied to a diverse range of projects.<sup>24</sup> The proposed project would also be required to comply with the Construction Demolition and Debris Recovery Ordinance (Ordinance No. 27-06), requiring at least 65% of all construction and demolition material to be diverted from landfills<sup>25</sup>.

Given that: (1) the proposed project would not contribute significantly to global climate change such that it would impede the State's ability to meet its greenhouse gas reduction targets under AB 32, or impede San Francisco's ability to meet its greenhouse gas reduction targets under the Greenhouse Gas Reduction Ordinance; (2) San Francisco has implemented programs to reduce greenhouse gas emissions specific to new construction and renovations of residential and commercial developments; (3) San Francisco's sustainable policies have resulted in the measured success of reduced greenhouse gas emissions levels, and (4) current and probable future state and local greenhouse gas reduction measures will continue to reduce a project's contribution to climate change, therefore, the proposed project would not contribute significantly, either individually or cumulatively, to global climate change.

## E) ODORS

The project would not result in a perceptible increase or change in noxious odors on the project site or in the vicinity of the project, as it would not include uses prone to generation of noxious odors. Observation indicates that surrounding land uses are not sources of noticeable odors, and therefore, would not adversely affect project vicinity residents.

As discussed above, the proposed project would not conflict with applicable air quality plans, would not create significant operational or cumulative air emissions, and would not create objectionable odors. Therefore, the proposed projects impacts would be considered to a less-than-significant level and this topic will not be addressed in the EIR.

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<sup>24</sup> State of California, Department of Justice, "The California Environmental Quality Act: Addressing Global Warming Impacts at the Local Agency Level." Updated December 9, 2008. Available at: [http://ag.ca.gov/globalwarming/pdf/GW\\_mitigation\\_measures.pdf](http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf), accessed July 7, 2009.

<sup>25</sup> Carbon sequestration is the capture and long-term storage of carbon dioxide before it is emitted into the atmosphere.

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<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>8. WIND AND SHADOW</b> —Would the project:					
a) Alter wind in a manner that substantially affects public areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### A) WIND

The proposed open space would not include buildings or other structures that would alter wind on the newly improved open spaces, nor on surrounding development. Therefore, the project would not result in significant effects related to wind.

### B) SHADOW

Section 295 of the *Planning Code* was adopted in response to Proposition K (passed November 1984) in order to protect certain public open spaces from shadowing by new structures during the period between one hour after sunrise and one hour before sunset, year round. Section 295 restricts new shadow upon public spaces under the jurisdiction of the Recreation and Park Department by any structure exceeding 40 feet unless the City Planning Commission finds the impact to be insignificant. The proposed open space improvement would not construct buildings or other structures that would cast shadows on the newly created open space, nor on surrounding development. Therefore, the proposed Brannan Street Wharf would not result in any shadow impacts.

For these reasons discussed above, the proposed project’s impacts related to wind and shadows, both individually and cumulatively, are considered less than significant under CEQA and this topic will not be addressed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>9. RECREATION—</b> Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Physically degrade existing recreational resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### A – C) PARKS AND RECREATION

South Beach Park, located approximately three blocks to the south of the project site, is the nearest public open space in the project vicinity. The proposed project would not increase the use of existing community recreational facilities and parks in the area because the proposed project would construct a 57,000 sq.ft. open space that would contribute to the available recreational facilities in the vicinity of the project site. Therefore, the project would not be considered a substantial contribution to the existing demand for public recreational facilities in this area and would not result in substantial physical deterioration of existing recreational resources. The proposed project would not require the construction or expansion of off-site recreational facilities that might have an adverse physical effect on the environment.

For the reasons discussed above, the proposed project’s impacts related to recreation, both individually and cumulatively, are considered less than significant under CEQA and this topic will not be addressed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>10. UTILITIES AND SERVICE SYSTEMS—</b> Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The proposed Brannan Street Wharf project would demolish the existing Pier 36 and construct a 57,000 square-foot open space park for passive recreation opportunities, for the surrounding existing populations and/or visitors walking along the Embarcadero, and to the destination locations including AT&T Park, and South Beach Harbor.

#### A – C AND E) WASTEWATER/STORMWATER

The Port of San Francisco properties are served by separate wastewater and stormwater facilities. However, currently the project site is occupied by the vacant Pier 36, the Pier 36 warehouse building, and waters of the San Francisco Bay, which are not currently served by either stormwater or wastewater facilities. The project-related stormwater would be treated onsite by incorporating design specifications into the Brannan Street Wharf. The proposed Brannan Street Wharf stormwater system would be in compliance with RWQCB requirements (discussed further under Topic 14, Hydrology and Water Quality). Additionally, the proposed Brannan Street Wharf would not require any wastewater facilities. The project would not require substantial expansion of wastewater/stormwater treatment facilities or an

extension of a sewer trunk line, as the project would direct flows to existing facilities and would provide its own treatment facilities on-site. As no new wastewater/stormwater infrastructure would be required to serve the project, no significant effects would result.

#### D) WATER SUPPLY

All large-scale projects in California subject to CEQA are required to obtain an assessment from a regional or local jurisdiction water agency to determine the availability of a long-term water supply sufficient to satisfy project-generated water demand under Senate Bill 610 and Senate Bill 221.<sup>26</sup> Under Senate Bill 610, a Water Supply Assessment (WSA) is required if a proposed project is subject to CEQA review in an EIR or Negative Declaration and is any of the following: (1) a residential development of more than 500 dwelling units; (2) a shopping center of business employing more than 1,000 persons or having more than 500,000 sf of floor space; (3) a commercial office building employing more than 1,000 persons or having more than 250,000 sf of floor space; (4) a hotel or motel with more than 500 rooms; (5) an industrial or manufacturing establishment housing more than 1,000 persons or having more than 650,000 sf or 40 acres; (6) a mixed-use project containing any of the foregoing; or (7) any other project that would have a water demand at least equal to a 500 dwelling unit project. The proposed project would not exceed any of these thresholds and therefore, would not be required to prepare a WSA.

In May 2002, the SFPUC adopted a resolution finding that the SFPUC's Urban Water Management Plan (UWMP) adequately fulfills the requirements of the water assessment for water quality and wastewater treatment and capacity as long as a project is covered by the demand projections identified in the UWMP, which includes all known or expected development projects and projected development in San Francisco at that time through 2020. The UWMP uses growth projections prepared by the Planning Department and Association of Bay Area Governments (ABAG) to estimate future water demand. Therefore, the project would not exceed the UWMP's water supply projections.

The proposed project would require water connections per the SFPUC. The proposed project would use existing wastewater and storm drainage infrastructure unless the SFPUC recommends changes to the size and design of this infrastructure.

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<sup>26</sup> California Department of Water Resources (2003). Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. Available at [www.owue.water.ca.gov/Guidebook\\_101003.pdf](http://www.owue.water.ca.gov/Guidebook_101003.pdf). Accessed on July 2, 2008.

