

SAN LEANDRO MARINA

Opportunities and Constraints Analysis

Prepared for
City of San Leandro
Community Development Department

November 2007



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SECTION 1

Project Description

1.1 Purpose of the Report

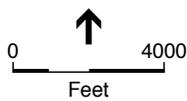
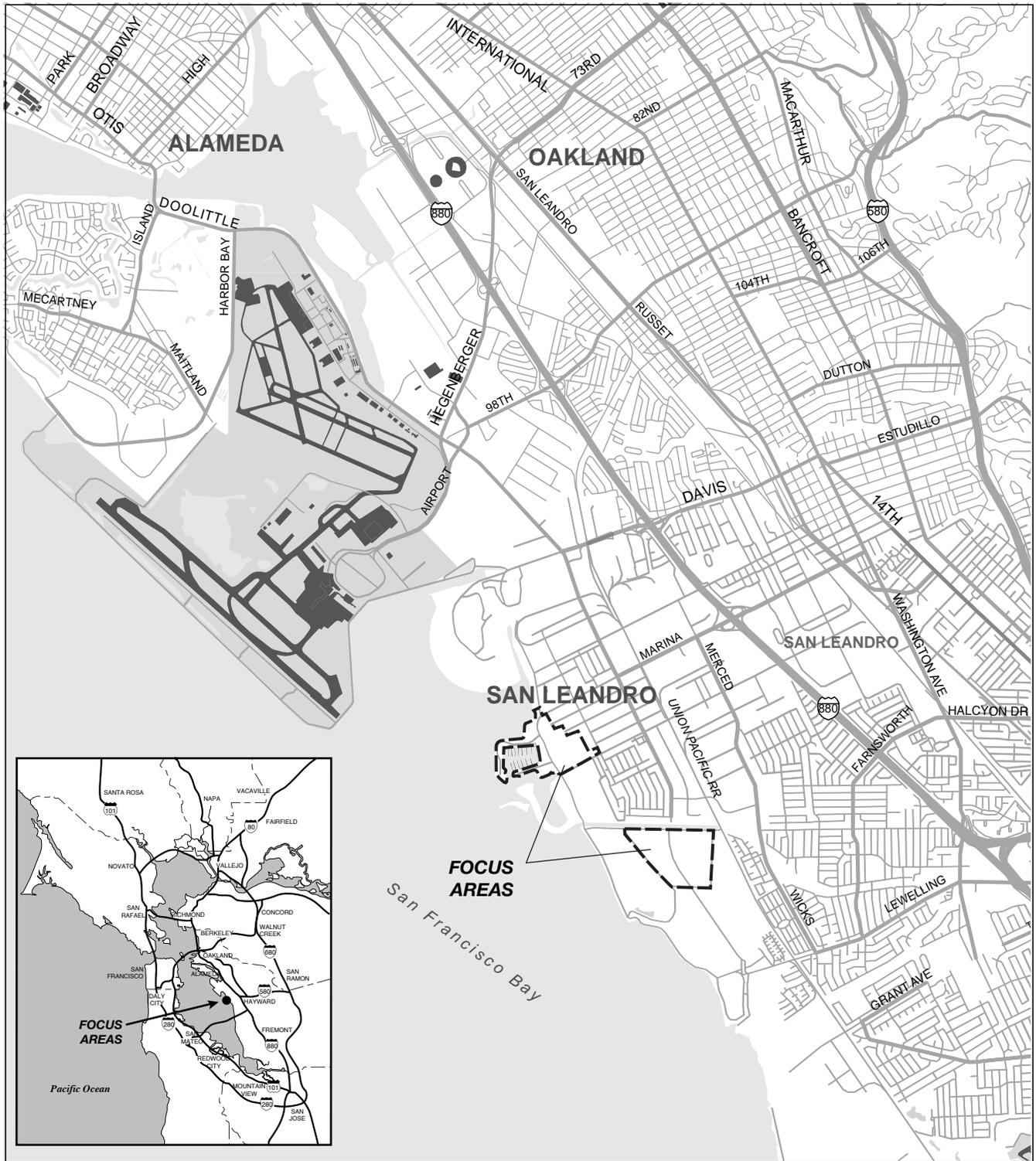
The City of San Leandro is considering redevelopment options for portions of the San Leandro Marina and Shoreline Recreation Area, which are generally located on the east shore of the San Francisco Bay between the City of Oakland to the north and the City of Hayward to the south (see Figure 1). The study area that is referenced throughout this report includes the San Leandro Harbor, the Marina Executive Golf Course (hereafter referred to as the Marina Golf Course), two vacant public parcels located northwest of the intersection of Fairway Drive and Aurora Drive, two vacant private parcels located to the west of the intersection of Neptune Drive and Marina Boulevard, and the Dredged Materials Management Site (DMMS). These sub-areas are discussed in more detail below (see Figure 2).

