

144-59-012

f: 1.5.1.2

# FINAL INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

OYSTER POINT BRIDGE AT  
OYSTER BAY SLOUGH

APRIL 2007

Prepared for:  
City of San Leandro

Prepared by:  
BASELINE Environmental Consulting  
East Bay Regional Park District

## TABLE OF CONTENTS

	<i>page</i>
INTRODUCTION.....	1
A. PROJECT DESCRIPTION.....	1
B. ENVIRONMENTAL REVIEW CHECKLIST .....	8
1. Aesthetics.....	8
2. Agriculture Resources.....	9
3. Air Quality .....	10
4. Biological Resources.....	13
5. Cultural Resources .....	19
6. Geology and Soils .....	20
7. Hazards and Hazardous Materials.....	23
8. Hydrology and Water Quality .....	27
9. Land Use and Planning .....	31
10. Mineral Resources .....	31
11. Noise .....	32
12. Population and Housing.....	35
13. Public Services.....	36
14. Recreation .....	37
15. Transportation/Traffic.....	38
16. Utilities and Service Systems.....	41
17. Mandatory Findings of Significance.....	42
C. SOURCES USED AS REFERENCE .....	43
D. ENVIRONMENTAL FACTORS POTENTIAL AFFECTED .....	45
E: EVALUATION AND RECOMMENDATION .....	45
F. INCORPORATION OF MITIGATION MEASURES INTO THE PROPOSED PROJECT ..	46
G. INITIAL STUDY PREPARATION.....	46

## APPENDICES

- A: Comment Letters and Response to Comments
- B: Mitigation Monitoring Reporting Program

**Table of Contents - continued**

**TABLES**

1: Summary of Build Alternatives .....3  
2: Elevations of Proposed Bridge, 100-Year Flood and Tide .....29

**FIGURES**

1: Regional Location  
2: Vicinity Aerial Map for the Bay Trail Bridge  
3: Layout Plans for the Bay Trail Bridge  
4: Design Plans for the Bay Trail Bridge  
5: Sheetpile Alternative (Port of Oakland Side)  
6: Mixed Use Trail/Road Alternative  
7: Sheetpile Alternative (City Side)  
8: Levee Fill Alternative  
9: Wetland and Aquatic Habitats within and/or adjacent to the Study Area

## **BAY TRAIL BRIDGE AT OYSTER BAY SLOUGH**

### **FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION**

#### **INTRODUCTION**

This document constitutes the Final Initial Study/Mitigated Negative Declaration (IS/MND) for the Bay Trail Bridge at Oyster Bay Slough. The Draft IS/MND was circulated for public review and comment from 10 October to 14 November 2005. During that time, three comment letters were received. The comment letters are attached to this Final IS/MND as Appendix A. Responses to all the comments are also included in Appendix A. In response to some of the comments, editorial changes have been made to the Draft IS/MND. Those changes are indicated in the text as strike-outs (for deletions) and underscoring (for additions). A Mitigation Monitoring Reporting Program has also been prepared and is included as Appendix B.

Subsequent to the publication of the Draft IS/MND, the Port of Oakland (Port) and the City of San Leandro (City) have negotiated a Right-of-Entry and Indemnification Agreement that sets forth the responsibilities for repair and maintenance activities for the proposed trail by the Port and the City.

Subsequent to the publication of the Draft IS/MND, the City has assumed lead agency status for this document. The East Bay Regional Park District remains a responsible agency.

#### **A. PROJECT DESCRIPTION**

##### **Summary of Project**

The project site is located south of Oakland International Airport along San Francisco Bay (Figure 1). The project includes the construction of a 350-foot pedestrian/bicycle bridge, and a 630-foot (192-meter) long paved trail to connect the Oyster Bay Regional Shoreline, located in the city of San Leandro, with recently constructed Bay Trail facilities that are located to the north on property owned by the Port of Oakland (Figures 2 and 3). Detailed engineering plans have been prepared (Mark Thomas & Co., 2005). The bridge would span a shallow, man-made tidal slough (Oyster Bay Slough).

The bridge and connecting trail would connect an existing Class I bike trail within the Oyster Bay Regional Shoreline Park to a levee trail located on the Port of Oakland property to the north (Figures 2 and 3). The bridge and connecting trail would fill one of the final links in the regional Bay Trail in the area, and would provide a continuous bike path from Oakland to Hayward.

The south bank has natural vegetation with no visible structures or utilities at the bridge crossing. The north bank of the slough has stone and concrete riprap and rubble for bank erosion protection. The north landing of the bridge would be on land owned by the city of San Leandro used for wastewater treatment purposes. A gravel access road surrounds an unused wastewater treatment pond on the northern levee that is approximately ten feet higher than the water level of the slough.

### Objectives of the Project

The purpose of the project is to close one of the last major gaps in the Alameda County portion of the Bay Trail, a planned pedestrian and bicycle trail that circles San Francisco Bay.

The objectives for the project include the following:

- Provide an architecturally pleasing bridge across Oyster Bay Slough;
- Provide a bridge that requires low maintenance;
- Provide a bridge that can support a 10,000 pound (4,536 kilogram) emergency vehicle;
- Minimize environmental impact;
- Provide an overall bridge length of approximately 348 feet (106.1 meters), with a railing height of 54 inches (1.4 meters), and bridge clear travel lane of 10 feet (3.1 meters);
- Provide a minimum clearance of 5 feet (1.5 meters) above Mean Higher High Water;
- Complete the 630-foot (192-meter) gap in the Bay Trail by constructing a new trail on or adjacent to the levee;
- Design the Bay Trail connection to comply with applicable trail standards and allow the continued use of the levee by city of San Leandro maintenance vehicles.

### Detailed Project Description

#### *Oyster Bay Slough Bridge*

A four-span steel bridge supported on large diameter concrete-filled steel pipe piles has been recommended to meet the construction, architecture, and engineering objectives (Figure 4). With only three water piers, the design would minimize environmental impact and foundation work in the water. The three large diameter steel pipes would be driven with a large mechanical hammer and they would also provide the lateral strength and stiffness needed for seismic loads.

The proposed bridge would be approximately 348 feet (106.1 meters) long, with a clear travel width of 10 feet (3.1 meters) and railing height of 54 inches (1.4 meters). The bridge structure consists of four prefabricated steel truss pieces, measuring approximately 83.5 feet (25 meters) in length (Figure 4). The bridge would be anchored to abutments on the south and north sides of the Oyster Bay channel by short seat type abutments on precast concrete pile foundations. The elevation of the bridge abutments would be 15.0 feet (4.5 meters) on the north side and 17.4 feet (5.2 meters) on the south side (elevations in NAVD 88).

The bridge structure would be supported by three piers consisting of four-foot (1.4-meter) diameter cast-in-steel-shell (CISS) concrete piles. The CISS piles (steel with concrete fill) would require significantly more construction effort than precast piles; e.g., the requirement to drill and remove soil inside the casing. However, precast piles would require an 80-foot (24.4-meter) crane to install. CISS piles are proposed because they can be installed with a smaller crane, which would minimize equipment height encroachment into the regulated FAA airspace during pile driving activities. CISS piles can be driven in shorter sections with a smaller crane and spliced together, thereby minimizing intrusion into the regulated FAA airspace (Mark Thomas & Co., 2004b).

*Bay Trail Connection*

The project also proposes to complete the 630-foot (192-meter) gap in the Bay Trail by widening the northern levee. The new trail has been designed to comply with applicable trail standards and to allow the continued use of the levee by city of San Leandro vehicles. The City maintains the former wastewater treatment ponds adjacent to the levee and plans to use them as storm flow equalization basins in the future. Trucks with City staff routinely conduct visual inspections of the former wastewater ponds on a daily basis.

To accommodate this connecting trail, the existing access road along the levee would be widened by means of a soldier pile and lagging retaining structure and placement of four feet of lightweight fill (Mark Thomas & Co., 2004a); this would be on lands under the jurisdiction of the Port of Oakland. The new 10-foot (3.1-meter) wide trail with 2-foot (0.6-meter) shoulders would be fenced off from the existing maintenance road. The proposed bike trail segment would connect with the existing Class I bike trail adjacent to the Galbraith Golf Course on the Port of Oakland property. The bridge and new bike trail would then provide a continuous bike path from Oakland to Hayward.

*Alternatives*

There are two alternatives related to construction of the bridge, and five alternatives related to construction of the trail (Table 1). Both bridge alternatives are described below, followed by a discussion of two alternatives for the trail. The three remaining trail alternatives have been withdrawn for the reasons stated at the end of this section.

Table 1 Summary of Build Alternatives

<b>Alternative</b>	<b>Description</b>	<b>Status</b>
Bridge #1 - Barge Alternative	Use shallow barges to bring in crane and bridge pieces	Preferred Alternative
Bridge #2 - Trestle Alternative	Erect temporary trestle to hold crane and construct bridge	Alternative
Trail #1 - Retaining Structure Alternative (Port of Oakland side)	Widen top of levee on Port of Oakland side	Preferred Alternative
Trail #2 - Mixed Use Trail/Road Alternative	Use existing levee road for trail and maintenance vehicles.	Alternative
Trail #3 - Sheetpile Alternative (City side)	Widen top of levee on city of San Leandro-sedimentation pond side	Alternative withdrawn
Trail #4 - Levee Fill Alternative	Widen top of levee on Port of Oakland side with 2:1 slope down to existing toe of levee	Alternative withdrawn
Trail #5 - Alternative Alignment	Construct trail around gun club, with no bridge	Alternative withdrawn

*Bridge Construction Alternatives*

The construction of the bridge portion of the project includes two possible Build alternatives that employ different construction techniques: use of shallow barges to bring in bridge pieces and cranes or, alternatively, construction of a temporary trestle along the side of the bridge alignment to provide

a working platform for the cranes to install the piers and erect the bridge. The Bridge #1 Barge Alternative is the Preferred Alternative since it would have fewer potential impacts to the aquatic environment than the Bridge #2 Trestle Alternative.

Under the Bridge #1 Barge Alternative, shallow construction barges would be used to float in the piers, which would be driven by a barge crane with a pile driving rig. The concrete piers and four bridge pieces would be transported to the site via "flexi-float" construction barges, which are capable of navigating very shallow depths. The flexi-float barges would bring the piers and bridge pieces into the channel during high tide and at low tide the barges would sit on the mudflat bottom of the channel. The bridge piers would be driven into place with a barge crane and the four bridge truss segments would be lifted into place from the water using the same crane.

According to the engineering report for the bridge (Creegan + D'Angelo, 2004), the following equipment and construction methods would be used for the Bridge #1 Barge Alternative. For the piers, flexible floats would be floated and towed to the north pier site and ballasted to temporarily rest on the Bay floor. A pile driver and hammer would be transported by truck to the construction site and would be driven onto the flexible float platform to access the pier location. The large diameter steel pipe for the piers would be delivered on a barge.

The north pier pile would be installed with a large pile driving hammer. The floats and pile rig would then be moved to the south pier location and the operation repeated to install the south pier. For the abutments on either end of the bridge, it is assumed that the same crane would be used to install the abutment piles. These piles are located out of the water and would require a smaller hammer. After the piles are installed, a reinforced concrete pile cap and bridge seat would be constructed. For the bridge installation, the prefabricated pieces of the bridge would be delivered to the site on the water and lifted into place with the crane.

The prefabricated bridge truss would come with steel decking that provides the formwork for the concrete deck. After the trusses are in place, lightweight concrete would be poured in the steel decking and finished in place.

Under the Bridge #2 Trestle Alternative, a temporary 20-foot (6-meter) wide and 250-foot (76.2-meter) long trestle would be constructed on the east side of the bridge alignment. The temporary trestle would be constructed by driving steel piles into the slough, and steel beams would be placed and welded on top of the steel piles. Timber blocks would then be placed on top of the steel beam to provide support for the construction equipment.

A preliminary engineering report (AGS, 2002a) indicates that the trestle could be constructed with 16-inch (0.4-meter) open ended steel pipe piles spaced approximately 15 to 20 feet (4.6 to 6.1 meters) apart. The piles would support a 16-inch (0.4-meter) wide flange beam framing to support 12-inch by 12-inch (0.4-meter by 0.4-meter) timber lagging. Open ended piles are recommended as they cause the least amount of disturbance to the soil and can be easily vibrated out while dismantling the trestle (AGS, 2002a).

It is estimated that six steel piles would be required at each support of the trestle and the support could span 20 feet (6 meters). A total of approximately 13 supports would be required, which means

that approximately 78 steel piles would be driven into the slough bottom (Chen, 2005). The contractor would extract the piles and remove the trestle after the bridge had been constructed.

Under the Bridge #2 Trestle Alternative, the piers for the bridge would be transported to the project site and would be driven into place by a crane parked on the trestle. The truss segments of the bridge would also be trucked to the site. The bridge pieces would then be lifted into place using the crane on the trestle. Access for large construction equipment may be limited on the north embankment due to the narrow and small radius curves of the existing access road from the city of San Leandro Water Pollution Control Plant.

### *Bay Trail Connection Alternatives*

Several alternatives for the trail connection have been considered (Table 1). The design engineer considered five separate alternative alignments and construction techniques for the trail, three of which involve widening the existing 13.5-foot (4.1-meter) wide levee maintenance road to accommodate the trail (Mark Thomas & Co., 2004a). Alternatives #3, #4, and #5 have been rejected.

The Preferred Trail Alternative is Alternative #1 Retaining Structure (Port of Oakland side). Under this alternative, a retaining wall and fill would be placed on the slope of the levee on the Port of Oakland (north) side of the existing levee (Figure 5). This alternative would require approval by the Port since it involves Port property. A draft Right-of-Entry and Indemnity Agreement between the Port and the City provides for Port maintenance and repair of that portion of the trail on Port property beginning 12 months after construction. The retaining structure would consist of 24-inch (0.6-meter) cast-in-drilled-hole (CIDH) steel soldier piles with a treated timber lagging wall of 4-inch by 12-inch (0.1-meter by 0.3-meter) Douglas fir or redwood placed horizontally. The piers would be driven between 6 (1.8 meters) and 20 feet (6.0 meters) deep from the top of the levee, lagging installed, and then four feet of lightweight fill would be placed on the existing slope to widen the top of the levee and create the trail surface. The retaining structure and fill would be placed outside of the wetlands area, which begins at the toe of the levee. New fencing would be installed to separate the existing levee maintenance road used by the city of San Leandro trucks from the new trail. The trail would be constructed as a 10-foot (3.1-meter) trail with 2-foot (0.6-meter) shoulders, which meets the San Francisco Bay Trail standards.

Under Alternative #2 Mixed Use Trail/Road, the maintenance trucks and pedestrians/bicyclists would share an 11.5-foot (3.5-meter) wide trail with one-foot (0.3-meter) wide shoulders (Figure 6). A removable or fold-down railing would be installed to prohibit public access to the sediment ponds. Two electric gates would be installed to separate the trail from the remainder of the maintenance road that encircles the pond. This alternative would require the trail traffic to co-mingle with the City wastewater treatment plant maintenance activities at the sediment pond, and additional effort would be required to remove the railing to maintain the ponds.