The proposed Brannan Street Wharf would result in an increase in consumption of water because the proposed lawn area, which is approximately 400 foot long and varies in width from 45 to 85 ft, would be connected to the SFPUC for irrigation water supply. The proposed lawn would be raised approximately 18" above surrounding grade and contained by a concrete seawall and base with drain rock, filter fabric and drainmat. The lawn would consist of drought tolerant grass and irrigated with a subsurface capillary irrigation system connected to SFPUC water supply. The proposed irrigation system would be designed to incorporate water-conserving measures, such as providing efficient supply water directly to the root zone, which would minimize water demand. The proposed project is expected to consume 4,300 gallon/day during first growing season, and then 1,300 gallon/day for subsequent growing seasons.

Although the proposed project would incrementally increase the demand for water in San Francisco, the estimated increase would be accommodated by existing and planned water supply anticipated under the SFPUC's *2005 Urban Water Management Plan* and would include water conservation devices, it would not result in a substantial increase in water use and could be served from existing water supply entitlements and resources. Considering all of the above, the proposed project would result in less-than-significant project-specific and cumulative water supply impacts.

Considering the above, the proposed project, both individually and cumulative, would not have a significant effect on water supply.

## **F) SOLID WASTE**

Solid waste generated in San Francisco is transported to and disposed of at the Altamont Landfill. The landfill has a permitted peak maximum daily disposal of 11,150 tons per day and is currently operating at approximately 4,000 to 5,000 tons per day. The landfill has an annual solid waste capacity of 2,226,500 tons for the City of San Francisco. However, the City is well below its allowed capacity, generating approximately 550,000 tons of solid waste in 2005.

Recycling, composting, and waste reduction efforts are expected to increasingly divert waste from the landfill. The City Board of Supervisors adopted a plan in 2002 to recycle 75 percent of annual wastes generated by 2010. The project would be expected to participate in the City's recycling and composting programs and other efforts to reduce the solid waste disposal stream. The Altamont Landfill is expected to remain operational for 20 or more years, and has current plans to increase capacity by adding 250 additional acres of fill area. With the City's increase in recycling efforts and the Altamont Landfill expansion, the City's solid waste disposal demand could be met through at least 2026. Given the existing

and anticipated increase in solid waste recycling and the proposed landfill expansion in size and capacity, and the fact that no residential or commercial uses are proposed, the impacts on solid waste facilities from the project would be less than significant.

For the reasons discussed above, the proposed project’s impacts related to utilities and service systems, both individually and cumulatively, are considered less than significant under CEQA and this topic will not be addressed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>11. PUBLIC SERVICES</b> —Would the project:					
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, parks, or other services?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**A) POLICE AND FIRE PROTECTION SERVICES**

The project site currently receives emergency services from the San Francisco Fire Department (SFFD), Station 35 at Pier 22 <sup>1/2</sup>, which is approximately five blocks south of the project site, and the San Francisco Police Department (SFPD), Southern Station at 850 Bryant Street, which is approximately six blocks southwest of the project site. The proposed project would not create additional demand for fire suppression and police service in the area because the proposed project would demolish the existing vacated Pier 36 and construct a 55,000 square-foot open space park. Additionally, the SFPD has sufficient resources to accommodate a project of this size. Therefore, the proposed project would not create the need for new fire protection facilities that would result in impacts to the physical environment. Overall, the proposed project would result in less-than-significant impacts related to police and fire protection services and this topic will not be addressed in the EIR.

**B) SCHOOLS**

The proposed project would construct a 57,000 square-foot open space park that would not add new population to the area, and therefore, would not have an impact on schools.

In light of the above, public services would not be adversely affected by the project, individually or cumulatively, and no significant effect would ensue. Therefore, this topic will not be addressed in the EIR.

<u>Topics:</u>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>12. BIOLOGICAL RESOURCES—</b>					
Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**A – D) SPECIAL STATUS SPECIES**

The project site is occupied by the existing Pier 36, portions of the marginal wharf, and waters of the San Francisco Bay. The project vicinity is an urban environment and experiences high levels of human activities. The proposed project's construction activities have the potential to impact special-status species (i.e. species that are state or federally designated as candidate, threatened, endangered, protected, or species of special concern). Specifically, project construction in and over water could impact fish habitat or special-status species. Central California coast steelhead, Chinook salmon, and Green sturgeon are federally designated as threatened or endangered (depending on specific population), and either migrate through, or in the case of Green sturgeon, reside in San Francisco Bay. Pacific Herring is not designated as a special-status species, but herring, which spawn in San Francisco Bay, support a productive commercial fishery and are an important source of food for larger fish. The San Francisco Bay is deemed Essential Fish Habitat for various species of sole, rockfish and shark regulated under the Magnuson-Stevens Fisheries Conservation and Management Act. Longfin Smelt ranges throughout San Francisco Bay and is listed as a threatened species under the California Endangered Species Act. Pile-driving for the construction of the Brannan Street Wharf could impact these fish species by disturbing sediment, which could impact herring spawn that may have settled in the vicinity, or by creating underwater sound that generates a pressure wave that can injure or kill fish.

Additionally, the Pier 36 warehouse shed building, and the marginal wharf, may contain habitat for Western Gulls (*Larus occidentalis*). Nesting birds, their nest, and eggs are fully protected by Fish and Game Code (Sections 3503, 3503.5) and the Migratory Bird Treaty Act of 1918. Demolition of Pier 36 and the marginal wharf that would have the potential to disturb gulls during nesting season (April through September) would require a permit from the U.S. Fish and Wildlife Service. Destruction of a nest would be a violation of these regulations and is considered a potentially significant impact. The analysis of impacts on biological resources will be discussed in the EIR.

## E – F) TREES

The San Francisco Board of Supervisors adopted legislation that amended the City's Urban Forestry Ordinance, Public Works Code Sections 801 et. seq., to require a permit from the DPW to remove any protected trees.<sup>27</sup> Protected trees include landmark trees, significant trees, or street trees located on private or public property anywhere within the territorial limits of the City and County of San Francisco.

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<sup>27</sup> San Francisco Planning Department, Director's Bulletin No. 2006-01, May 5, 2006, Planning Department Implementation of Tree Protection Legislation, page 2, [http://www.sfgov.org/site/uploadedfiles/planning/projects\\_reports/db2006\\_01treedisclosuredirector.pdf](http://www.sfgov.org/site/uploadedfiles/planning/projects_reports/db2006_01treedisclosuredirector.pdf).

A Tree Disclosure Statement for the proposed project identified that there are no street trees or significant trees on the project site. The proposed project would not result in the removal of any trees on the project site and would not conflict with any local policies or ordinances protecting trees.