This study identifies environmental and regulatory constraints that may be associated with the redevelopment of these parcels. Because the parcels included in the study area vary in size, ownership, and other characteristics, this report describes the constraints that are applicable to each portion of the study area separately. A constraints determination is made for the following topics: 1) Land Use; 2) Biological Resources; 3) Geology and Soils; 4) Hazardous Materials; 5) Drainage and Water Quality; 6) Traffic and Circulation; 7) Noise; 8) Air Quality; and 9) Public Services and Utilities, and 10) Recreation.

1.2 Project Overview and Development Considerations

The study area is divided into five sub-areas, including 1) the San Leandro Harbor, 2) the Marina Executive Golf Course, 3) the two public parcels at Fairway and Aurora Drives, 4) the two private parcels at Marina and Neptune Drives, and 5) the DMMS. In total, the project area is comprised of approximately 200 acres, all but two private parcels are owned by the City.

The intent of this report is to assist the City of San Leandro in determining what type of development would be appropriate for the different portions of the study area should the City permanently discontinue dredging its Marina basin and federally-authorized entrance channel, reconfigure the harbor to be able to serve smaller vessels (such as kayaks, for instance), and redevelop its marina and its surrounding areas to more effectively serve the City's residents. Although historically the channel was dredged approximately every four to five years and the Marina berthing areas every seven to eight years, this has not occurred since 2001 due to lack of funding, including federal assistance, which the City has historically received from the U.S. Army Corps of Engineers.



SOURCE: ESA

San Leandro Marina Opportunities and Constraints Analysis . 207013

Figure 1
Study Area Location



SOURCE: City of San Leandro

San Leandro Marina Opportunities and Constraints Analysis . 207013

Figure 2
Constraints Study Area

Sub-Area Descriptions

The five sub-areas analyzed throughout this study are described individually and in greater detail below.

San Leandro Harbor

The San Leandro Marina area has operated since the 1960s. Presently, there are several revenue-generating uses at the San Leandro Harbor, including the San Leandro Marina Inn (a 131-room limited service hotel), El Torito Restaurant (250-seat capacity), Horatio's Restaurant (225-seat restaurant), two yacht clubs and a harbor. Other uses on the site include large paved surface parking facilities (a sizeable portion of which are largely unused), a 466-berth marina that is currently about 50 percent occupied, and patches of ornamental landscaping. The Harbor is surrounded by primarily public uses, including the Marina Golf Course (described below) to the east and the Marina Park to the south. A local road network provides vehicle access within the harbor (see Figure 2). Currently, the City is engaged in relocating a boat ramp from its current location near the intersection of South Dike Road and Neptune Drive to an area further east near Mulford Point.

Marina Golf Course

The Marina Golf Course is a 9-hole course, comprised of approximately fifty acres and is located just east of the San Leandro Harbor. This golf course has been in operation since 1963 and is located in an area zoned for public use. Presently, it is made up of maintained landscaping and several small structures used by the facility's patrons and operators. The Marina Golf Course is part of the larger Monarch Bay Golf Club, which also contains the 18-hole Tony Lema Golf Course, a driving range, a clubhouse with restaurants, and a corporation yard; only the corporation yard is considered in detail as part of this report.

Private Parcels (Neptune Drive and Marina Boulevard)

Two adjacent private parcels (under same ownership) are located at the northern edge of the study area, just west of the intersection of Neptune Drive and Marina Boulevard. The northern parcel contains a single-story, single-family home. The southern parcel is vacant with unmanaged vegetation. The privately owned parcels are comprised of approximately 0.75 acre of land. It is assumed that the City of San Leandro would acquire them from their current owner(s) if any redevelopment is to occur on this site. These are the only parcels in the study area that are zoned for residential development.

Public Parcels (Fairway and Aurora Drives)

Two public parcels are located on the eastern boundary of the Marina Golf Course, at the intersections of Fairway and Aurora Drives. The westernmost parcel, which is enclosed with a six-foot slatted chain-link fence, contains a surface parking lot and several buildings and functions as the service (corporation) yard for the golf courses. The eastern parcel houses the

City's Mulford-Marina Branch Public Library, a one-story circular building surrounded by ornamental landscaping.