### *Alternatives Considered and Withdrawn*

Three alternatives related to the trail connection have been considered and withdrawn (Table 1).

Trail Alternative #3 Sheetpile (City side) was considered; it would have been constructed on the city of San Leandro sedimentation pond (south) side of the levee (Figure 7). Under this alternative, sheetpile would be driven approximately 24 feet (7.3 meters) deep into the slope of the levee adjacent to the sedimentation pond. Three feet (0.9 meter) of lightweight fill would be placed on top of the slope to create room for the maintenance roads. Unlike the Preferred Alternative, the maintenance road would be only 10 feet (3.1 meters) wide, and the trail would also be 10 feet (3.1 meters) wide with one-foot (0.3-meter) shoulders. The narrower road and trail are caused by the steeper 3:1 levee slope on the sedimentation pond side alternative as opposed to the 3.6:1 slope on the Port side of the levee. The road and trail would be separated by a fence and a removable or fold-down railing would be installed on the sheetpile wall to prevent accidental falls into the sediment pond.

Alternative #3 Sheetpile was withdrawn because: 1) the road and trail would be narrow; 2) the maintenance road would have an offset where the trail meets the road; and 3) because the three-foot vertical sheetpile wall would hinder maintenance work and reduce the capacity of the sediment pond.

Trail Alternative #4 Levee Fill was also considered, and involved placement of fill on the Port of Oakland side of the levee slope, anchored not by sheetpiles but by a 2:1 slope down to the existing toe of the levee (Figure 8). This alternative would accommodate a 12-foot (3.7-meter) wide trail with a two-foot (0.6-meter) shoulder and a separate maintenance road. However, this alternative was withdrawn because adding the fill on top of the soft Bay mud of the levee could cause failure of the new trail as well as the existing levee; and construction would require intrusion into the adjacent wetlands.

The last alternative, Trail #5 Alternative Alignment, considered a trail alignment around the east end of the Oyster Bay Slough that would connect with the existing trail on the Port of Oakland property without using a bridge over the slough. The trail would be aligned around the existing gun club, and through the City's wastewater treatment plant facility. No other alternate inland routes for the trail would be possible. Trail #5 Alternative Alignment was considered and was rejected because of safety concerns related to the gun range and wastewater treatment plant.

#### *Construction Schedule, Equipment, Staging Area, and Employees*

It is estimated that construction of the bridge and trail segment could be accomplished in approximately 120 days (16 weeks or four months). Key activities would include pile driving of the CISS piles for the bridge (which would take six weeks); construction of the bridge (four weeks); and construction of the steel soldier pile wall for the trail (12 weeks) (Chen, 2005).

The heavy equipment that would be required includes two cranes and two generators used during the entire construction period; one pile driver, used for approximately eight weeks; and a drill machine, paving machine, and two rollers used for a shorter period of time. In addition, a total of approximately 60 concrete trucks would be needed for concrete placement at the two bridge abutments, for pier caps, and to pour the concrete deck and drilled holes. Another 200 trucks would be used for excavation and to deliver materials. An estimated 200 cubic yards of soil from excavation and drilling operations would be generated and would be trucked and disposed of off-site (Chen, 2005).

The contractor for the job could use the existing paved trail at the north and south ends of the project as two staging areas. Heavy equipment could access the southern portion of the construction site using Neptune Drive and the existing paved trail. The number of construction workers on the site would average between five and 20 workers each day, depending on the demand of the work (Chen, 2005).

*Anticipated Permits and Funding*

The project would require water and wetland-related permits from regional, state, and federal agencies, such as U.S. Army Corps of Engineers Section 404 and Section 7 permits, a California Regional Water Quality Control Board (RWQCB) Water Quality Certification (401 permit), and a permit from the Bay Conservation and Development Commission (BCDC). The project has already received preliminary approval from the U.S. Coast Guard, based on design plans that show the bridge will be constructed at an elevation three feet (0.3 meter) above the projected 100-year flood level of 9.69 feet (NAVD 88).

The project is being funded by a combination of funds from Alameda County Measure B, the Association of Bay Area Governments, East Bay Regional Park District, and potential TEA 21 and other federal funding. The estimated construction cost of the preferred alternative for the new bridge and trail is \$2.21 million.

**B. ENVIRONMENTAL REVIEW CHECKLIST**

A brief explanation or reference of all answers follows each issue.

	<b>Potentially Significant Impact</b>	<b>Potentially Significant unless Mitigation Incorporated</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
<b>I. AESTHETICS -- Would the project:</b>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**DISCUSSION:**

The project site is located within the city of San Leandro immediately south of the Oakland International Airport and on Port of Oakland property. The proposed trail and bridge would connect an existing pedestrian and bicycle trail that ends on airport property with the Oyster Bay Regional Shoreline park, located south of the Oyster Bay Slough. The area is highly visible from the park and San Francisco Bay. The trail and bridge would become a portion of the Bay Trail, a regional trail that circles San Francisco Bay. The trail and bridge have been designed to be visually compatible with open space and public recreation use. The height and design of the prefabricated steel truss bridge would not obscure or affect any scenic vistas or affect any scenic resources. The bridge itself would be constructed across Oyster Bay Slough with approximately 3.3 feet (1 meter) of freeboard above the high tide level. The vertical height of the bridge would be approximately 6 feet (1.8 meters) from the base to the top of the handrails. The steel truss bridge would require painting to protect it from the marine environment.

The project site is within the "referral area" of the Alameda County Airport Land Use Commission (ALUC), but would not require review by the ALUC because the project is not an amendment to a plan or zoning ordinance. Staff for the ALUC, however, has indicated that the project is consistent with the ALUC plan, although any lighting included in the project must be consistent with airport plan standards (Horvath, 2004). The Alameda County Airport Land Use Policy Plan (ALUC, 1986) prohibits "any use which would direct a steady or flashing light of red, white, green, or amber colors associated with airport operations at an aircraft...."

Any lighting proposed as part of the project would be of the conventional outdoor lighting standard type that directs the light downward to the trail and bridge. Thus, any light would not be directed upwards toward approaching or departing aircraft and would be in conformance with the ALUC plan requirements.

The new lighting could add incrementally to impacts on nighttime views in the area. However, there are few residences in the immediate area around the airport, and existing nighttime lighting from the airport, the adjacent city of San Leandro wastewater treatment plant and other industrial uses, and from vehicles passing on adjacent streets already affects the night sky.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

II. 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 Dept. 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 (Farmland), 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 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 checked="" type="checkbox"/> |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**DISCUSSION:**

The project would not convert Prime or Unique Farmland, or Farmland of Statewide Importance, to non-agricultural use. The project site is not within an established agricultural area. The site includes open space areas with wetlands and park lands. The project would not conflict with agricultural zoning, since the land is zoned for public, open space, and aviation uses. No lands in the area are under Williamson Act contract.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<p>III. 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:</p>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<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"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state 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"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

**DISCUSSION:**

The project site is located in Alameda County within the San Francisco Bay Area Air Basin, which is a designated "non-attainment" area for the federal and state ozone standards and for the state particulate matter standard. Air quality impacts of the project would result from short-term construction activities.

Regarding short term air quality impacts, construction activities associated with the proposed trail and bridge would generate a small amount of truck and employee vehicle trips on local roads. Exhaust from these truck and employee vehicle trips would generate emissions, including reactive organic gases (ROG), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM<sub>10</sub>) emissions. Construction of the trail and bridge is expected to take approximately four months, using up to 20 employees per day. Approximately 260 trucks (or 520 trips) would be required to deliver construction materials to the site or remove excavated materials over the four-month period. The combined auto and truck trips would result in insignificant emissions, since the construction project is relatively small and would be completed over a four-month construction period.

Some shallow grading on the existing levee may be required prior to the installation of the asphalt trail. Grading and drilling of the levees on either side of Oyster Bay Slough would be required for the bridge footings. Soil disturbance caused by construction activities would be exacerbated by wind erosion. As a result, short-term dust emissions would cause a temporary increase in localized PM<sub>10</sub> emissions. The highest potential for dust impacts would occur when the soils are dry, during the late

spring, summer, and early fall. However, PM<sub>10</sub> generated from construction-related activities is highly dependent on several factors, including activity level, specific operations, equipment type, and weather conditions.

BAAQMD considers PM<sub>10</sub> emissions to be the greatest pollutant of concern associated with construction activities and has, therefore, established feasible control measures for PM<sub>10</sub> emissions from construction-related activities. Control measures are based on the size of the construction project. The implementation of basic control measures would apply to all construction projects. Project sizes that are greater than four acres would be subject to the enhanced control measures. BAAQMD further recommends that optional control measures be implemented at construction areas that are large in area, located near sensitive receptors, or may for any other reason be warranted.

PM<sub>10</sub> emissions from construction-related activities would constitute a significant impact since the emissions would impair short-term air quality and could affect nearby residents and other sensitive receptors located downwind from the construction project. Increased dust fall may create a nuisance for nearby residents and potentially exacerbate chronic respiratory problems of those persons exposed to construction activities. PM<sub>10</sub> impacts resulting from construction activities are not considered significant if construction control mitigation measures listed in the BAAQMD guidelines are incorporated (BAAQMD, 1999).

The project would also result in short-term localized air emissions during these grading and drilling activities, including a temporary increase in localized particulate matter (PM<sub>10</sub>) emissions. The Bay Area Air Quality Management District considers PM<sub>10</sub> emissions to be the greatest pollutant of concern associated with construction activities and has, therefore, established feasible control measures for PM<sub>10</sub> emissions from construction-related activities. Air quality effects resulting from construction activities would be considered significant if feasible construction control mitigation measures, listed in the Bay Area Air Quality Management District CEQA Guidelines (BAAQMD, 1996), were not incorporated.

PM<sub>10</sub> emissions from construction-related activities could create a nuisance to any nearby residences, park users, and workers. There are few residences adjacent to the site, and particulate emissions would not be expected to be a significant impact to park users or workers employed in industrial uses more than 1,000 feet (304.8 meters) away. There are no sensitive receptors (e.g., schools, hospitals, or significant groups of residences) within 1,000 feet (304.8 meters) of the project site.

The heavy equipment that would be required for the project includes two cranes and two generators used during the entire construction period; one pile driver, used for approximately eight weeks; and a drill machine, paving machine, and two rollers used for shorter period of time. Exhaust from construction equipment and, possibly, barges, would generate short-term exhaust emissions, including reactive organic gases (ROGs), carbon monoxide (CO), and nitrogen oxides (NOx). Any asphalt paving for the trail would generate hydrocarbons, particulates, NOx, and CO emissions. Exhaust emissions from construction equipment would not be expected to result in violations of air quality standards because only a few pieces of equipment would be used at a time due to the size and nature of the project, and air emissions would be distributed throughout the extent of the construction period of approximately four months.

**Impact III-1: PM<sub>10</sub> emissions from construction-related activities**

*Mitigation Measure III-1: The following measures to reduce construction related PM<sub>10</sub> emissions reflect basic and optional dust control measures recommended by BAAQMD:*

- *All active construction areas shall be watered at least twice daily;*
- *All trucks hauling soil, sand, and other loose materials shall be covered with tarpaulins or other effective covers;*
- *All unpaved access roads, parking areas, and staging areas at the construction site shall be paved; otherwise, water or non-toxic soil stabilizers shall be applied to all unpaved access roads. In addition, paved access roads, parking areas, and staging areas shall be swept daily with a water sweeper. Streets shall be swept daily with a water sweeper in areas where visible soil material is carried onto adjacent public streets;*
- *Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded area inactive for ten days or more);*
- *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;*
- *As an option, the applicant may install and use wheel washers to clean all trucks and equipment leaving the construction site. If wheel washers cannot be installed, the applicant may wash tires or tracks of all trucks and equipment before leaving the construction site;*
- *As an option, the applicant may install windbreaks on windward sides of construction areas;*
- *As an option, the applicant may terminate excavation and grading activities when winds exceed 25 mph;*
- *As an option, the applicant may limit the area subject to excavation, grading, and other construction activities at any one time.*

Implementation of the mitigation measure above would reduce impacts of construction-related PM<sub>10</sub> emissions to a less-than-significant level.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES -- 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 type="checkbox"/>	<input checked="" 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 US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>
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 checked="" type="checkbox"/>

**DISCUSSION:**

A Biological Assessment has been prepared (Wetlands Research Associates [WRA], 2005a) for this project. The following discussion summarizes the assessment.

The Biological Assessment provides information on the potential presence of sensitive species or habitats. The Biological Assessment is not based on protocol level surveys for any listed species; however, such surveys may be required for project approval by local, state, or federal agencies. The assessment is based on information available at the time of the study and on site conditions that were observed on the dates of the site visits.

The purposes of the Biological Assessment were to: 1) determine the presence of potential habitat for special status species known to occur in tidal and adjacent upland habitats in Alameda County; 2) determine the presence of any sensitive plant communities or unique habitats; and 3) provide

recommendations regarding mitigation measures for potential impacts to those special status species and/or sensitive habitats that may occur within or be affected by the proposed project.

*Special status species* include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed and proposed species. In addition, California Department of Fish and Game (CDFG) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, and U.S. Fish and Wildlife Service (USFWS) Species of Concern are considered special status species.

The U.S. Army Corps of Engineers (Corps) regulates "*Waters of the United States*" under Section 404 of the Clean Water Act. "Waters of the United States" are defined broadly as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate water bodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands stated in the Corps' *Wetlands Delineation Manual* (1987), are identified by the presence of: 1) hydrophytic vegetation; 2) hydric soils; and 3) wetland hydrology.

Under Section 404 of the Clean Water Act, Corps jurisdiction in the slough channel extends to the high tide line, calculated as +8.18 feet North American Vertical Datum (NAVD). Under Section 10 of the 1899 Rivers and Harbors Act, Corps jurisdiction in the Oyster Slough channel extends to mean high water level, given as +6.18 feet NAVD.

Tidal waters are also under the jurisdiction of the Regional Water Quality Control Board (RWQCB) and the Bay Conservation and Development Commission (BCDC). The jurisdiction area of the RWQCB in tidal areas is the same as that of the Corps. Under the McAteer-Petris Act, BCDC jurisdiction in tidal waters of San Francisco Bay extends to five feet above mean sea level, which in the slough extends to +8.31 feet NAVD.

On April 27 and 29, 2004, the study area was traversed on foot to determine plant communities present within the study area, whether existing conditions provided suitable habitat for any special status plant or wildlife species, and whether sensitive habitats were present. The study area is bounded by Oakland International Airport and recreation/golf course uses on the north; industrial development to the east; and the Oyster Bay Regional Shoreline Park to the south.