As described above, the proposed project has the potential affect rare, threatened, or endangered species. Therefore, potential biological resources impacts will be evaluated in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>13. GEOLOGY AND SOILS—</b>					
Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Change substantially the topography or any unique geologic or physical features of the site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## A – D) SEISMIC AND GEOLOGIC HAZARDS

The Community Safety Element of the *General Plan* contains maps that indicate areas of the city where one or more geologic hazards exist. Maps 2 and 3 in the Community Safety Element of the *General Plan* show the intensity of ground shaking in San Francisco from two of the most probable earthquakes, one of magnitude 7.1 on the San Andreas Fault and one of magnitude 7.1 on the northern segment of the Hayward fault. The project site is in a Seismic Hazards Study Zone designated by the California Division of Mines and Geology as an area subject to “heavy” to “moderate” damage from seismic groundshaking along both the Peninsula segment of the San Andreas Fault and the Northern segment of the Hayward fault. The project site is not in an area subject to landslide, run-up, or reservoir hazards (Maps 5, and 7 in the Community Safety Element).<sup>28</sup> However, the project site is located within an area subject to seiche, or tsunami (Map 6 in the Community Safety Element). The potential seiche and tsunami hazards associated with the proposed project are discussed below under topic 14, Hydrology and Water Quality.

A geotechnical report was prepared for the proposed project by Winzler & Kelley.<sup>29</sup> The project site subsurface conditions under the bay waters are underlain by 25 feet of young bay mud underlain by Quaternary-age alluvial/marine deposits. The land west of the seawall was reclaimed from the San Francisco Bay, where most of the young bay mud was dredged out, and artificial fill was placed to attain site grades. The groundwater level behind the seawall experiences some tidal influence from the adjacent San Francisco Bay and will fluctuate relative to daily high and low tide levels. Groundwater was estimated to be about 7 to 9 feet deep. The report found that the main geological hazards that the proposed project would be subject to strong ground shaking, seismic settlement, lateral spread, and inundation by tsunamis.

Based on its San Francisco location, it is likely that the site would experience periodic minor earthquakes and potentially a major (moment magnitude [Mw] greater than 7.1 characteristic) earthquake on one or more of the nearby faults during the life of the proposed development. The closest mapped active fault to the project site is the San Andreas Fault located approximately 10 kilometers to the west. The Working

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<sup>28</sup> San Francisco Planning Department, Community Safety Element, *San Francisco General Plan*, April 1997.

<sup>29</sup> Winzler & Kelley, Geotechnical Data Report, Brannan Street Wharf, San Francisco, CA, July 2009. This document is on file and available for public review by appointment at the Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2009.0418E.



Group for California Earthquake Probabilities estimates a 62 percent probability of an earthquake of Mw 6.7 or greater occurring on one of the major faults in the Bay Area by 2031.<sup>30</sup>

The project site is not within an Earthquake Fault Zone as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no known fault or potentially active fault exists on the site. In a seismically active area, such as the San Francisco Bay Area, the possibility exists for future faulting in areas where no faults previously existed.

The proposed project would be required to conform to the Port Building Code, which ensures the safety of all new construction in the within Port property. In accordance with these requirements, prior to construction, a site-specific geotechnical investigation would be conducted and site-specific recommendations would be made for the construction of the pile-supported open space. The recommendations and final building plans would be subject to review and compliance with standards and requirements of the Port Building Code prior to issuance of Port building permits. In reviewing building plans, the Port Engineering Division refers to a variety of information sources to determine existing hazards and assess design and construction requirements. Sources reviewed include maps of special Geologic Study Areas in San Francisco as well as working knowledge of areas of special geologic concern. Site-specific geotechnical reports will inform the engineering requirements of the open space to comply with applicable Port Building Code standards, which will reduce the risk from earthquake-induced ground shaking and liquefaction. The proposed project would include the removal of approximately 800 linear feet of the marginal wharf, which has been condemned due to structural deterioration and is considered seismically unsafe. Additionally, Pier 36, and pile-supported platform is also condemned and inaccessible because it is accessed from the marginal wharf. Therefore, the project would not result in significant effects with regard to earthquake-induced ground shaking or liquefaction and this topic will not be addressed in the EIR.

## E) ALTERNATIVE WASTEWATER

The proposed project would not require any septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. Therefore, this impact is not applicable to the proposed project.

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<sup>30</sup> Earthquake probabilities were analyzed by the Working Group for California Earthquake Probabilities, a group assembled by the U.S. Geological Survey, Earthquake Hazards Program. Its analysis is available online for review at <http://quake.usgs.gov/research/seismology/wg02/>.

## F) TOPOGRAPHY

The proposed project would not change the topography of the site because the proposed open space would be constructed on a pile supported pier over waters of the San Francisco Bay. The project site does not have unique geologic or physical features. Therefore, the proposed project would result in no impacts with respect to changes to topographical features located on the project site.

For reasons discussed above, the proposed project would result in less-than-significant impacts related to geology, topography, or seismic hazards, either individually or cumulatively. Therefore, this topic will not be addressed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>14. HYDROLOGY AND WATER QUALITY –</b>					
Would the project:					
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## A AND F) WATER QUALITY

### *Construction*

Construction of the Brannan Street Wharf project will involve demolition and removal of the existing structures at Pier 36, including the concrete warehouse building, steel and concrete pier deck and marginal wharf, concrete caissons supporting the pier deck, concrete and timber piles, and remains of the timber wharf extension. Demolition on this scale poses the risk of disturbing and resuspending sediment in the bay water during pile removal, and potential for wood, concrete, or other demolition debris to be released to the water during pile removal and/or demolition of structures. Repairs to the seawall, including the potential addition of tie-back from the face of the concrete wall into soil behind the wall and/or application of new concrete to the surface, could disturb soil or sediment, or pose a risk of releasing concrete during construction. Installation of new piles and pile-supported structures to construct the new Brannan Street Wharf also pose a potential risk of disturbing sediment and/or releasing construction materials or debris to the water. These construction activities would be conducted pursuant to the San Francisco Regional Water Quality Control Board (RWQCB) permits, which will authorize the project by issuing “Waste Discharge Requirements” (WDRs) or a “Conditional Authorization, or potentially waiving WDRs. Either of these RWQCB authorizations will specify required water quality protection provisions as warranted based on the specific project description. Additionally, project

construction would also be pursuant to Bay Conservation and Development Commission regulations for waterfront construction activities, including conditions designed to protect water quality.

For projects that are subject to numerous regulations and permits that impose water quality protection and other environmental protection (e.g. air quality, biological resources) requirements, or for projects where the Port determines that certain environmental protections should be implemented in addition to those required by regulatory permits, the Port may require its construction contractor to prepare an "Environmental Protection Plan" (EPP) that consolidates all applicable requirements into a single document. The Port will require its contractor to prepare an EPP for construction of the Brannan Street Wharf. The EPP serves as a valuable project planning tool and provides the Port with a mechanism to communicate and enforce environmental protection measures required by regulatory agency or permit, or measures imposed by the Port. Compliance with RWQCB and BCDC permits, and implementation of other applicable pollution prevention measures to be developed as part of a project-specific EPP will ensure that project construction will not adversely impact water quality. With the implementation of the Environmental Protection Plan, the projects construction impacts to water quality would be less-than-significant.

### *Operational*

The Port of San Francisco administers a Stormwater Management Program (SWMP), developed in accordance with Federal Clean Water Act requirements and the California Statewide General Permit for Stormwater Discharges Associated with Small Municipalities ("Phase II General Permit"). In the SWMP, the Port describes efforts to reduce the discharge of pollutants from the Port's Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable (MEP) in order to protect water quality<sup>31</sup>. Based on activities that occur along San Francisco waterfront, the pollutants of concern targeted by the SWMP include suspended solids (sediments), litter, heavy metals, and petroleum hydrocarbons. Additionally, the SWMP specify construction and operational practices for existing and newly constructed facilities on Port properties to manage and treat storm water runoff so as to comply with applicable storm water

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<sup>31</sup> MEP is the acronym for Maximum Extent Practicable. The federal Clean Water Act (CWA) provides that National Pollutant Discharge Elimination System (NPDES) permits for Municipal Separate Storm Sewer Systems (MS4) must require municipalities to reduce pollutants in their storm water discharges to the MEP. (CWA §402(p)(3)(B).) MS4 permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods."

regulations of the San Francisco Regional Water Quality Control Board (RWQCB), as articulated through the San Francisco Stormwater Design Guidelines.

In accordance with the Stormwater Design Guidelines, all new development and redevelopment projects greater than 5,000 square feet are required to develop and submit for approval a Stormwater Control Plan (SCP) which specifies how the project will comply with San Francisco's post-construction stormwater control requirements. In the case of open space development projects such as Brannan Street Wharf, potential pollutants of concern would include litter, dog excrement, pesticides and fertilizers. The pollutants can be addressed through a set of post-construction control measures focused entirely on source controls. Source controls are design techniques or actions that minimize the generation of excessive runoff or pollution of stormwater near its source. The Brannan Street Wharf project will incorporate the following structural and non-structural source control measures into the proposed design:

- **Landscaping and Irrigation Design:** The Brannan Street Wharf project includes 23,000 square feet of landscaped area. All landscape improvements at the project site will be developed and maintained using Integrated Pest Management (IPM) methods. Landscaping IPM is a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks. In the case of Brannan Street Wharf, landscape plans will be developed that focus on the use of native or Mediterranean plants suited to San Francisco's climate. IPM principles will help reduce or eliminate the use of pesticides and fertilizer, thereby reducing the risk that stormwater runoff will mobilize these pollutants and carry them to the Bay.
- **Sidewalk and Plaza Cleaning:** The sidewalk and promenade area shall be dry swept daily and pressure washed quarterly or more frequently as needed. Pressure wash runoff will be directed to catch basins discharging to the City's combined sewer system. In cases where runoff from sidewalk and plaza cleaning cannot be directed to the combined sewer system, runoff will be filtered through wattle or similar materials before discharging to the Bay. No detergents will be used during pressure washing.
- **Alternative Building Materials:** Alternative building materials reduce potential sources of pollution in stormwater runoff by eliminating compounds that can leach into runoff. The

Brannan Street Wharf will make use of such materials and will specifically avoid the use of pressure treated wood and anodized metal products for construction.

- **Storm Drain Inlets and Waterways:** On-site storm drains will be clearly marked using thermoplastic stencils with the message “No Dumping, Flows to Bay”.
- **Refuse Areas:** The Brannan Street Wharf will include a number of trash receptacles and “no littering” signs.

The Port Engineering Division will ensure that all of the structural and non-structural controls described above will be incorporated into the project through review and approval of a Stormwater Control Plan. The Stormwater Control Plan will include provisions for ongoing operations and maintenance of Brannan Street Wharf. With the implementation of the Stormwater Control Plan, the projects operational impacts to water quality would be less-than-significant. During operations and construction, the proposed project would be required to comply with all water quality requirements. Therefore, the proposed project would not substantially degrade water quality and this topic will not be discussed in the EIR.

## B) GROUNDWATER RESOURCES

During site analysis, groundwater was encountered behind the seawall from about 7 to 9 feet deep at the time of the drilling. Groundwater experiences tidal influence from the adjacent San Francisco Bay and will fluctuate relative to daily high and low tide levels. Any groundwater that is encountered during construction of the proposed project is subject to the requirements of the City’s Industrial Waste Ordinance (Ordinance Number 199 77), requiring that groundwater meet specified water quality standards before it is discharged into the sewer system. Therefore, groundwater resources would not substantially be degraded or depleted, or alter surface flow conditions.

Additionally, the proposed project would result in minimal exposure of soil during construction, and there would be low potential for erosion or siltation resulting from the proposed project. Therefore, the proposed project would not substantially degrade groundwater resources.

## C – E) DRAINAGE

The proposed project would not change the amount of impervious surface area nor measurably affect current runoff. Site drainage would be redesigned with the proposed project; however, there would not be an expected increase in stormwater flows, and the proposed project would not adversely affect any

existing drainage patterns. Therefore, runoff and drainage would be adversely affected and this topic will not be discussed further in the EIR.

## G – I) FLOOD HAZARD

Development in the City and County of San Francisco must account for flooding potential. Areas located on fill or bay mud can subside to a point at which the sewers do not drain freely during a storm (and sometimes during dry weather) and there can be backups or flooding near these streets and sewers. The proposed project falls within an area in the City prone to flooding during storms, especially where ground stories are located below an elevation of 0.0 City Datum or, more importantly, below the hydraulic grade line or water level of the sewer.

The City has implemented a review process to avoid flooding problems caused by the relative elevation of the structure to the hydraulic grade line in the sewers. Applicants for building permits for either new construction, change of use (Planning) or change of occupancy (Building Inspection), or for major alterations or enlargements are referred to the SFPUC for a determination of whether the project would result in ground-level flooding during storms. The side sewer connection permits for these projects need to be reviewed and approved by the SFPUC at the beginning of the review process for all permit applications submitted to the Planning Department, the Department of Building Inspection, or the Redevelopment Agency. The SFPUC and/or its delegate (SFDPW, Hydraulics Section) will review the permit application and comment on the proposed application and the potential for flooding during wet weather. The SFPUC will receive and return the application within a two-week period from date of receipt. The permit applicant shall refer to SFPUC requirements for information required for the review of projects in flood-prone areas. Requirements may include provision of a pump station for the sewage flow, raised elevation of entryways, and/or special sidewalk construction and the provision of deep gutters. The proposed Brannan Street Wharf project would be an open space park, and would connect to the Port's stormwater facilities, which would not be required to be reviewed by the SFPUC. Therefore, the project would result in less-than-significant impact on wastewater systems.

Flood risk assessment and some flood protection projects are conducted by federal agencies including the Federal Emergency Management Agency (FEMA) and the U.S. Army Corps of Engineers (Amry Corps). The flood management agencies and cities implement the National Flood Insurance Program (NFIP) under the jurisdiction of FEMA and its Flood Insurance Administration. Currently, the City of San Francisco does not participate in the NFIP and no flood maps are published for the City. However, FEMA is preparing Flood Insurance Rate Maps (FIRMs) for the City and County of San Francisco for the

first time. FIRMs identify areas that are subject to inundation during a flood having a 1 percent chance of occurrence in a given year (also known as a “base flood” or “100-year flood”). FEMA refers to the flood plain that is at risk from a flood of this magnitude as a special flood hazard area (SFHA).