Plant communities in the study area include coastal salt marsh (middle and low), non-native annual grassland, and coyote brush scrub. Large portions of the study area are unvegetated, either naturally (mudflat) or due to development (riprap and gravel surfaces). The northern coastal salt marsh in the study area is considered a sensitive plant community by CDFG. This wetland community includes low and middle marsh vegetation communities. No other sensitive habitats occur in or adjacent to the study area.

Wetlands and waters potentially under the jurisdiction of the Corps, the RWQCB, and BCDC are located within and/or adjacent to the study area. Approximately 0.03 acre of tidal salt marsh occurs in the study area on the north levee bank. Low marsh (cordgrass) occupies about 0.01 acre and

middle marsh (pickleweed) occupies about 0.02 acre within the study area (Figure 9). Additional salt marsh vegetation extends along the north levee beyond the study area boundary. Non-tidal salt marsh, vegetated by pickleweed, also occurs to the north of the study area (Figure 9). Wetland areas were delineated based primarily on the presence of wetland vegetation (pickleweed and cordgrass, both obligate species found only in wetlands) and hydrology indicators (inundation, calculated tide lines), since the native soils have been altered by the placement of fill (riprap, levee fill material). No fill would be allowed in wetland areas without a permit from any/all of the three agencies.

The wetland plant communities and the tidal waters identified within the study area have the potential to be considered jurisdictional by the Corps, the RWQCB, and/or BCDC. A wetland delineation following Corps procedures has been conducted to map the exact location and extent of jurisdictional features within the study area. These data are included in a separate report (WRA, 2005b).

Existing wetlands within the study area are low quality. Salt marsh on the levee is either vegetated by an invasive non-native species (*Spartina alterniflora*), or consists of scattered pickleweed growing in riprap. These areas are not likely to support rare plant species and would supply virtually no habitat value for wildlife. No fill will occur in these areas as a result of the project and no direct removal of vegetation will occur. The constructed bridge may have some shading impact on patches of vegetation growing underneath it. This impact to degraded wetlands is not considered significant and no mitigation measure is proposed for potential shading impact.

The non-tidal pickleweed diked marsh adjacent to and north of the study area is a higher quality wetland resource. This area is not within the project footprint, but may be affected by adjacent construction activities. A mitigation measure is proposed below to avoid impacts to the pickleweed marsh.

Three bridge support pilings will be driven into the Bay resulting in placement of fill in tidal waters. Permits (Corps, BCDC, and RWQCB) will be required to conduct this work, and mitigation measures approved by USFWS, CDFG, and National Marine Fisheries Service (NMFS) will be implemented as conditions of the permits. These mitigation measures designed to avoid or reduce impacts to special status wildlife species (California clapper rail and salmonids) are described below. No additional mitigation is proposed for impacts to the tidal waters.

No riparian habitat occurs within the study area, and no sensitive plant communities, other than wetlands, occur in or adjacent to the study area. However, eighty special status species of wildlife have been recorded or may occur in the vicinity of the study area.

Brief descriptions of ten wildlife species that are present or with moderate potential to occur (including status, habitat requirements, and known distribution) and why these species are considered to have a moderate potential to occur within the study area are provided below. Although there is a low potential for the California clapper rail (*Rallus longirostris obsoletus*) and burrowing owl (*Athene cunicularia*) to occur in the study area, they are also addressed due to their known local occurrences. Of the ten special status wildlife species that have a moderate or high potential to occur within the study area, four typically are only present for brief periods in winter or migration. Based on the results of the biological assessment, six special status species and/or their potential habitat (scrub, grassland, pickleweed areas, and aquatic) may be affected by the proposed path and bridge

construction. These species include the Salt Marsh Harvest Mouse, California Clapper Rail, Saltmarsh Common Yellowthroat, Alameda Song Sparrow, Central California Coast Steelhead, and Central Valley Fall/Late Fall-Run Chinook Salmon.

**Salt Marsh Wandering Shrew** (*Sorex vagrans halicoetes*), CDFG Species of Special Concern, USFWS Species of Concern. The salt marsh wandering shrew has been observed approximately one mile northwest within the Oakland Airport. Because of the proximity of the sighting, and the presence of pickleweed habitat adjacent to the proposed route, there is a moderate potential for this species to occur in the study area.

Construction of the future bike path is unlikely to affect the salt marsh vagrant shrew if all work avoids the adjacent pickleweed habitat. The preferred path would be located on the existing gravel access road. Because pickleweed is sparse or non-existent at the bridge alignment, construction of the bridge will not impact this species. The proposed project would not result in any significant impacts to the salt marsh wandering shrew if all pickleweed habitat near the proposed future bike path were avoided during construction, as required by mitigation measures for other species listed below.

**Salt Marsh Harvest Mouse** (*Reithrodontomys raviventris*), Federal Endangered, State Endangered. According to the CDFG Natural Diversity Database (CDFG, 2004), the nearest documented occurrence of the salt marsh harvest mouse is located approximately 2.5 miles north at Arrowhead Marsh. Because of the proximity of the sighting, and the presence of pickleweed habitat adjacent to the proposed route, there is a moderate potential for this species to occur in the study area. Unlike the salt marsh wandering shrew, this species may wander into grassy upland habitats adjacent to pickleweed areas. Construction of the future bike path is unlikely to affect the salt marsh harvest mouse if all work avoids the adjacent pickleweed habitat. The preferred path would be located on the existing levee slope. To prevent this species from dispersing across the path during construction, a mitigation measure is proposed below to avoid impacts to the salt marsh harvest mouse.

**Sharp-shinned Hawk** (*Accipiter striatus*), CDFG Species of Special Concern. This species typically nests in coniferous or mixed forests at higher elevations; however, it disperses widely in winter and may forage in many habitat types. Since sharp-shinned hawks are unlikely to nest in the study area, the proposed project would not result in any significant impacts to this species.

**Cooper's Hawk** (*Accipiter cooperi*), CDFG Species of Special Concern. This species typically nests in coniferous or mixed forests, or oak and riparian woodlands; however, it disperses widely in winter and may forage in many habitat types. Since the Cooper's hawk is unlikely to nest in the study area, the proposed project would not result in any significant impacts to this species.

**American Peregrine Falcon** (*Falco peregrinus anatum*), State Endangered, USFWS Species of Concern. Peregrine falcons typically nest on rock ledges on cliffs, or on man-made structures, such as bridges and buildings. This species forages on birds, especially where large flocks of migratory shorebirds and waterfowl congregate. Breeding habitat is not present in the study area; however, peregrine falcons may forage on shorebirds at low tide. Since this species is unlikely to nest in the study area, the proposed project would not result in any significant impacts to this species.

**Long-billed Curlew** (*Numenius americanus*), CDFG Species of Special Concern, USFWS Species of Concern. Long-billed curlews do not nest in the San Francisco Bay region; however, they are a common migrant and wintering species in upland pastures, fields, and grasslands, as well as fresh and saline wetlands and mudflats. It is likely that curlews forage in the study area. Since long-billed curlews are unlikely to nest in the study area, the proposed project would not result in any significant impacts to this species.

**California Clapper Rail** (*Rallus longirostris obsoletus*), Federal Endangered, State Endangered. According to the CDFG Natural Diversity Database (CDFG, 2004), the nearest documented occurrence of the rail is located approximately 2.5 miles north at Arrowhead Marsh. Suitable rail habitat exists within the upper end of the bay channel, about 300 feet (91.4 meters) east of the proposed bridge location. The rail has only a low potential to occur in this area because tidal vegetation present is isolated from other areas of suitable habitat, and rails are unlikely to disperse to this relatively small area of tidal vegetation over unvegetated mud and riprap. Construction of the future bike path will not impact the rail. However, construction of the bridge would involve pile driving, which could disturb nesting of nearby (300 feet) birds. A mitigation measure is proposed below to avoid impacts to the California clapper rail.

**Burrowing Owl** (*Athene cunicularia*), CDFG Species of Special Concern, USFWS Species of Concern. According to the CDFG Natural Diversity Database (CDFG, 2004), the nearest documented occurrence of the burrowing owl is located approximately 2.5 miles northwest of the bridge alignment. Depending on the actual location, construction of the future bike path would not likely impact the owl since the area is densely vegetated. However, if the bike path were located on the existing access road on the levee top, it would be necessary to conduct preconstruction surveys to determine presence/absence and establish 125-foot buffer zones within which construction can only occur following CDFG notification. Construction of the bridge would not impact this species.

**Saltmarsh Common Yellowthroat** (*Geothlypis trichas sinuosa*), CDFG Species of Special Concern, USFWS Species of Concern. This songbird nests in tidal marsh vegetation and adjacent weedy vegetation on levees. In the study area, yellowthroats may nest in coyote brush along the levee tops, but they are most likely to nest in the tidal vegetation located at the upper end of the channel, about 300 feet (91.4 meters) from the bridge construction. Construction of the bike path and bridge during the breeding season could cause disturbance resulting in abandonment of eggs and/or young. A mitigation measure is proposed below to avoid impacts to the saltmarsh common yellowthroat.

**Alameda Song Sparrow** (*Melospiza melodia pusillula*), CDFG Species of Special Concern, USFWS Species of Concern. This songbird nests in tidal marsh vegetation and adjacent weedy vegetation on levees. Alameda song sparrows were observed along the south levee during the April 27, 2004 biological site survey assessment. Song sparrows may also nest in coyote brush along the levee tops, but they are most likely to nest in the tidal vegetation located at the upper end of the channel, about 300 feet (91.4 meters) from the bridge construction. A mitigation measure is proposed below to avoid impacts to the Alameda song sparrow.

**Central California Coast Steelhead** (*Oncorhynchus mykiss*) Federal Threatened. Outmigrant juvenile steelhead may disperse into the channel during high tides. These outmigrant movements tend to occur in winter and spring.

Construction of the future bike path would not affect steelhead; however, driving of bridge pile supports may affect juvenile salmonids due to acoustic disturbance. A mitigation measure is proposed below to avoid impacts to juvenile steelhead.

**Central Valley Fall/Late Fall-Run Chinook Salmon** (*Oncorhynchus tshawytscha*), CDFG Species of Special Concern. Outmigrant juvenile chinook salmon may disperse into the channel during high tides. These outmigrant movements tend to occur in winter and spring. Construction of the future bike path would not affect chinook salmon; however, driving of bridge pile supports may affect juvenile salmonids due to acoustic disturbance. A mitigation measure is proposed below to avoid impacts to juvenile chinook salmon.

Based on a review of the resources and databases, 50 special status plant species have been documented in the general vicinity of the study area. Most of the species generated by the literature search were determined to be not present due to a variety of factors, including lack of unique soil types (e.g., serpentine, clay), lack of typical habitat (e.g., freshwater wetland, vernal pool, chaparral, woodland, riparian, native grassland), and/or inappropriate site elevation. In addition, no native soils or seed banks are present due to past disturbance and import of fill materials during construction of the wastewater treatment facility, Oakland Airport, and East Bay Regional Park District facilities.

#### **Impact IV-1: Impacts to wetlands or waters of the United States**

*Mitigation Measure IV-1: To avoid or reduce impacts to special status wildlife species that could be found in wetlands and waters of the U.S. (California clapper rail and salmonids), implement Mitigation Measure IV-3(b) and (d), below.*

#### **Impact IV-2: Construction of the bicycle path may affect the adjacent pickleweed marsh**

*Mitigation Measure IV-2: A protective fence shall be installed along the northern levee bank along the proposed bicycle path to prevent accidental intrusion by construction equipment and/or workers into the adjacent pickleweed marsh. In addition, erosion control measures shall be implemented to prevent fill materials from the construction site from entering the marsh.*

#### **Impact IV-3: Construction may affect four special status species**

*Mitigation Measure IV-3: (a) To prevent the salt marsh harvest mouse from dispersing across the future bike path during construction, adjacent vegetation shall be cleared by hand within six feet of the paved surface, and a temporary silt-fence barrier shall be installed. The vegetation clearing will help disperse any salt marsh harvest mice into adjacent dense cover, while the subsequent silt-fence barrier will prevent mice from entering the construction area.*

*(b) Preconstruction rail surveys shall be conducted to determine presence/absence. If rails are absent, construction may proceed. If a breeding pair of rails is detected, then pile driving shall not*

be conducted until after the onset of the rail non-breeding season, which would be from September 1 through January 31. Other construction activities could proceed outside of that window.

(c) To avoid impacts to saltmarsh common yellowthroat and Alameda song sparrow, the bike path should be located to avoid disturbance of existing shrub habitat. If avoidance of the shrub habitat is not feasible, construction shall be initiated after the breeding season (March through July) and shrub vegetation shall be removed within the construction footprint during the non-breeding season (August through February). Alternatively, preconstruction breeding bird surveys shall be conducted in the spring. Surveys should be conducted within suitable nesting habitat in tidal vegetation at the upper end of the channel and in shrubs along levees. All active nests identified at that time shall be protected by a 50-foot radius exclusion zone. The exclusion zone would remain in place until all young have fledged. Since these birds may have three broods, avoidance would possibly extend into August.

(d) To avoid potential impacts of pile driving on juvenile salmonids (steelhead or chinook salmon), the pile-driving portion of the project shall be conducted during the steelhead dredging window allowed by NOAA/NMFS (June 1-November 30 in south central San Francisco Bay). No work window is given for chinook salmon within the south central Bay; however, in central San Francisco Bay (north of the Bay Bridge), the work window for chinook salmon is also June 1-November 30. Informal consultation with NOAA Fisheries should take place to determine project timing and to obtain the latest data on acoustic impacts and mitigation.

Incorporation of the mitigation measures above would mitigate potential impacts to biological resources to a less-than-significant level.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>
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"/>

**DISCUSSION:**

An archival and records review was completed by the California Historical Resources Information System, Northwest Information Center, Sonoma State University, Rohnert Park (CHRIS/NWIC File No. 04-522 dated December 14, 2004). Reference material from the Bancroft Library, University of

California, Berkeley and Basin Research Associates, San Leandro was also consulted.<sup>1</sup>

The Native American Heritage Commission (NAHC) was contacted for a search of the Sacred Lands Inventory on file with the Commission (December 8, 2004). The NAHC responded on December 28, 2004 indicating that a search had failed to indicate the presence of Native American cultural resources in or adjacent to the project area.

No prehistoric archaeological sites have recorded in or adjacent to the proposed project.

No historic era sites have been recorded in or adjacent to the proposed project.

No local, state or federal historically or architecturally significant archaeological sites, structures, landmarks or points of interest have been identified or observed in or adjacent to the project.

Systematic archaeological inventories did not note any surface indications of either prehistoric or historic archaeological resources.

There appears to be no potential for exposing prehistoric Native American and Historic era archaeological resources at the project location. Archival research indicates that the proposed project was included within: (1) several water lots used for oyster beds that were later engineered to develop Oyster Slough and an associated levee through dredging and filling; and, (2) a historic landfill that was used until 1990.