Because FEMA has not previously published a FIRM for the City and County of San Francisco, there are no identified SFHAs within San Francisco’s geographic boundaries. FEMA has completed the initial phases of a study of the San Francisco Bay. On September 21, 2007, FEMA issued a preliminary FIRM of San Francisco for review and comment by the City. The City has submitted comments on the preliminary FIRM to FEMA. FEMA anticipates publishing a revised preliminary FIRM in 2009, after completing the more detailed analysis that Port and City staff requested in 2007. After reviewing comments and appeals related to the revised preliminary FIRM, FEMA will finalize the FIRM and publish it for flood insurance and floodplain management purposes.

FEMA has tentatively identified SFHAs along the City’s shoreline in and along the San Francisco Bay consisting of Zone A (in areas subject to inundation by tidal surge) and Zone V (areas of coastal flooding subject to wave hazards).<sup>32</sup> On June 10, 2008, legislation was introduced at the Board of Supervisors to enact a floodplain management ordinance to govern new construction and substantial improvements in flood prone areas of San Francisco, and to authorize the City’s participation in NFIP upon passage of the ordinance. Specifically, the proposed floodplain management ordinance includes a requirement that any new construction or substantial improvement of structures in a designated flood zone must meet the flood damage minimization requirements in the ordinance. The NFIP regulations allow a local jurisdiction to issue variances to its floodplain management ordinance under certain narrow circumstances, without jeopardizing the local jurisdiction’s eligibility in the NFIP. However, the particular projects that are granted variances by the local jurisdiction may be deemed ineligible for federally-backed flood insurance by FEMA.

Once the Board of Supervisors adopts the Floodplain Management Ordinance, the Department of Public Works will publish flood maps for the City, and applicable City departments and agencies may begin implementation for new construction and substantial improvements in areas shown on the Interim Floodplain Map.

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<sup>32</sup> City and County of San Francisco, Office of the City Administrator, National Flood Insurance Program Flood Sheet, [http://www.sfgov.org/site/uploadedfiles/risk\\_management/factsheet.pdf](http://www.sfgov.org/site/uploadedfiles/risk_management/factsheet.pdf), accessed July 31, 2008



Additionally, the Port of San Francisco Building Code established design parameters associated with 100 year base flood for various offshore points along the Port of San Francisco waterfront. The Building Code has also determined the 100 year base flood data for properties under the jurisdiction of the Port of San Francisco. The Pier 36, 100 year base flood elevation is 11.73 Mean Lower Low Water (MLLW). According to the preliminary map, the project site is located within a flood zone designated on the City's interim floodplain map and the Port of San Francisco Building Code. The project would construct a 57,000 square-foot open space project, which would not place housing within a 100-year flood zone, nor include any structures that would impede or redirect flood flows. Therefore, the project would result in less than significant impacts related to placement of the proposed open space within a 100-year flood zone.

### *Sea Level Rise*

Rising sea level has become an issue of growing concern, particularly as it affects improvement projects along the waterfront and nearby low-lying inland areas. Over the past 10 to 15 years increases in emissions of carbon dioxide and other greenhouse gases have come under increasing scientific and policy analysis, as a key factor in the rise of global temperature, referred to as climate change (see discussion under Topic 7, Air Quality).

Globally, sea level has been rising for the past 10,000 years as the result of the end of the last glacial epoch.<sup>33</sup> The global rate of sea level rise had been relatively consistent over the last 5,000 years, at approximately 0.0039 feet/year.<sup>34</sup> However, the current average rate of sea level rise for the San Francisco Bay area is 0.0066 feet/year at the San Francisco tide station.<sup>35</sup> The difference between the rate of sea level rise measured in the Bay Area and the rate of global sea level rise can be accounted for by local changes in ground surface elevation, such as tectonic uplift or subsidence. The rate of relative sea level change is variable even on a local scale.<sup>36</sup>

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<sup>33</sup> Gornitz, V., January 2007, *Sea Level Rise, After the Ice Melted and Today*. Goddard Institute for Space Studies Science Briefs, website: [http://www.giss.nasa.gov/research/briefs/gornitz\\_09/](http://www.giss.nasa.gov/research/briefs/gornitz_09/), accessed September 18, 2009.

<sup>34</sup> San Francisco Bay Conservation and Development Commission (BCDC), October 1988, op. cit.

<sup>35</sup> National Oceanic and Atmospheric Administration (NOAA), NOAA Tides and Currents. *Mean Sea Level Trend 9414290 San Francisco, California 1887-2006*, website: [http://tidesandcurrents.noaa.gov/sltrends/sltrends\\_station.shtml?stnid=9414290](http://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?stnid=9414290), accessed September 18, 2009.

<sup>36</sup> Moffatt and Nichol, Engineers, December 1988, *Sea Level Rise: Predictions and Implications for San Francisco Bay*, prepared for the San Francisco Bay Conservation and Development Commission, December 1987, revised October 1988.

There is also evidence that sea level rise is accelerating. The primary processes affecting sea level rise are ocean warming (thermal expansion), continental ice melt, and land elevation changes.<sup>37,38,39</sup> Significant uncertainty exists regarding the rates of global warming and sea level rise and model results. Efforts are ongoing to improve our understanding of the scope and extent of these changes in order to define response options.

State and federal regulatory agencies review a range of possible scenarios when evaluating the potential risks and costs of sea level rise for future development projects. For planning purposes, the Army Corps evaluates three scenarios of sea level rise; low risk, assuming the current rate of sea level rise, or 19.7 inches (0.5 meter) by 2100; moderate risk, assuming a sea level rise of 39.4 inches (1.0 meter) by 2100; and, high risk, assuming a sea level rise of 59.0 inches (1.5 meters) by 2100.<sup>40</sup> California Executive Order S-13-08 (November 14, 2008) states that all state agencies planning construction projects in areas vulnerable to future sea level rise shall consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability, and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. This Executive Order also directs the California Resources Agency, in cooperation with the Department of Water Resources and the California Energy Commission, to prepare a Sea Level Rise Assessment Report by December 1, 2010 to advise how California should plan for future sea level rise. The Governor of California's Delta Vision Blue Ribbon Task Force has adopted a sea level rise of 55 inches by 2100 for planning purposes, until issuance of an Executive Order determining otherwise.<sup>41</sup> The San Francisco Bay Conservation and Development Commission (BCDC) has prepared maps for areas inundated by 16 inches of sea level rise by 2050 and 55 inches of sea level rise by 2100.<sup>42</sup> Therefore, extrapolating BCDC projections to the 2075 mid-point, sea level rise would be about 36 inches (3 feet), although some studies have concluded this rise would not occur until after the year 2100.<sup>43</sup>

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<sup>37</sup> US EPA, No date. *Coastal Zones and Sea Level Rise*, website: <http://www.epa.gov/climatechange/effects/coastal>. Accessed September 8, 2009.