There appears to be no potential that previously undiscovered resources could be exposed during construction excavations.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

VI. GEOLOGY AND SOILS -- 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 checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

ii) Strong seismic ground shaking?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------	--------------------------

<sup>1</sup> Specialized listings consulted include the *Historic Properties Directory* for Alameda County with the most recent updates of the National Register of Historic Places, California Historical Landmarks, and California Points of Historical Interest as well as other evaluations of properties reviewed by the State of California Office of Historic Preservation. Other sources consulted include: the *California History Plan*; *California Inventory of Historic Resources*; *California Points of Historical Interest*; *Five Views: An Ethnic Sites Survey for California*; and, *Historic Civil Engineering Landmarks of San Francisco and Northern California*.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a 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"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION:**

Based on U.S. Geological Survey mapping, the site is underlain by estuarine bay mud deposits, consisting of unconsolidated water-saturated dark plastic carbonaceous clay and silty clay (Helley and LaJoie, 1979). Site-specific investigation indicates that, in areas where fill is present, the fill ranges in thickness from 12 to 25 feet (3.7 to 7.2 meters) and consists of sand and gravel with pieces of concrete. The fill layer is underlain by a 6- to 10-foot (1.8- to 3.1-meter) thick layer of soft, high plasticity silty clay (Younger Bay Mud). The Younger Bay Mud is underlain by interbedded layers of medium stiff to very stiff silty clay and loose to medium dense clayey and silty sand to the maximum depth explored (about 80 feet or 24.4 meters) (Parikh, 2004).

The entire San Francisco Bay Area is located in a region of active seismicity. The seismicity of the region is primarily related to the San Andreas Fault Zone (SAFZ). The SAFZ is a complex of active faults forming the boundary between the North American and the Pacific lithospheric plates. Historically, numerous moderate to strong earthquakes have been generated in northern California by several major faults and fault zones in the SAFZ system.

The Hayward Fault, which is located about three miles to the east, is the nearest major seismic source for the project site. The site-specific geotechnical report indicates that the fault is capable of generating a moment magnitude 7.5 earthquake with a peak bedrock acceleration of 0.57 g (Parikh, 2004). Ground shaking at the site during a magnitude (M) 6.9 earthquake on the Hayward Fault would be expected to be "violent" (Modified Mercalli Intensity IX) (ABAG, 2004). No known active faults cross the site and therefore fault rupture is not expected to occur at the site.

The project will likely experience moderate to strong ground shaking sometime during its design life. It is considered unlikely that a moderate to large earthquake would occur during construction.

However, if an earthquake were to occur during construction, workers at this site would not be expected to be exposed to elevated risks relative to any common construction site or urban location. Particular aspects of the project site may reduce the hazards associated with ground shaking relative to a typical urban location. The open nature of the site, with no multi-story buildings or overhead structures, would reduce the potential for injury associated with falling debris. Therefore, potential impacts associated with construction-period seismic hazards are not further discussed.

Similarly, under current conditions and once the project is completed, the project site would likely be a relatively low-risk location during a moderate to large earthquake. The subsurface geologic materials may experience violent seismic shaking, but the lack of topography and overhead structures that could generate falling debris would reduce hazards to users of the trail relative to people in most urban settings.

The bridge could experience shaking and ground acceleration that could cause significant damage and/or settlement. The site-specific geotechnical studies include seismic design parameters that should, if properly incorporated into the final design, reduce the potential for seismic shaking-related impacts to a less than significant level. A mitigation measure has been included below to address this issue.

Regional hazard mapping indicates that the liquefaction susceptibility at the site is "very high" (ABAG, 2004). Liquefaction is the rapid transformation of saturated, loose, fine-grained sediment to a fluid-like state because of ground shaking during earthquakes. Seismic shaking raises the pore-water pressure so that sediment grains are momentarily forced apart. Liquefaction-induced ground failure can occur on level ground if the liquefied material is unevenly loaded. Liquefaction has resulted in substantial loss of life, injury, and damage to property.

However, the results of a site-specific field investigation indicate that the existing fills are generally above the groundwater level; therefore, the risk of liquefaction of fill at the site is considered to be low. The clayey sand layer below the Younger Bay Mud has low liquefaction potential in a major earthquake event due to the abundance of fines in the sandy units (AGS, 2002b).

Excavation, grading, and construction activities associated with building the trail and bridge abutments could result in discharge of sediment and/or sediment-laden runoff into wetland areas behind the existing levees and potentially to the Bay, temporarily causing elevated turbidity levels locally. This potential impact is further discussed, and mitigation provided, in Section VIII, Hydrology and Water Quality, of this document.

#### **Impact V-1: Potential impacts associated with seismic hazards**

*Mitigation Measure V-1: The final bridge design shall incorporate the seismic design parameters recommended in the site-specific geotechnical reports. The bridge shall be designed and constructed to withstand the expected seismic shaking and acceleration associated with the maximum expected earthquake on the Hayward Fault.*

*A qualified geotechnical professional shall inspect the foundation construction activities for the trail and bridge abutments, including predrilling and pile driving for the bridge piers. If any unexpected*

*conditions related to adverse geologic conditions are encountered, the recommendations regarding mitigation of the adverse conditions of the geotechnical professional shall be implemented.*

**Impact V-2: Potential impacts associated with erosion**

*Mitigation Measure V-2: Implement Mitigation Measure VIII-1, which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP).*

Incorporation of the mitigation measures above would reduce potential impacts related to geology and seismicity to a less-than-significant level.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<b>VII. 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"/>
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"/>
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 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 checked="" type="checkbox"/>	<input 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 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 type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## DISCUSSION:

A Phase I Environmental Site Assessment/Initial Site Assessment (Phase I/ISA) has been prepared for the project site (BASELINE, 2005). The following discussion is summarized from that report.

### *Historical Land Uses*

The project site was submerged until the mid-1950s. The northern landing and connecting path are on a perimeter dike built in the mid-1950s. The southern landing is also on a dike constructed of fill between 1958 and 1965 within Oyster Bay Regional Shoreline Park. The materials used to construct the dikes are of unknown origin, and could contain contaminants that may affect the health and safety of construction workers and/or require special management during construction at the bridge abutment locations.

Three petroleum pipelines (two active and one inactive) are embedded in the dike on the northern shore of the slough. While the pipelines may not have had any releases, construction activities near the pipelines will require coordination with the pipeline operators to ensure that construction activities do not affect the integrity of the pipelines.

No staining, odors, stunted vegetation, or other evidence of hazardous materials releases that could affect subsurface conditions at the project site were noted during a site reconnaissance in April 2005.

Approximately 200 cubic yards of fill material are proposed to be excavated during construction of this project. No information regarding the chemical quality of the fill material or the material used to create the north and south dikes, placed during the 1950s and 1960s, was available for the Phase I investigation. A geotechnical investigation has indicated that the fill contained some concrete rubble, indicative of possible construction debris (Parikh, 2004). There may be a potential for these materials to contain chemical constituents, which could pose a concern for construction worker health and safety or require special soil management and disposal procedures at either bridge abutment.

### *Database Search*

A regulatory database search was performed to identify hazardous materials sites, including those compiled pursuant to Government Code Section 65962.5, which could affect human health and the environment in the project vicinity (EDR, 2005a). The proposed site trail and bridge locations were not identified on any hazardous material site lists. Two hazardous materials sites were identified on Neil Armstrong Way, north of the project site: a former leaking gasoline underground storage tank site (Chevron, Shell, and Avis Rent-a-Car), and a registered hazardous waste generator (PST Oakland Storage).

The Chevron/Shell/Avis site had underground tank storage for gasoline. At the time of a planned tank closure, a structural failure was discovered that had allowed an unreported quantity to leak. A preliminary site assessment work plan was submitted 10 May 1990 and work began 21 May 1990. Information from the environmental database report indicated that soil only was affected, and contaminated soil was excavated and treated. The case was closed on 8 August 1994. The leaking

underground gasoline storage tank site has been remediated and is no longer under regulatory oversight.

PST Oakland Storage is a RCRA-registered waste generator. No releases or hazardous waste regulation violations were reported for the hazardous waste generator.

Based on regulatory database information, neither of these sites would have the potential to affect the proposed project. Tank farms to the north and west of the project site, although not listed in the regulatory record search, have also reported releases of hazardous materials. The PST Tank Farm is about 300 feet north of the project site across Oyster Bay Slough; other tank farms are located further north. The former PST Tank Farm is part of Regional Water Quality Control Board, San Francisco Region (RWQCB), Cleanup Order R2-2002-0013. The Humble/PST facility reported a spill in March of 1981 where an unknown quantity of fuel was released, soaked through a containment berm and into a ditch and adjacent wetlands (RWQCB, 2002). The PST Tank Farm has undergone interim remediation (2004/2005) under RWQCB oversight (soil removal and groundwater monitoring). It does not appear likely that releases from the PST Tank Farm will affect development of the project since the extent of contaminated soil and groundwater has been defined, and interim remediation has been undertaken.

#### **Impact VII-1: Potential impacts from soil contaminants in fill**

*Mitigation Measure VII-1: A Phase II soil investigation should be conducted to evaluate the chemical quality of fill materials that will be encountered at the two bridge abutments. Up to two samples from each bridge abutment in areas of proposed excavation should be collected and analyzed for total petroleum hydrocarbons as gasoline, jet fuel, diesel, and motor oil (EPA Method 8015M), semi-volatile organic compounds (EPA Method 8270C), volatile organic compounds (EPA Method 8260B), and Title 22 metals (EPA Method 6010A series). Depending on the initial laboratory results, additional analyses of soluble metals may be required using the Waste Extraction Test (WET) and Toxicity Characteristic Leaching Procedure (TCLP) to properly classify soils proposed to be excavated for the project.*

*Depending on the findings of the Phase II investigation, additional soil management and construction worker health and safety procedures may be required. These measures may include a site-specific health and safety plan to ensure that construction activities do not affect the health and safety of construction workers or nearby workers and recreational area users. The health and safety plan should include a summary of environmental investigations at the site, health and safety provisions for monitoring exposure to construction workers, procedures to be undertaken in the event that previously unreported contamination or subsurface hazards are discovered, dust control measures (including perimeter monitoring) for construction activities at the site, and emergency procedures and responsible personnel.*

## **Impact VII-2: Potential impacts to pipelines**

*Mitigation Measure VII-2: Construction contractors shall take whatever measures necessary during construction activities affecting the north dike to prevent potential damage to petroleum pipelines contained in the levee. The operators of the pipelines shall be notified of construction prior to excavation.*

### *Airport Safety Issues*

The project is located immediately south of the Oakland International Airport, which could subject future users of the bridge and bicycle path to safety hazards. Oakland International Airport is subdivided into North and South airfields. The North Field contains three runways, as well as general aviation, maintenance, and some cargo facilities. The South Field includes the commercial passenger runways and most cargo facilities. The proposed Bay Trail connection and bridge would be constructed approximately 3,500 to 4,000 feet (1,066.8 to 1,219.2 meters) south of the South Field runways and 6,500 feet (1,981.2 meters) east of the North Field runway.

The project site is within the "referral area" of the Alameda County Airport Land Use Commission (ALUC), which is required under state law (Section 21676(b) of the Public Utilities Code) to review all "amendments to general plans, specific plans, and zoning ordinances and building regulations" within the referral boundary. Because the project does not require any of these approvals, the project does not require review by the ALUC to determine consistency with the Alameda County Airport Land Use Policy Plan (ALUC, 1986). Staff for the ALUC, however, has indicated that the project is consistent with the ALUC plan, although the project may be required to apply for a Federal Aviation Administration (FAA) permit for the crane used in construction, and any lighting included in the project must be consistent with airport plan standards (Horvath, 2004). The ALUC Policy Plan states that: "Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following take-off or toward an aircraft engaged in a straight final approach toward a landing at an airport": is prohibited in airport safety zones.

~~The San Leandro General Plan contains policies and action measures related to the proximity of the airport (City of San Leandro, 2002). Goal 6-48 states the intent to "Minimize the local impacts and hazards created by air traffic, ground operations, and all other aviation activities, particularly those associated with Oakland International Airport."~~

~~Because the existing Oyster Bay Regional Shoreline park has operated in proximity to the airport for years and the addition of the bridge and extension of the bicycle trail would not be expected to subject greater numbers of people to significant risks or dangers, the hazards associated with airport operations and aircraft overflights on the project are considered a less than significant impact.~~

See further discussion of airport related issues under Section XI Noise, below.

The project site is within the "referral area" of the Alameda County Airport Land Use Commission (ALUC), which is required under state law (Section 21676(b) of the Public Utilities Code) to review all "amendments to general plans, specific plans, and zoning ordinances and building regulations"

within the referral boundary. Because the project does not require any of these approvals, the project does not require review by the ALUC to determine consistency with the Alameda County Airport Land Use Policy Plan (ALUC, 1986). Staff for the ALUC, however, has indicated that the project is consistent with the ALUC plan, although the project may be required to apply for a Federal Aviation Administration (FAA) permit for the crane used in construction, and any lighting included in the project must be consistent with airport plan standards (Horvath, 2004). The ALUC Policy Plan states that: "Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following take-off or toward an aircraft engaged in a straight final approach toward a landing at an airport": is prohibited in airport safety zones.

The San Leandro General Plan contains policies and action measures related to the proximity of the airport (City of San Leandro, 2002). Goal 6-48 states the intent to "Minimize the local impacts and hazards created by air traffic, ground operations, and all other aviation activities, particularly those associated with Oakland International Airport."

Because the existing Oyster Bay Regional Shoreline park has operated in proximity to the airport for years and the addition of the bridge and extension of the bicycle trail would not be expected to subject greater numbers of people to significant risks or dangers, the hazards associated with airport operations and aircraft overflights on the project are considered a less-than-significant impact.

See further discussion of airport related issues under Section XI Noise, below.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<b>VIII. HYDROLOGY AND WATER QUALITY --</b>				
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<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 type="checkbox"/>	<input checked="" 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 which would result in substantial erosion or siltation on- or off-site?	<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 which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION:**

The construction of the bridge and trail project has the potential to violate water quality standards or waste discharge requirements if construction materials were discharged to surface waters, including waters of the Bay. The construction of the bridge portion of the project includes two possible techniques: use of shallow barges to bring in bridge pieces and cranes or, alternatively, construction of a temporary trestle from which a crane could drive piles and assemble the bridge. Pile driving the piers into the slough bottom to construct the bridge could release Bay mud and soil into the slough and Bay waters. Construction activities related to the trail and bridge abutments could also result in sediments and/or contaminants being entrained in storm water runoff leaving the site and potentially entering the slough and Bay. A mitigation measure is proposed below to avoid water quality impacts.

The proposed project does not involve groundwater extraction for construction or operation. Therefore, there would be no depletion of groundwater resources or effects on any wells.