<sup>38</sup> Cayan, D., P. Bromirski, K. Hayhoe, M. Tyree, M. Dettinger, and R. Flick. March 2006, White Paper: Projecting Future Sea Level, A Report from: California Climate Change Center CEC-500-2005-202-SF p. 12-13.

<sup>39</sup> US Army Corps of Engineers, July 1, 2009. Water Resource Policies and Authorities Incorporating Sea-Level Change Considerations in Civil Works Programs. Circular No. 1165-2-211, p. B-1 to B-13.

<sup>40</sup> US Army Corps of Engineers, July 1, 2009. Water Resource Policies and Authorities Incorporating Sea-Level Change Considerations in Civil Works Programs. Circular No. 1165-2-211, p. B-1 to B-13.

<sup>41</sup> Delta Vision Blue Ribbon Task Force, State of California Resources Agency, March 24, 2008, *Letter to Governor Schwarzenegger*, Agenda Item 2, Attachment 1.

<sup>42</sup> San Francisco Bay Conservation and Development Commission (BCDC), April 7, 2009, *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline*, Draft Staff Report.

<sup>43</sup> Port of San Francisco, *Calculation of Potential Sea Level Rise Scenarios for the Brannan Street Wharf*, prepared September, 2009, op. cit.

Sea level rise presents an important issue in the planning of development and hazard analysis in coastal areas.<sup>44</sup> Within the Project site, this includes the potential for increased risk of flooding because of higher sea surface levels. A determination or conservative estimate of the potential magnitude of future sea level rise is needed to assess potential impacts related to sea level rise.

Although FEMA has not formally defined the Base Flood Elevations for the Project site, the Port of San Francisco<sup>45</sup> has evaluated extreme high tide water level elevations for the Brannan Street Wharf using BCDC projected sea level rise. The Port estimates that the bottom of the wharf deck for the Brannan Street Wharf, which would be constructed at a level of +9.5 to 11.5 feet Mean Low Low Water (MLLW), could be susceptible to flooding associated with the 100-year extreme high tide event, which is currently 11.73 feet. However, as sea level rises, coastal flood hazards associated with storm-related flooding, extreme high tides, and/or tsunamis adjacent to or affecting the Brannan Street Wharf would increase. Assuming a 16-inch rise in sea level by 2050, the future base flood (100-year event) elevation would be +13.06 feet MLLW (an increase in 1.33 feet).<sup>46</sup> Additionally, assuming a 55-inch rise in sea level by 2100, the future base flood (100-year event) elevation would be +16.31 ft feet MLLW (an increase in 4.58 feet).<sup>47</sup> Projected inundation zones at the top of the railing curb for the Brannan Street Wharf for the future Base Flood Elevation, given a 16-inch increase in sea level, would be -0.06 to 1.94 ft MLLW, and by 2100, given a 55-inch increase in sea level, the projected inundation zones would be -3.31 to -1.31 ft MLLW.

The Port has incorporated adjustments in the Brannan Street Wharf project design to respond to the current understanding about sea level rise, based on the planning scenarios presented in the BCDC report. The park design was originally designed at an elevation above the 100-year base flood elevation. The park design must maintain the elevation alongside the western edge that connects with the existing Embarcadero Promenade. However, in response to sea level rise, the design has been adjusted to incorporate a two foot grade change, so that the eastern side of the park over the water is two feet higher in elevation than the western edge. In addition, the eastern edge of the park decking would incorporate a one-foot high “toe kick” base to provide an extra buffer against Bay water which could flow onto the park during strong storms in high tide conditions. Under BCDC’s 2050 sea level rise scenario, flooding of

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<sup>44</sup> California Natural Resources Agency, 2009, *2009 California Climate Adaptation Strategy Discussion Draft: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*. p. 4-10.

<sup>45</sup> Port of San Francisco, 2009, *op. cit.*

<sup>46</sup> *Ibid.*

<sup>47</sup> *Ibid.*

Brannan Street Wharf would be infrequent; and there would be a less than one percent chance of flooding. The lawn area within the park, which would be planted in an 18-inch high platform, would not be flooded by 2050. However, under BCDC's planning scenario 2100, the Brannan Street Wharf would experience regular flooding during combined high tide and storm wave action events. Under normal tidal conditions, the park would not be flooded. Therefore, with the potential for sea-level rise to impact the Brannan Street Wharf, the frequency of flooding will increase from the 100-year extreme high tide event to regular flooding under combined high tide and storm wave action; however, normal tidal action will not result in flooding. Regardless of sea level rise scenario, use of waterfront parks during heavy storms, especially during high tides, is low or non-existent, based on observed current conditions. Measures are available if necessary to prohibit public use during these or other dangerous conditions. Additionally, the proposed project would not placing housing within the 100-year flood area, or within an area subject to potential sea level rise during normal tidal actions. Due to the fact that the proposed project would be an open space park, the project would result in less than significant impacts associated with placing housing in a 100-year flood zone.

#### **J) SEICHE, TSUNAMI, MUDFLOW**

The proposed project is located within the San Francisco 20-foot Tsunami Runup Map. Tsunamis are long period waves usually caused by underwater seismic disturbances, volcanic eruptions, or submerged landslides. According to the geotechnical report<sup>48</sup> for the Brannan Street Wharf project, a wave runup of 20 feet at the Golden Gate Bridge, may result in a runup at the site of 12 feet (60 percent of that at the Golden Gate Bridge). Depending on the tide, the site will experience flooding during a tsunami of this magnitude. However, the proposed project would be an open space park, which would not expose a significant amount of people to the risk of loss, injury or death involving inundation by tsunami mudflow. A seiche is an oscillation of a water body, such as a bay, which may cause local flooding. A seiche could occur on the San Francisco Bay due to seismic or atmospheric activity. However, based on the historical record, seiches are rare and there is no significant seiche hazard at the site. There is no mudslide hazard at the project site. Thus, there would be no project-related significant impact from seiche, tsunami or mudflow hazard.

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<sup>48</sup> Winzler & Kelley, Geotechnical Data Report, Brannan Street Wharf, San Francisco, CA, July 2009. This document is on file and available for public review by appointment at the Planning Department, 1650 Mission Street, Suite 400, as part of Case File No. 2009.0418E.

## CUMULATIVE HYDROLOGY IMPACTS

The proposed project and the Port Prop Open Space Improvements project would not have a significant impact on water quality standards, groundwater, drainage, or runoff, and thus, would not contribute considerably to cumulative impacts in these areas. Similarly, the project would not reduce impervious surfaces and therefore would not contribute considerably to any potential cumulative stormwater impacts. Flood and inundation hazards are site-specific; thus, the proposed project would have no cumulatively considerable impacts. Thus, the project would not contribute to any cumulatively considerable impacts on hydrology or water quality and this topic will not be addressed in the DEIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>15. HAZARDS AND HAZARDOUS MATERIALS—</b>					
Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
h) Expose people or structures to a significant risk of loss, injury or death involving fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## A - C) HAZARDOUS MATERIALS

The proposed project would result in the use of relatively small quantities of hazardous materials for routine purposes. The open space would likely handle common types of hazardous materials, such as cleaners and disinfectants. These products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. Most of these materials are consumed through use, resulting in relatively little waste. Businesses are required by law to ensure employee safety by identifying hazardous materials in the workplace, providing safety information to workers who handle hazardous materials, and adequately training workers. For these reasons, hazardous materials used during project operation would not pose any substantial public health or safety hazards related to hazardous materials. Additionally, the proposed project is not located within one-quarter mile of a school.

Demolition and removal of the existing pile-supported structure at Pier 36 and the marginal wharf would generate non-hazardous demolition debris, such as wood, asphalt and concrete, and potentially hazardous waste such as creosote-treated wood. The City and County of San Francisco Construction Debris Recycling Ordinance<sup>49</sup> requires recovery, segregation and recycling of non-hazardous demolition debris to the maximum extent feasible. Management and disposal of creosote-treated wood waste is regulated by State regulations for hazardous waste (22 CCR, Div. 4.5, Ch. 34).

Repair of the existing seawall may involve disturbance of soil. Disturbance (including excavation, grading and disposal) of soil within portions of the city, including the Brannan Street Wharf project area is regulated by Article 22A of the San Francisco Health Code, as well as applicable State hazardous waste regulations with respect to soil disposal. Article 22A requires that construction projects that are located bayward of the historic high tide line and disturb (through excavation and/or grading) more than 50 cubic yards of soil must include soil testing for presence of potentially hazardous constituents, and

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<sup>49</sup> City and County of San Francisco Construction and Demolition Debris Recovery Program Ordinance No. 27-06. This ordinance can be located at <http://www.sfenvironment.org/downloads/library/canddinformation.pdf>.

development of plans to protect worker and public health and safety during construction and ensure appropriate soil management measures based on the finding of the soil characterization. Where soil to be disturbed by construction is found to contain hazardous constituents at concentrations of potential concern, compliance with Article 22A typically includes submittal of a Health and Safety Plan and/or Soil Management Plan to the Department of Public Health. The Soil Management Plan would include many of the same measures that are required by the dust control plan, and would be part of the construction contractors' Environmental Protection Plan (EPP) submittal to the Port.

## HAZARDOUS BUILDING MATERIALS

The Port has completed a preliminary survey of hazardous building materials at Pier 36, which found asbestos-containing materials (ACM), lead-based paint (LBP), PCB-containing and mercury-containing light fixtures throughout the building.<sup>50</sup> The proposed demolition would disturb hazardous building materials and creosote-treated wood, all of which are subject to existing regulatory programs to ensure protection of worker and public health and the environment.

### Asbestos

Asbestos-containing materials may be found within the existing structures on site, which are proposed to be demolished as part of the project. Section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified ten days in advance of any proposed demolition or asbestos abatement work. The notification must include: (1) the names and addresses of the operations; (2) the names and addresses of persons responsible; and (3) the location and description of the structure to be demolished/alterd, including size, age, and prior use, and the approximate amount of friable asbestos; (4) scheduled starting and completion dates of demolition or asbestos abatement work; (5) nature of the planned work and methods to be employed; (6) procedures to be employed to meet BAAQMD requirements; (7) and the name and location of the waste disposal site to be used. The BAAQMD randomly inspects asbestos removal operations. In addition, the BAAQMD will inspect any removal operation about which a complaint has been received. Any ACBM disturbance at the project site would

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<sup>50</sup> Winzler & Kelly, "Hazardous Materials Survey, Brannan Street Wharf Project", Pier 36. September 2009.

be subject to the requirements of BAAQMD Regulation 11, Rule 2: Hazardous Materials; Asbestos Demolition, Renovation and Manufacturing.

The local office of the State Occupational Safety and Health Administration must also be notified of asbestos abatement to be carried out. Asbestos abatement contractors must follow State regulations contained in 8CCR1529 and 8CCR341.6 through 341.14 where there is asbestos-related work involving 100 square feet or more of asbestos containing material. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. The owner of the property where abatement is to occur must have a Hazardous Waste Generator Number assigned by and registered with the Office of the California Department of Health Services in Sacramento. The contractor and hauler of the material are required to file a Hazardous Waste Manifest that details the hauling of the material from the site and the disposal of it. Pursuant to California Law, the Port of San Francisco Building Department would not issue the required permit until the applicant has complied with the notice requirements described above.

#### **Lead-Based Paint**

Lead paint may be found in buildings constructed circa 1909 and proposed for demolition. Demolition must be conducted in compliance with Section 3423 of the *San Francisco Building Code (Building Code)*, Work Practices for Exterior Lead-Based Paint on Pre-1979 Buildings and Steel Structures. Where there is any work that may disturb or remove lead paint on the exterior of any building, or the interior of occupied buildings (E3, R1, or R3 occupancy classifications) built prior to or on December 31, 1978, Section 3423 requires specific notification and work standards, and identifies prohibited work methods and penalties.

Section 3423 applies to buildings or steel structures on which original construction was completed prior to 1979, which are assumed to have lead-based paint on their surfaces unless a certified lead inspector/assessor tests surfaces for lead and determines it is not present according to the definitions of Section 3423. The ordinance contains performance standards, including establishment of containment barriers, at least as effective at protecting human health and the environment as those in HUD Guidelines (the most recent Guidelines for Evaluation and Control of Lead-Based Paint Hazards) and identifies prohibited practices that may not be used in disturbance or removal of lead-based paint. Any person performing work subject to the ordinance shall make all reasonable efforts to prevent migration of lead paint contaminants beyond containment barriers during the course of the work, and any person



performing regulated work shall make all reasonable efforts to remove all visible lead paint contaminants from all regulated areas of the property prior to completion of the work.

The Ordinance also includes notification requirements, contents of notice, and requirements for project site signs. Prior to commencement of exterior work that disturbs or removes 100 or more square feet or 100 or more linear feet of lead-based paint in total, the responsible party must provide the Director of the DBI with written notice that describes the address and location of the proposed project; the scope and specific location of the work; whether the responsible party has reason to know or presume that lead-based paint is present; the methods and tools for paint disturbance and/or removal; the approximate age of the structure; anticipated job start and completion dates for the work; whether the building is residential or nonresidential; whether it is owner-occupied or rental property; the approximate number of dwelling units, if any; the dates by which the responsible party has or will fulfill any tenant or adjacent property notification requirements; and the name, address, telephone number, and pager number of the party who will perform the work. Further notice requirements include: a Post Sign notifying the public of restricted access to work area, a Notice to Residential Occupants, Availability of Pamphlet related to protection from lead in the home, and Early Commencement of Work (by Owner, Requested by Tenant), and Notice of Lead Contaminated Dust or Soil, if applicable. The ordinance contains provisions regarding inspection and sampling for compliance by DBI, and enforcement, and describes penalties for non-compliance with the requirements of the ordinance.