On-going maintenance of the bridge could also affect water quality. The bridge would require periodic painting to protect it from the marine environment. A measure has been proposed to ensure maintenance activities are addressed in the project's Storm Water Pollution Prevention Plan. The Port would have the responsibility for erosion and sediment control measures as part of their repair and maintenance of that portion of the Preferred Trail Alternative located on lands under their jurisdiction and the City would be responsible for erosion and sediment control measures on the remaining portions of the project.

The use of shallow barges that would sit on the bottom of Oyster Bay Slough during low tide would not be expected to affect existing drainage patterns of the slough. The project would not alter the course of any stream or river.

Construction of the trail portion of the project could slightly increase the volume of surface runoff, since the trail would add impervious surface to the top of the levee north of Oyster Bay Slough. The amount of increased runoff would be considered a less-than-significant impact.

Water surface elevations in the channel are controlled by tide level in San Francisco Bay. In the vicinity of the project site, the FEMA mapped 100-year flood hazard zone is contained within the banks of Oyster Bay Slough (FEMA, 2002). The only portion of the project that could affect the flood zone is the foundation support piers for the bridge. No portions of the proposed trail connection would be located within the 100-year flood hazard zone. Therefore, the 100-year flood elevation and the elevation of the 100-year high tide are the hydraulic characteristics of the system of greatest concern when evaluating the elevation of the existing and proposed bridge components.

The bridge structure would be supported by three piers consisting of four-foot (1.2-meter) diameter cast-in-steel-shell concrete piles. The prefabricated bridge truss would come with steel decking that would provide the formwork for the concrete deck. After the trusses are in place, lightweight concrete would be poured in the steel decking and finished in place. The total floodplain encroachment proposed is placement of these three four-foot (1.2-meter) diameter piles in the tidal inlet.

Since the channel hydraulics are dominated by tidal levels in the Bay (and not backwater effects associated with storm water runoff), water levels in the channel will continue to remain in relative equilibrium with tidal levels in the Bay, regardless of encroachments in the channel. Under existing conditions, there are no substantial inputs to the channel (other than tidal inflow).

As shown in Table 2, the 100-year flood hazard level and the 100-year high tide elevations are substantially below the surface elevation of the proposed bridge deck.

Table 2: Elevations of Proposed Bridge, 100-Year Flood and Tide

Lowest Bridge Underside Elevation (feet NAVD 88)	FEMA 100-year Flood Hazard Elevation (feet NAVD 88)	Corps 100-year High Tide Elevation (feet NAVD 88)
13.5 <sup>1</sup>	9.69 <sup>2</sup>	9.59 <sup>3</sup>

NAVD = North American Vertical Datum

<sup>1</sup> Mark Thomas and Company, Inc., 2005, Vertical Datum data page, Bay Trail Bridge, City of San Leandro, 25 January.

<sup>2</sup> National Flood Insurance Program, 2000, Flood Insurance Rate Map, Community Panel Number 060013 0001C, 9 February.

<sup>3</sup> U.S. Army Corps of Engineers, 1984, San Francisco Bay Tidal Stage vs. Frequency Study, October.

Thus, the proposed project would not result in significant encroachment of the floodplain or support any incompatible floodplain development.

The project site is located within the dam inundation area for two dams in the area: Lake Chabot and Upper San Leandro reservoirs (ABAG, 2002). However, the potential for affecting more people from dam failure is considered low, since many users of the Bay Trail already live and work in dam failure areas.

The site is located at the edge of the Bay and there are no known mudflow hazards affecting the site. The site is not within an area that would be affected by a tsunami or seiche (waves caused by seismic activity) (ABAG, 2005).

**Impact VIII-1: Discharge and runoff from construction activities and on-going maintenance could impact the quality of the Oyster Bay Slough and San Francisco Bay waters**

*Mitigation Measure VIII-1: The bid specifications for the project shall include a requirement that a Storm Water Pollution Prevention Plan be completed prior to commencing construction. The Plan shall incorporate current Best Management Practices (BMPs) for ensuring that discharges of construction materials and Bay muds into slough and Bay waters do not occur during pile driving and other construction activities (such as netting). The Plan shall incorporate all requirements of the permits issued for the project by the U.S. Army Corps of Engineers (Section 404 and/or Section 7 permits), the California Regional Water Quality Control Board Water Quality Certification (401 permit), and the Bay Conservation and Development Commission. The Plan shall also incorporate current BMPs for other construction activities, maintenance, and site operations, and spill prevention control measures. BMPs during construction include scheduling excavation activities for dry weather periods; taking measures to prevent erosion; keeping construction materials protected from rain; and general good housekeeping practices. The construction plans prepared for the project shall include BMPs to minimize the potential for erosion and sedimentation associated with soil handling (excavations, stockpiles, transportation) and off-site sedimentation. The Plan shall also include BMPs to ensure that periodic painting and other maintenance of the bridge do not impact water quality. The Plan shall be submitted for approval to the city of San Leandro Engineering and Transportation Department.*

Incorporation of the mitigation measure above would reduce potential impacts to a less-than-significant level.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<b>IX. LAND USE AND PLANNING - Would the project:</b>				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION:**

Construction of the project would not physically divide any existing residential neighborhood. The project is in an undeveloped area. The project is being sponsored by the East Bay Regional Park District and the city of San Leandro. The construction of the bridge and connecting trail segment is one of the last links in the trail alignment called for in the Association of Bay Area Governments' Bay Trail Plan (ABAG, 1989) and is consistent with SB 100 (1987), which authorized the trail plan. The project is consistent with the East Bay Regional Park District Master Plan 1997 (EBRPD, 1996) and with applicable policies and development regulations contained in the San Leandro General Plan and Zoning Ordinance (see further discussion under Section XIV Recreation, below). Portions of the Preferred Trail Alternative are on lands under the jurisdiction of the Port, specifically portions of the northern edge of the trail. The other trail alternatives are all on lands under the jurisdiction of the City.

There are no habitat conservation plans that have been adopted for the project area.

The project is within the jurisdiction of the Alameda County Airport Land Use Commission (see discussion under Section VII Hazards, above, and Section XI Noise, below).

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<b>X. MINERAL RESOURCES -- Would the project:</b>				
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"/>
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"/>

**DISCUSSION:**

There are no known mineral resources at or near the project site, according to the San Leandro General Plan (City of San Leandro, 2002).

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<b>XI. NOISE -- Would the project result in:</b>				
a) 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"/>
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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 type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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"/>
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 expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within 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 checked="" type="checkbox"/>

**DISCUSSION:**

There are currently no sensitive receptors (e.g., schools, hospitals, or significant groups of residences) in the area within 1,000 feet (304.8 meters) of the project site. The nearest individuals who could be affected by construction noise from the project would be users of the undeveloped Oyster Bay Regional Shoreline park and workers at the City's wastewater treatment plant or at the adjacent industrial businesses along Davis Street or Neptune Drive. The nearest collection of single family residences is approximately 3,000 feet (914.4) south of the project site in the neighborhood adjacent to the San Leandro Marina.

Construction of the bicycle/pedestrian trail and bridge would involve the use of diesel-powered heavy equipment for limited excavation, delivery of materials, driving of bridge piers and placement of bridge truss sections with a crane, cement mixing, backfilling of excavated areas, and paving of the trail. Based on U.S. EPA data on typical noise ranges generated by earth moving equipment (excavators, backhoes, and trucks), such equipment could generate temporary noise levels of about

72 to 95 decibels (dBA)<sup>2</sup> at a distance of 50 feet.<sup>3</sup> Materials handling equipment (concrete mixers) could generate noise levels ranging from 75 to 88 dBA at 50 feet. In general, noise levels generated from construction of the proposed project could range from 72 to 95 dBA at 50 feet, although the worst case noise is expected to be less than the higher range because there is no demolition of existing structures. Due to the relatively small scale of the project and the temporary nature of construction noise, this increase in noise level would not be substantial and would not be considered a significant impact of the project.

However, the project could expose people using the trail and bridge to noise from aircraft operations at Oakland International Airport. The San Leandro General Plan (City of San Leandro, 2002) notes:

Airport noise has been a persistent issue in San Leandro for over 50 years and has become a greater concern as traffic in and out of Oakland International Airport has increased. Residential areas in the City are located just over a mile from the end of the airport runways. There are plans to substantially increase passenger and cargo service at the airport, creating the potential for even more significant impacts to San Leandro homes and businesses.

Oakland International Airport is subdivided into North and South airfields. The North Field contains three runways (9L/27R, 9R/27L, and 15/33), as well as general aviation, maintenance, and some cargo facilities. The South Field includes the commercial passenger runways (11/29) and most cargo facilities. The flight path impacting San Leandro most directly is associated with landing aircraft on Runway 27R at the North Field. Most descending aircraft pass over Marina Square, the Timothy Drive/Davis West area, and the Adams Street industrial area before touching down. Helicopters also use this corridor.

The City is also impacted by commercial flights using Runway 11/29. Although planes taking off and landing on this runway do not pass directly over San Leandro, the area between the runway and the San Leandro shoreline is open water, providing few opportunities for sound to be absorbed. Consequently, the San Leandro Marina and adjacent waterfront neighborhoods may experience high noise levels. Residential areas also may be impacted by high levels of airport noise when flight patterns are shifted due to inclement weather.

Flight patterns that use Runway 27L most directly affect the project site, since arriving and departing planes fly directly over the proposed location of the Oyster Bay Slough bridge. Winds in the Bay Area predominantly blow from the west to the east and historical data collected by the airport

---

<sup>2</sup> Sound is measured in decibels (dB), often referred to as A-weighted decibels (dBA). The sound indices most commonly used to describe environmental noise are the Day-Night Average Sound Level (DNL) and the Community Noise Equivalent Level (CNEL). When calculating the 24-hour average of sound in an area, these two indices respond to the community's preference for a quieter environment in the evening and nighttime hours by assigning penalties to noises that occur during those specified hours prior to calculating the average. Both indices place a 10 dB penalty on all noises occurring from 10:00 p.m. to 7:00 a.m. The CNEL calculation varies in that it also places a 5 dB penalty on noise events during evening hours (7:00 p.m. to 10:00 p.m.). The two systems yield generally similar results and are used interchangeably.

<sup>3</sup> In the absence of acoustical barriers, noise levels are reduced by 6 dBA for every doubling of distance from noise sources (due to atmospheric and ground absorption).

indicate that 91.5 percent of all arrivals and departures occur when the airport is operating under the "West Plan," which generally involves arrivals from the south and departures to the north. Under West Plan conditions, areas to the north of the airport experience noise related to departing aircraft, whereas areas to the south, including the project site, experience aircraft arrival noise.

The Port of Oakland has prepared an Airport Development Program guiding the planned expansion of Oakland International Airport through 2010. The FAA has projected that 17.2 million annual passengers would use Oakland International Airport by 2010, an increase of 74 percent from the 1999 volume of 9.9 million passengers. Cargo operations at Oakland Airport are presumed to increase from 754,000 tons in 1999 to 2.1 million tons in 2010.

In 2000, the FAA used these projections to forecast future noise levels. These forecasts take the increased volume of air traffic into consideration, along with changes in the types of aircraft being used. Noise forecasts are usually expressed as noise contours, or areas within which a certain noise level threshold would be expected and which would cause specific impacts to humans. For example, in exterior (outdoor) areas where noise levels of 65 dBA CNEL are projected, the noise could cause people to experience some speech disturbance (an inability to talk and be heard). The FAA anticipates that the 65 dB CNEL contour will encompass fewer properties in San Leandro by 2010 compared to current conditions, while the 60 dB CNEL contour will shift south, impacting a larger swath of the West San Leandro industrial area. The project site is within this area projected to experience noise levels of 60 dB CNEL. This is consistent with the City General Plan noise projections, which also indicate the project site would experience noise levels of between 60 and 65 dBA in 2015.

A 2003 Draft Supplemental Environmental Impact Report (Port of Oakland, 2003) for the recent plans by the airport indicates that such operations could increase in the future, as flight patterns are shifted to avoid residential areas. The airport instituted a noise abatement flight procedure for nighttime departures for the aircraft permitted to use North Field (e.g., non-jet aircraft) in late 2000 for Runways 27R and 27L. This so-called "Salad One" procedure was developed with the goal of minimizing noise at nearby residential locations as much as possible while lessening restrictions on runway use at North Field. In good weather, aircraft operating on North Field are encouraged to arrive on Runway 27L, when possible, to avoid flying over nearby homes. In addition, the airport is currently investigating the feasibility of installing an Instrument Landing System on Runway 27L, which would allow more arriving aircraft to use Runway 27L instead of Runway 27R. If implemented, this installation would reduce arrival noise levels in the West Davis and Timothy Drive neighborhoods in San Leandro, since more arriving aircraft would pass farther south of those homes (Port of Oakland, 2003). However, this means that more arriving aircraft would pass closer to the project site.

The 2003 Draft Supplemental Environmental Impact Report (DSEIR) updated these projections, using specific locations where existing noise is monitored. At Site C, which is approximately 5,000 feet (1,524 meters) south of the project site, the report measured an existing 2000 ambient (background) noise level of 59.0 dBA CNEL, with a corresponding noise level for aircraft passing over the area of 57.7 dBA. This means that currently the noise from aircraft does not exceed the background noise in the neighborhood. The report forecast a 2010 noise level due to aircraft of almost the same magnitude (57.5 dBA). At Site D, which is approximately 7,000 feet (2,133.6

meters) east of the project site, the report measured an existing 2000 ambient (background) noise level of 63.0 dBA CNEL, with a corresponding noise level for aircraft passing over the area of 58.8 dBA. The report forecast a 2010 noise level at Site D due to aircraft overflights of 61.6 dBA. These future noise projections are generally consistent with the noise levels forecast by the FAA and the City General Plan, noted above, which range between 60 and 65 dBA.

The San Leandro General Plan sets exterior and interior noise compatibility standards for specific types of land uses. For "outdoor sports and recreation, neighborhood parks and playgrounds" the General Plan indicates that exterior noise levels up to 65 dB Ldn or CNEL are "normally acceptable." Exterior noise levels for these uses between 65 and 80 dB are "conditionally acceptable." Based on the current and future aircraft noise levels identified in the 2003 DSEIR, users of the project bridge and trail would not be subject to exterior noise above 65 dB DNL (or CNEL); thus, noise impacts from the nearby airport are found to be less than significant.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<b>XII. POPULATION AND HOUSING -- Would the project:</b>				
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"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

**DISCUSSION:**

Construction of the project would not induce new population growth in the area, since no new housing is proposed. The project would not require displacement of existing residences or displacement of substantial numbers of people.

Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
--------------------------------------	---	------------------------------------	--------------

**XIII. PUBLIC SERVICES**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION:**

The project site receives fire protection services from the city of San Leandro Fire Department, which was consolidated with the Alameda County Fire Department in July 1995. The County Department maintains offices at City Hall in the East 14th Street Civic Center complex and staffs five fire stations in San Leandro. The Department is responsible for fire suppression and prevention, emergency medical response, hazardous materials and disaster response, rescue, and community education and training. Response time to calls is typically under five minutes and there are few fire fighting constraints. Construction and operation of the new bridge and trail connection could result in more hikers and bicyclists on the project site, which could potentially result in more service calls to the fire department. However, until the Oyster Bay Regional Shoreline park is developed and additional trail parking is provided, the East Bay Regional District staff does not expect use of the bridge and the area to increase significantly (Wiese, 2005).

Police protection for the site is provided by the San Leandro Police Department. The Department's headquarters are located at 901 East 14th Street in the Civic Center complex. As noted above, operation of the new bridge and trail could result in more service calls to the police department, but a significant increase in park and trail users is not expected until the Oyster Bay Regional Shoreline park is developed.

The project would not result in any additional need for schools in the area, since no new housing, residents, or school age children would be generated by the project.

The proposed bridge and trail would affect the existing undeveloped Oyster Bay Regional Shoreline park. The bridge and trail would allow hikers and bicyclists to access the area. However, use of the

park is now restricted due to the lack of a parking lot. Recreational users now park on both sides of Neptune Drive where it deadends into the park entrance.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<b>XIV. RECREATION</b>				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION:**

The project could slightly increase the use of the existing Oyster Bay Regional Shoreline park since the trail and bridge would allow direct hiking and bicycling access into the park from the north. The increased use of the park is planned by the East Bay Regional Park District, and the use would not cause or accelerate the deterioration of the park. The planned improvements to the park are consistent with plans adopted by the East Bay Regional Park District and the city of San Leandro. The construction of the bridge and connecting trail segment is one of the last links in the trail alignment called for in the Association of Bay Area Governments' Bay Trail Plan (ABAG, 1989). The project is consistent with the East Bay Regional Park District Master Plan 1997 (EBRPD, 1996). The Master Plan 1997 sets priorities for implementing the vision and mission of the District in the next decade, including a priority to "Complete the missing sections of the Bay Area Ridge Trail and the San Francisco Bay Trail."

The San Leandro General Plan includes the following text about the Bay Trail extension: "Oyster Bay Regional Shoreline holds the greatest potential for improvement among EBRPD's local landholdings...San Leandro also contains approximately four miles (6.4 kilometers) of the San Francisco Bay Trail. Bicyclists can travel south from the San Leandro Marina to the San Mateo Bridge—a distance of eight miles (12.9 kilometers) —without crossing a single roadway. An extension of the trail will soon provide a direct link as far south as Union City. On the north, a planned bridge across Oyster Bay Slough and a new trail across Oakland's reconstructed Galbraith Golf Course will provide a link to the Martin Luther King Junior Regional Shoreline in Oakland. The ultimate goal is for the trail to encircle the entire Bay. Spur trails from the Bay Trail are also planned to provide shoreline access from nearby neighborhoods."

Action 23.03-A in the General Plan states that the City will "Work with the EBRPD to complete the following improvements to the Bay Trail within San Leandro: Construction of a bicycle/pedestrian bridge across Oyster Bay Slough; Development of a signed bike route along Neptune Drive between

Williams Street and Marina Boulevard; Spur trails between the Bay Trail and nearby San Leandro neighborhoods.”

Construction activities associated with the proposed bridge and trail, including truck traffic and heavy equipment use, could affect public access to the existing park facilities; however, these activities would be temporary in nature. See discussion under Section XV Transportation/Traffic, below.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<b>XV. TRANSPORTATION/TRAFFIC -- Would the project:</b>				
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"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<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 (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION:**

Construction of the new Oyster Bay Slough bridge and trail connection would be expected to slightly increase the pedestrian and bicycle traffic on the San Francisco Bay Trail between Oakland and San Leandro. The increase is planned and would not be considered a significant impact.

It is estimated that construction of the bridge and trail segment could be accomplished in approximately 120 days (16 weeks or four months). Key activities (which overlap) would include pile driving of the CISS piles for the bridge (which would take six weeks); construction of the bridge (four weeks); and construction of the steel soldier pile wall for the trail (12 weeks) (Chen, 2005).

The heavy equipment that would be required includes two cranes and two generators used during the entire construction period; one pile driver, used for approximately eight weeks; and a drill machine, paving machine, and two rollers used for shorter periods of time. In addition, a total of approximately 60 concrete trucks would be needed for concrete placement at the two bridge abutments, for pier caps, and to pour the concrete deck and drilled holes. Another 200 trucks would be used for excavation and to deliver materials. This includes an estimated 200 cubic yards of soil from excavation and drilling operations that would be generated and would be trucked and deposited off the site, equal to ten truckloads. The number of construction workers on the site would average between five and 20 workers each day, depending on the demand of the work (Chen, 2005).

The project would be expected to generate a range of approximately 50 to 100 daily construction truck trips and construction worker vehicle trips, depending when truck delivery times of materials are scheduled during specific construction activities. The additional trips coming to the project site to construct the bridge and trail would cause a less-than-significant impact on existing regional highways and local streets.

#### *Intersection Analysis*

The nearest critical intersections that could be affected by construction traffic are Doolittle Drive/Davis Street and the I-880/Davis Street interchange and ramp intersections. The Doolittle Drive/Davis Street intersection is approximately 3,000 feet (914.4 meters) or 0.6 mile (1 kilometer) east of the project site. The I-880/Davis Street interchange is approximately 6,300 feet (1,920.2 meters) or 1.2 miles (1.9 kilometers) east of the project.

It is assumed that, under a worst-case analysis, all of the project's construction traffic would pass through these two intersections. The addition of 50 to 100 average daily construction-related vehicle trips to the Doolittle Drive/Davis Street intersection would not create a significant impact on the operation of the intersection because planned improvements that will increase capacity at the intersection will be completed in mid-2005 before project construction begins (O'Driscoll, 2005). The current level of service (LOS) at the intersection is "B," equivalent to stable operation/ minimal delays. Planned improvements to the Doolittle Drive/Davis Street intersection include widening and adding turning and through lanes. These improvements will begin in May 2005 and should be completed by September 2005. The new and widened lanes will improve the intersection capacity during peak hours although the level of service would remain "B." Addition of 50 to 100 trips from the project would not affect the LOS at the intersection (O'Driscoll, 2005).

The ramps of the I-880/Davis Street interchange could be impacted by the project's construction traffic. The I-880 southbound and northbound ramp intersections at Davis Street currently operate at LOS A, B, or D during peak periods, depending on the direction. Both ramps are signalized. LOS D is equivalent to tolerable delays during peak periods, which is the minimum acceptable LOS according to the policy of the San Leandro General Plan (San Leandro, 2002). Addition of up to 100 vehicle trips would not cause the LOS to deteriorate.

### *Access and Staging Areas*

The contractor for the job would use three areas as designated staging areas. Heavy equipment would access the southern portion of the construction site using Davis Street and the existing paved trail in the regional park. A staging area has been identified at a wide flat section adjacent to the park trail. The two other staging areas are in an existing equipment parking area, west of the City's wastewater treatment plant, and at another semi-paved area near an existing building at the north end of the levee maintenance road.

The project would have no effect on air traffic patterns. The project would not require Oakland International Airport flight operations to be modified.

The project would also not involve the realignment or re-design of any critical transportation facilities, such as area roadways, and would not increase hazards due to design features. The project would not conflict with any alternative transportation policies and would not affect plans for alternative forms of transportation.

Public and emergency access to the existing park facilities could be affected by construction equipment and truck traffic. Access to the construction site would be required through the existing Davis Street entrance to the shoreline park, and through the City's wastewater treatment plant gate. A construction detour traffic plan has not been proposed, but should be implemented as part of the project.

### **Impact XV-1: Trucks and heavy equipment used during construction could block public access, or emergency access, or could affect City operations at the wastewater treatment plant.**

*Mitigation Measure XV-1: The project bid specifications shall be amended to require preparation of a Truck and Equipment Circulation Program that includes the following components:*

- *An emergency vehicle access plan that identifies routes for emergency vehicles into the construction area;*
- *A public access plan that requires the contractor to ensure that public access to the Oyster Bay Regional Shoreline is maintained, and that any required periods of temporary closure of public access to regional park facilities be minimized and shall occur only after adequate public notification has been made;*
- *A signage plan that requires the contractor to provide signage that informs recreational users of the regional park of: 1) construction activities occurring within 300 feet (91.4 meters) of hiking or riding trails; 2) alternative visitor parking locations; and 3) temporary road closures and traffic detours;*
- *A public notification plan that requires posting of notices of any scheduled temporary closures that specifies the length of the planned closure, at least 48 hours in advance. The closure notices shall be posted in three or more conspicuous locations near the park entrance and along the access road (Neptune Drive). The notice shall also be posted in advance on the EBRPD and city of San Leandro web sites, and advertised through other regional park and City publications.*

Incorporation of the mitigation measure above would reduce this impact to less than significant.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
<b>XVI. UTILITIES AND SERVICE SYSTEMS --Would the project:</b>				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DISCUSSION:**

The bridge and trail site is not currently served by public water or wastewater services. Water and toilet facilities are available only near the entrance to the Oyster Bay Regional Shoreline park at the end of Neptune Drive. The project would not require construction of any new wastewater, water supply, or storm water drainage facilities.

The project site is not currently served by a local solid waste hauler. The nearest waste disposal facilities are at the entrance to the Oyster Bay Regional Shoreline park at the end of Neptune Drive.

	Potentially Significant Impact	Potentially Significant unless Mitigation Incorporated	Less than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

**XVII. MANDATORY FINDINGS OF SIGNIFICANCE**

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Does the project 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 type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Does the project have impacts that are 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 type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

**DISCUSSION:**

As noted above, the project has potential impacts related to air quality; biological resources; seismicity; hydrology and water quality; noise; and transportation, but mitigation measures have been adopted to reduce potential impacts to a less-than-significant level. As noted in Section IV Biological Resources, measures will protect listed and sensitive species, such as the salt marsh harvest mouse, clapper rail, and salmonid fish. Users of the new trail and bridge will be subject to noise from aircraft using the Oakland International Airport, but these impacts have been found to be less than significant. The project will not cause any cumulative impacts, and will have no substantial adverse effects on human beings, either directly or indirectly.

### **C. SOURCES USED AS REFERENCE**

Alameda County Airport Land Use Commission (ALUC), 1986, Alameda County Airport Land Use Policy Plan, 16 July.

Association of Bay Area Governments (ABAG), 2005, earthquake shaking, liquefaction, dam failure inundation, and flooding area maps available on the Internet at <http://www.abag.ca.gov/bayarea/eqmaps>.

ABAG, 1999, On Shaky Ground, available on the Internet at [www.abag.ca.gov](http://www.abag.ca.gov).

ABAG, 1989, San Francisco Bay Trail Plan, available on the Internet at <http://baytrail.abag.ca.gov/baytrailplan.html>, July.

AGS Inc., 2002a, Final Conceptual Design Report Pedestrian and Bicycle Bridge San Francisco Bay Trail, March.

AGS, Inc., 2002b, Preliminary Geotechnical Study, Pedestrian and Bicycle Bridge, San Francisco Bay Trail, prepared for the City of San Leandro, March.

Bay Area Air Quality Management District (BAAQMD), 1999, CEQA Guidelines, December.

Creegan + D'Angelo, 2004, City of San Leandro Bay Trail Pedestrian Bridge Report, draft, March 15.

California Geological Survey (CGS), 2003, Seismic Hazard Zone Report for the San Leandro 7.5-Minute Quadrangle, Alameda County, California.

Chen, Po-Kang, 2005, Division Manager, Structure, Mark Thomas & Company, Inc., personal communication via e-mail to John O'Driscoll, City of San Leandro, 27 January.

Reference: Environmental Data Resources (EDR), 2005, San Leandro Bay Trail Bridge, Neil Armstrong Way, Oakland, CA 94621, Inquiry Number: 01409280.1r, April 27.

East Bay Regional Park District (EBRPD), 1996, East Bay Regional Park District Master Plan 1997, available on the Internet at [http://www.ebparks.org/resources/pdf/misc/RPM\\_Plan97.pdf](http://www.ebparks.org/resources/pdf/misc/RPM_Plan97.pdf), December.

Federal Emergency Management Agency (FEMA), 2003, Flood Insurance Rate Map, Alameda County California, available on the Internet at <http://www.esri.com/hazards/makemap.html>.

Jennings, C. W., 1994, Fault Activity Map of California and Adjacent Areas, Geologic Data Map No. 5, California Division of Mines and Geology.

Helley, E.J., LaJoie, K.R., 1979, Flatland Deposits of the San Francisco Bay Region, California- and their Geology and Engineering Properties, and Their Importance to Comprehensive Planning, USGS Professional Paper 943.

Horvath, Cindy, 2004, Alameda County Community Development Agency, senior planner and staff to Alameda County Airport Land Use Commission, personal communication with Eric Parfrey of BASELINE, 18 October.

Mark Thomas & Co., 2005, 100% Plans for the Improvements of the Bay Trail Slough Bridge, 25 January.

Mark Thomas & Co., 2004a, Trail Alignment Study Bay Trail Bridge in City of San Leandro.

Mark Thomas & Co., 2004b, Preliminary Bridge Report Bay Trail Bridge in City of San Leandro, September.

O'Driscoll, John, 2005, Assistant Engineer, City of San Leandro, personal communication with Eric Parfrey of BASELINE, 16 March.

Parikh Consultants, 2004, Letter from Gary Parikh to Kin Lee of Mark Thomas & Co., 15 September.

Parikh Consultants, Inc., 2004, Preliminary Geotechnical Information (Foundation Type Selection), Proposed San Leandro Slough Bridge and Trail Design, City of San Leandro, CA, 16 September.

Port of Oakland, 2003, Oakland International Airport, Airport Development Program (ADP) Draft Supplemental Environmental Impact Report, September.

San Leandro, City of, 2002, City of San Leandro General Plan, available on the Internet at <http://www.ci.san-leandro.ca.us/sldevsvcsGP.html>, July.

U.S. Geological Survey (USGS), 2003, Earthquake Probabilities in the San Francisco Bay Region: 2003 to 2033 - A Summary of Findings, prepared by the Working Group on California Earthquake Probabilities, USGS Open File Report 039-03.

U.S. Geological Survey (USGS), 1997, Map OF97-97, Quaternary Geology of Alameda County, and Parts of Contra Costa, Santa Clara, San Mateo, San Francisco, Stanislaus, and San Joaquin Counties, by E.J. Helley and R.W. Graymer, as quoted in Parikh Consultants.

Wetlands Research Associates, 2005a, Draft Biological Site Assessment, San Leandro Bay Trail Bridge Project, San Leandro, California, January.

Wetlands Research Associates, 2005b, Draft Wetland Delineation, San Leandro Bay Trail Bridge Project, San Leandro, California, January.