These regulations and procedures, already established as part of the building permit review process, would ensure that potential impacts of the proposed project due to the presence of lead-based paint would be reduced to a less-than-significant level.

### **Other Potential Hazardous Building Materials**

In addition to asbestos-containing building materials and lead-based paint, the existing buildings on the site may contain other potentially hazardous building materials such as polychlorinated biphenyl (PCB), contained primarily in exterior paint, sealants, electrical equipment, and fluorescent light fixtures. Fluorescent light bulbs are also regulated (for their disposal) due to their mercury content. Inadvertent release of such materials during demolition could expose construction workers, occupants, or visitors to these substances and could result in various adverse health effects if exposure were of sufficient quantity. Although abatement or notification programs described above for asbestos and lead-based paint have not been adopted for PCB, mercury, other lead-containing materials, or other possible hazardous materials,

items containing these substances that are intended for disposal must be managed as hazardous waste and handled in accordance with Occupational Safety and Health Administration (OSHA) worker protection requirements. Potential impacts associated with encountering hazardous building materials such as PCB, mercury, and lead would be considered a potentially significant impact. Hazardous building materials sampling and abatement pursuant to existing regulations prior to renovation work, as described in **Mitigation Measure M-HZ-1**, below, would reduce potential impacts associated with PCB, mercury, lead, and other toxic building substances in structures to a less-than-significant level. With **Mitigation Measure M-HZ-1** implemented, the proposed demolition of the Pier 36 warehouse building and Pier 36 would not have the potential to pose a direct (through material removal, if required) or indirect (through transport of materials or accidental release) public health hazard to the surrounding neighborhood. Compliance with existing regulatory requirements, permits, and Port contract requirements would ensure that the proposed open space improvement projects do not result in significant effects due to hazardous materials or wastes. Therefore, there would be less-than-significant impacts related to hazardous materials use and this topic will not be discussed in the EIR.

## **B) HAZARDOUS MATERIALS SITES LIST**

Currently the project site is occupied by the existing Pier 36, marginal wharf, and waters of the San Francisco Bay. The project site does not appear on the State of California Hazardous Waste and Substances Sites List or other hazardous materials sites in San Francisco. Therefore, there are no potential hazards that would result from current or past uses on the site.

## **E – F) AIRPORT HAZARDS**

The project site is not within an airport land use plan area, nor is it in the vicinity of a private airstrip; therefore, hazards associated with airport or private airstrips would not apply to the proposed project.

## **G AND H) FIRE SAFETY AND EMERGENCY ACCESS**

San Francisco ensures fire safety and emergency accessibility within new and existing developments through provisions of its Building and Fire Codes. Potential fire hazards (including those associated with hydrant water pressure and blocking of emergency access points) would be addressed during the

permit review process. Conformance with these standards would ensure appropriate life safety protections. Consequently, the project would not have a significant impact on fire hazards nor interfere with emergency access plans.

**MITIGATION MEASURE M-HZ-1**

**Hazards (PCB's and Mercury)**

The project sponsor would ensure that building surveys for PCB- and mercury-containing equipment (including elevator equipment), hydraulic oils, and fluorescent lights are performed prior to the start of renovation. Any hazardous materials so discovered would be abated according to federal, state, and local laws and regulations.

**CUMULATIVE HAZARDS IMPACTS**

Impacts from hazards are generally site-specific, and typically do not result in cumulative impacts. Overall, the project would not contribute to cumulatively considerable significant effects related to hazards and hazardous materials and this topic will not be discussed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>16. MINERAL AND ENERGY RESOURCES--</b> Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**A - B) MINERAL RESOURCES**

All land in San Francisco, including the project site, is designated Mineral Resource Zone 4 (MRZ-4) by the CDMG under the Surface Mining and Reclamation Act of 1975 (CDMG, Open File Report 96-03 and Special Report 146 Parts I and II). This designation indicates that there is not adequate information available for assignment to any other MRZ and thus the site is not a designated area of significant mineral deposits. There are no operational mineral resource recovery sites in the project vicinity whose operations or accessibility would be affected by the construction or operation of the project. Therefore, the project would not result in the loss of availability of a locally- or regionally-important mineral resource. The project would not have a significant impact on mineral resources.

**C) ENERGY RESOURCES**

The proposed project would be a passive open space park, and would not have a substantial effect on the use, extraction, or depletion of a natural resource. The proposed project would only require electricity for lighting during the evening hours, and would not generate a significant demand for energy or the major expansion of power facilities. For this reason, the project would not cause a wasteful use of energy and would not have a significant effect on natural resources. The proposed project would not use substantial quantities of other non-renewable natural resources, or use fuel or water in an atypical or wasteful manner.

The proposed project would therefore not have a significant project-specific or cumulative effect on mineral or energy resources, and these topics will not be further discussed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
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**17. AGRICULTURE RESOURCES**

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

- |   |                          |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland of Statewide Importance, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## A – C) AGRICULTURAL RESOURCES

The project site is located along on the San Francisco Bay shoreline and surrounded by an urbanized area of San Francisco. The California Department of Conservation’s Farmland Mapping and Monitoring Program identify the site as “Urban and Built-up Land” (Department of Conservation, 2002). Because the site does not contain agricultural uses and is not zoned for such uses, the proposed project would not convert any prime farmland, unique farmland, or Farmland of Statewide Importance to non-agricultural use, and it would not conflict with existing zoning for agricultural land use or a Williamson Act contract, nor would it involve any changes to the environment that could result in the conversion of farmland. The EIR will therefore, not include a discussion relating to agriculture resources.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
<b>18. MANDATORY FINDINGS OF SIGNIFICANCE—</b> Would the project:					
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that would be individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The proposed project would incorporate M- NO -1 and M-HZ-1 into the proposed project to address potential construction-related pile driving impacts from noise and hazardous materials. Implementation of this measure would reduce these potential impacts of the proposed project to a less-than-significant level. The proposed project could have a significant effect on cultural resources and biological resources. The potential cultural resources and biological resources impacts will be analyzed in the EIR.

## G. ALTERNATIVES

Alternatives to the proposed project would be defined further and described in the EIR. At a minimum, the alternatives analyzed would include the following:

1. A *No Project Alternative* in which the project site would remain in its existing condition with the existing Pier 36.
2. A *Preservation Alternative* in which the existing pier on the site would be rehabilitated to the Secretary of Interior’s standards, and put to a compatible use.
3. A *Partial Preservation Alternative* in which the existing Pier 36 would be retained and a smaller park would be constructed adjacent to it.

## H. DETERMINATION

On the basis of this initial study:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.


2. A *Preservation Alternative* in which the existing pier on the site would be rehabilitated to the Secretary of Interior's standards, and put to a compatible use.
3. A *Partial Preservation Alternative* in which the existing Pier 36 would be retained and a smaller park would be constructed adjacent to it.

## H. DETERMINATION

On the basis of this initial study:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

DATE

December 17, 2009 

Bill Wycko  
Environmental Review Officer  
for  
John Rahaim  
Director of Planning

## I. LIST OF PREPARERS

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