**D. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

The following summary checklist indicates those potentially significant environmental impacts identified in the above analysis which have not been mitigated to a level of insignificance.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                    | <input type="checkbox"/> Agriculture Resources              | <input type="checkbox"/> Air Quality            |
| <input type="checkbox"/> Biological Resources          | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology /Soils         |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality          | <input type="checkbox"/> Land Use / Planning    |
| <input type="checkbox"/> Mineral Resources             | <input type="checkbox"/> Noise                              | <input type="checkbox"/> Population / Housing   |
| <input type="checkbox"/> Public Services               | <input type="checkbox"/> Recreation                         | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities / Service Systems   | <input type="checkbox"/> Mandatory Findings of Significance |   |

**E. EVALUATION AND RECOMMENDATION**

On the basis of the information available to it in the record and the boxes checked in Sect. IV of this Initial Study, the East Bay Regional Park District finds:

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	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.
<input type="checkbox"/>	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, nothing further is required.

Brian Wiese  
 Brian Wiese  
 Chief, Planning & Stewardship

10/5/05  
 Date

**F. INCORPORATION OF MITIGATION MEASURES INTO THE PROPOSED PROJECT**

By signature of this document, the project proponent amends the project description to include the mitigation measures as set forth in Section.

---

Signature

---

Date

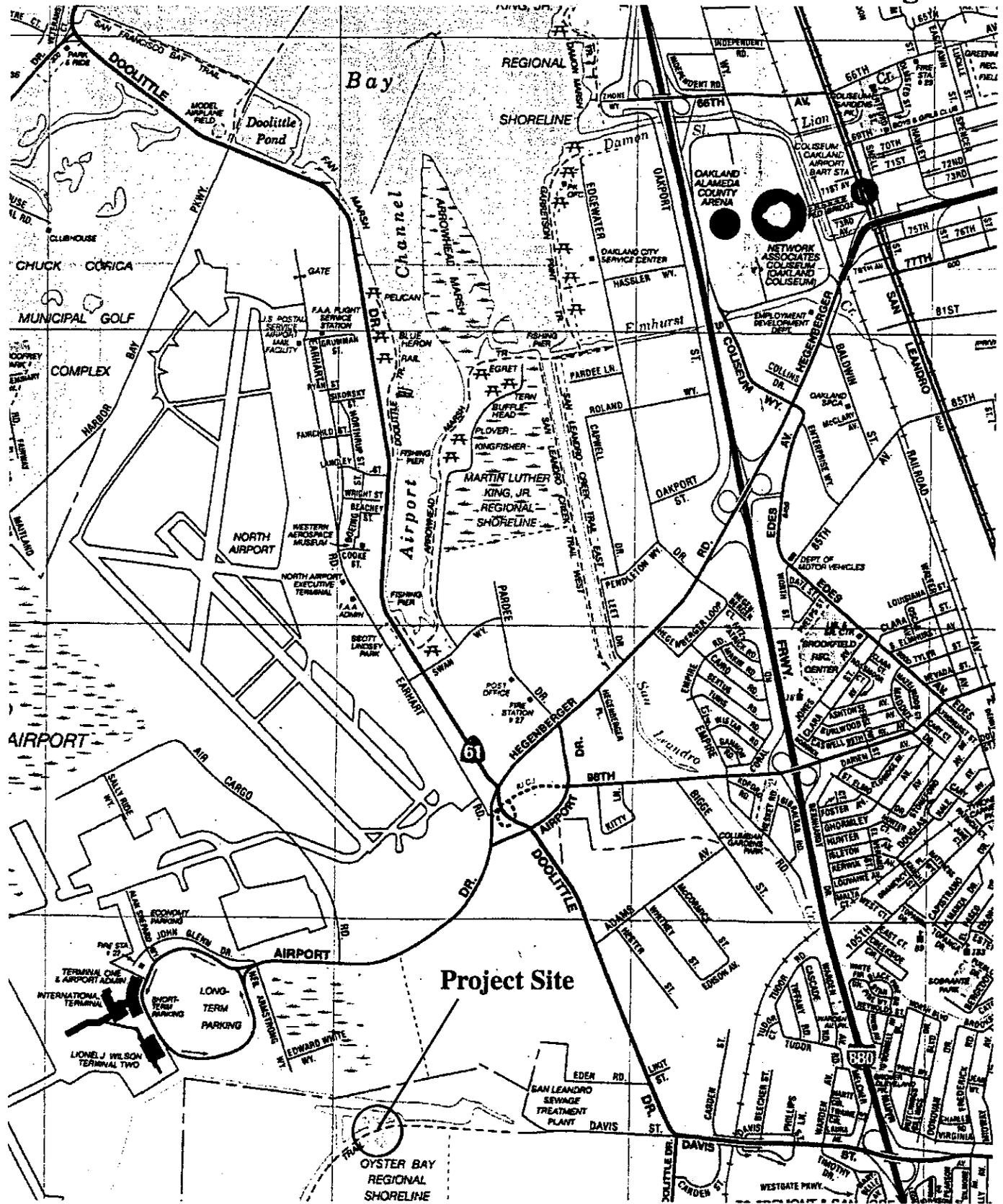
**G. INITIAL STUDY PREPARATION**

In the event that you have questions concerning the content or disposition of this Initial Study, you may contact the project consultant planner, ~~Erie Parfrey~~ Yane Nordhav of BASELINE Environmental Consulting, at (510) 420-8686.

**FIGURES**

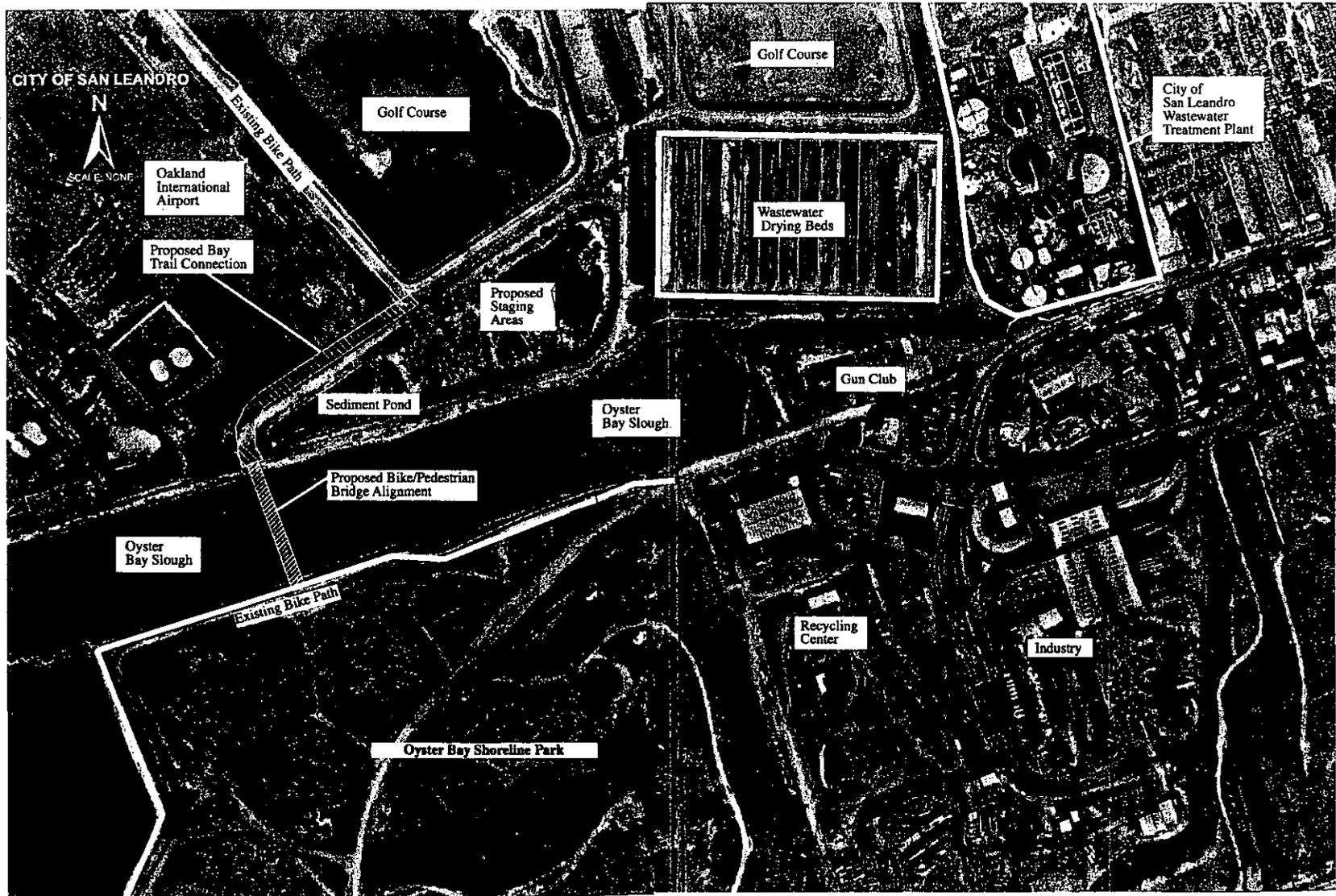
# REGIONAL LOCATION

# Figure 1



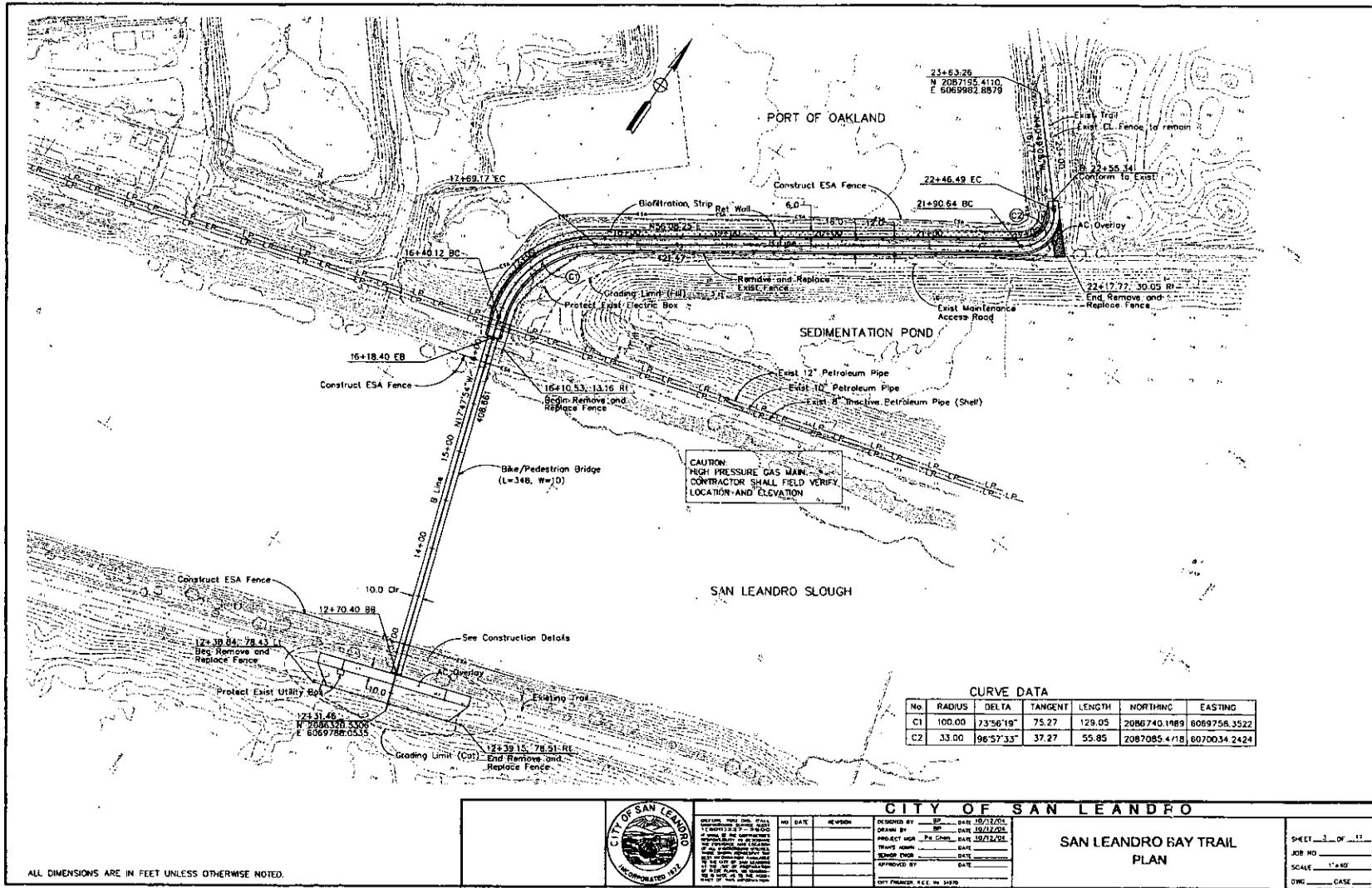
VICINITY AERIAL MAP FOR THE BAY TRAIL BRIDGE

Figure 2



LAYOUT PLANS FOR THE BAY TRAIL BRIDGE

Figure 3



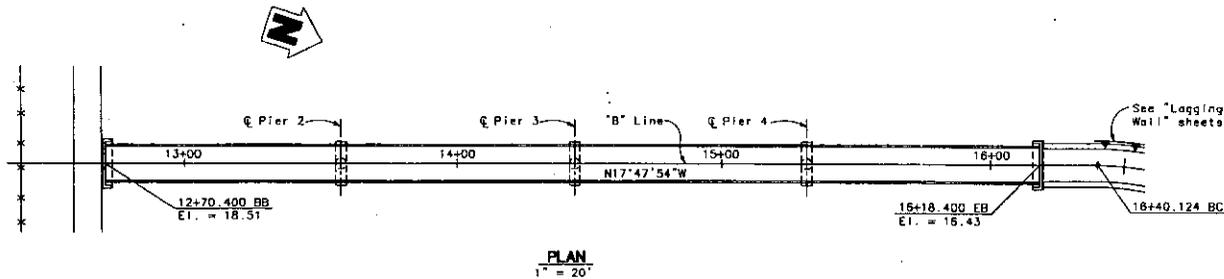
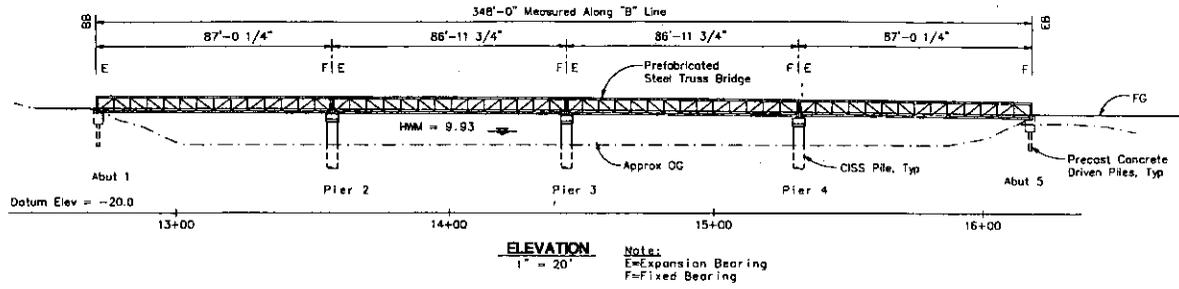
Source: City of San Leandro.

Y4204 00049 Fig3.cdr 3/28/05

BASELINE

**DESIGN PLANS FOR THE BAY TRAIL BRIDGE**

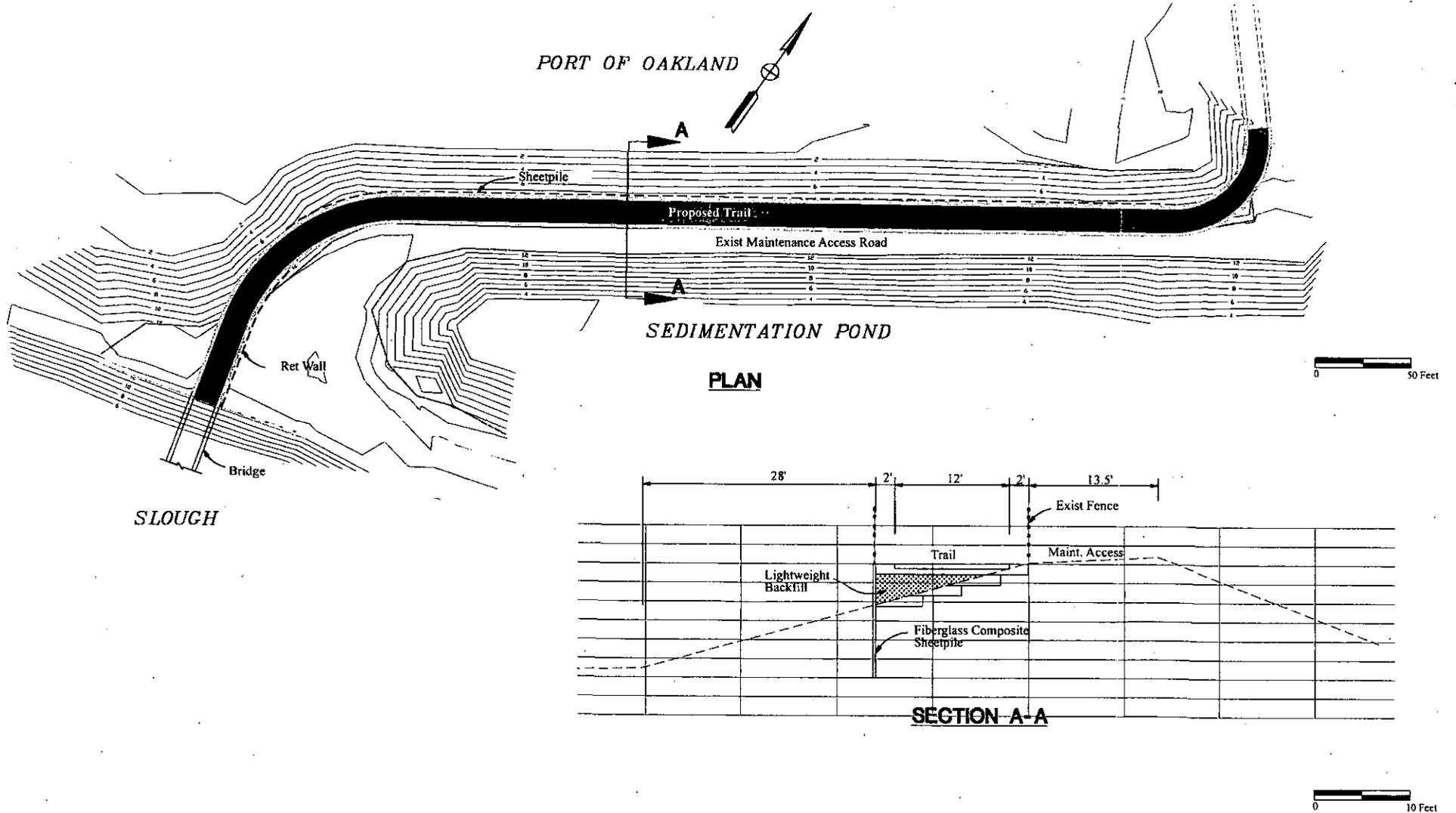
**Figure 4**



	BEFORE YOU SIGN, CALL THE ENGINEER OR ARCHITECT TO BE SURE YOU UNDERSTAND THE NATURE AND EXTENT OF THE WORK TO BE DONE AND THE RESPONSIBILITY TO BE ASSUMED BY YOU AS A MEMBER OF THE CITY OF SAN LEANDRO. BY SIGNING THIS DECLARATION, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE CONTRACT OF THIS PROJECT.		<b>CITY OF SAN LEANDRO</b> <b>SAN LEANDRO BAY TRAIL</b> <b>PEDESTRIAN BRIDGE</b>  <b>GENERAL PLAN</b>		SHEET 8 OF 17 JOB NO. 34-04174B SCALE AS SHOWN DWG. CASE
	NO. DATE REVISION	DESIGNED BY TW DATE 11-22-01 DRAWN BY TW DATE 11-22-01 PROJECT MGR. JC DATE 11-22-01 TRADE ADMR. DATE SENIOR ENGR. DATE APPROVED BY: DATE CITY ENGINEER, N.C.E. No. 3478			

**SHEETPILE ALTERNATIVE (PORT OF OAKLAND SIDE)**

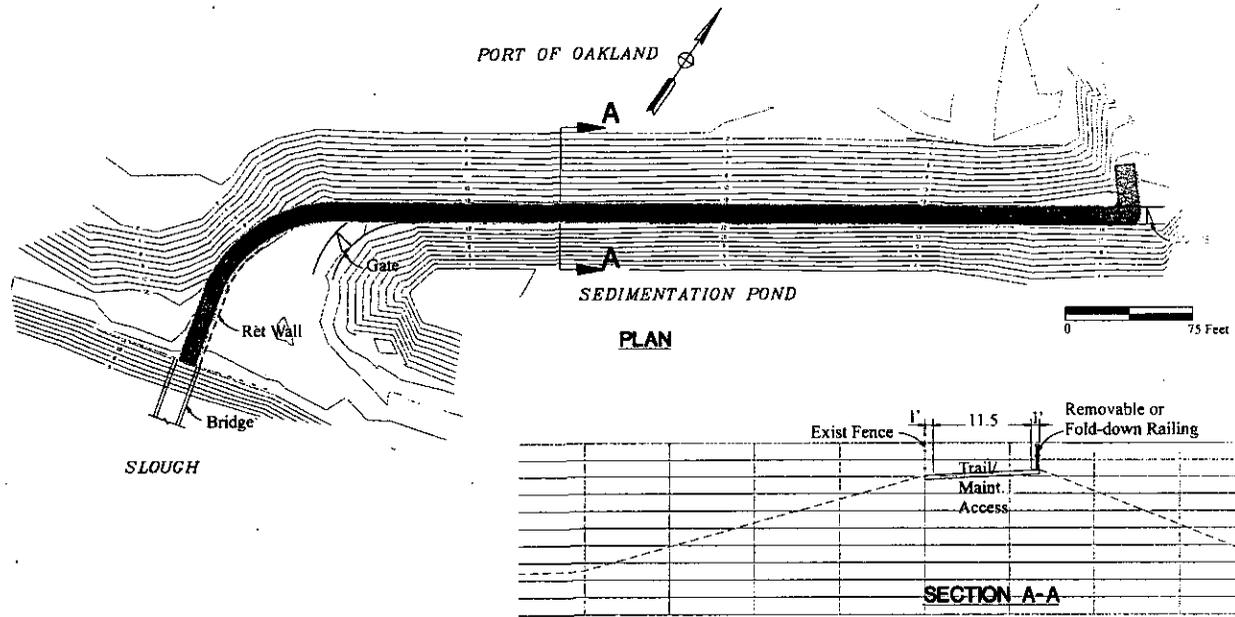
**Figure 5**



Source: Mark Thomas & Company, 2004.  
Y4204.00049.Fig4.cdr 3/28/05

**MIXED USE TRAIL/ROAD ALTERNATIVE**

**Figure 6**

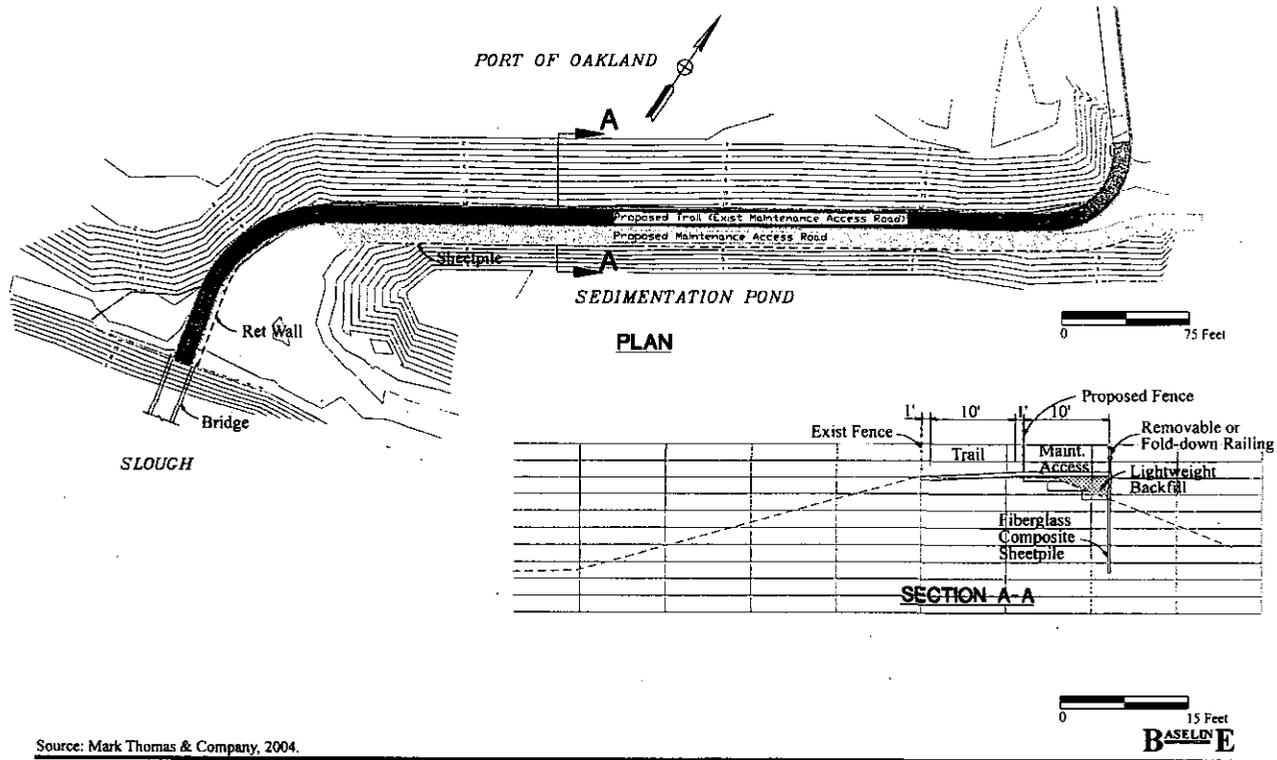


Source: Mark Thomas & Company, 2004.  
Y4204.00049.Fig6.cdr 3/28/05

**BASELINE**

**SHEETPILE ALTERNATIVE (City Side)**

**Figure 7**

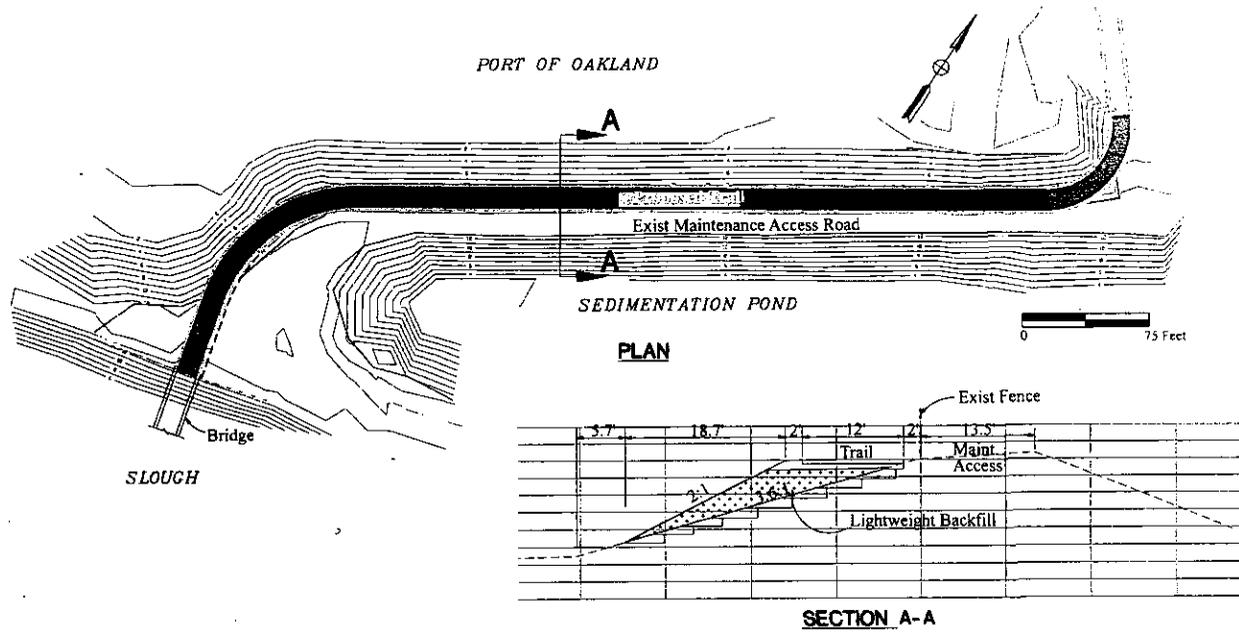


Source: Mark Thomas & Company, 2004.  
Y4204.00049.Fig7.cdr 3/28/05

**BASELINE E**

**LEVEE FILL ALTERNATIVE**

**Figure 8**



Source: Mark Thomas & Company, 2004.  
V4204.00049 Fig8.cdr 3/28/05

0 15 Feet  
**BASELINE**

**WETLAND AND AQUATIC HABITATS WITHIN AND/OR ADJACENT TO THE STUDY AREA**

**Figure 9**