Dredged Materials Management Site

The Dredged Materials Management Site (DMMS) is bordered by the Estudillo Canal to the north, by the recently restored San Leandro Shoreline Marshlands (SLSM) (also known as the Roberts Landing area) to the south and southeast, by residential development (Marina Vista) to the east, and by the Monarch Bay Golf Club to the west. It is comprised of approximately 100 acres and consists of two enclosed basins – West Basin (Basin 1) and East Basin (Basin 2). Historically, this site has been used as a temporary drying and storage area for sediments that were dredged from the San Leandro channel and marina basin. Levees surround the DMMS with six weirs along the northern levee and one weir at the southern levee to control the flow of water into Estudillo Canal and into the DMMS, respectively. There is also a weir in the DMMS central levee to enable drainage flows between the two DMMS basins. Several bird habitat islands are located within each basin.

Types of Redevelopment Being Considered

No specific programs or projects have been identified for the study area. The City anticipates that possible uses in the study area, excluding the DMMS, would be retail, office, hotel (with a possible conference center), residential, recreational, and open space. These uses are generally consistent with the type of development that exists in the project vicinity, and would best revitalize the Marina. At the point in time when the City may no longer be able to justify economically dredging the San Leandro channel, it is also assumed that ongoing siltation would mean larger boats would no longer be able to effectively use the harbor, and that the berths may need to be reconfigured, removed and/or replaced to accommodate smaller vessels, such as paddle boats and kayaks.

Although this study does not analyze any specific redevelopment options, it addresses the possibility of demolishing existing structures (and, in the case of the San Leandro Harbor, removing some or all of the piles and docks) and constructing new structures which would accommodate any of the aforementioned uses.

The DMMS Site

Due to the unique hydrological and biological characteristics – as well as the regulatory history - of the DMMS site, potential redevelopment options at this site differ greatly from those envisioned for the other sub-areas. Although most land uses that are described above would be appropriate for the other four sub-areas, they would not be suitable for the DMMS for various reasons discussed in Section 2, *Constraints Analysis*, and summarized below.

The biggest hurdle to constructing permanent structures on the DMMS is that it is a designated (although highly disturbed) seasonal wetland that provides habitat for migrating and wintering shorebirds and other wildlife. As such, redevelopment on the site would require multiple permits

from agencies such as Army Corps of Engineers, the Regional Water Quality Control Board (RWQCB), US Fish and Wildlife (USFWS), and California Department of Fish and Game (CDFG). While permits for minor site modifications are routinely granted by these agencies, the City would be required to provide compelling reasons why permanent fill and structures should be constructed on the site at the expense of the existing wetland habitat. Furthermore, any adverse impacts to the sensitive habitat or wildlife attributed to the redevelopment would have to be mitigated by restoring wetlands elsewhere or by implementing other measures (like contributing fees to other agencies to restore habitats that would otherwise be fiscally infeasible).

Another important reason why the DMMS cannot feasibly be redeveloped with permanent fill and/or structures is that it is designated on the FEMA FIRM map (2000) as an area with 100-year flood hazard so development that takes place would be at a high risk for flooding. In addition, under current conditions, the DMMS site has limited transportation access points, which would restrict development due to capacity and emergency access constraints.

As discussed in Chapter 2, *Constraints Analysis*, the DMMS is designated as *Resource Conservation* in the San Leandro General Plan and as *Open Space* in the Zoning Ordinance. These designations indicate that this site should remain undeveloped due to its high environmental sensitivity or should be used for passive recreation (such as hiking trails). Introducing uses on the DMMS that would compromise the character of the site would be in conflict with current City land use policy.

Due to the reasons outlined above, the following options would be considered for the DMMS by the City: (1) operating it as a drying and storage area for dredged materials removed from channels belonging to other marinas (for the purposes of this report, it is assumed that City of San Leandro has permanently discontinued dredging its channel); (2) actively restoring the site in order to provide higher quality wetland habitat than currently exists there; or (3) setting it aside for restoration at a later date as part of a mitigation project or land bank (for developments undertaken in the other portions of the study area or other parts of San Leandro or the greater Bay Area).

1.3 Summary of Consultations with Other Marinas

The following section describes past and proposed developments at four local existing or former marinas: the Palo Alto Baylands (Palo Alto, CA), Loch Lomond Marina (San Rafael, CA), Coyote Point Marina (San Mateo County, CA), and City of Benicia Marina (Benicia, CA). The purpose of this discussion is to inform San Leandro decision-makers of the regional redevelopment/reuse efforts undertaken by local municipalities as well as inform them, where available, of the community responses and/ or regulatory and environmental issues associated with these efforts. A summary table containing key information about these marinas is provided at the end of this section.

Palo Alto Baylands (Palo Alto, CA)

The Palo Alto Baylands are located approximately 20 miles southwest of (and across the bay from) the City of San Leandro. Currently the 2,100-acre Baylands multi-use area includes Byxbee Park, the Palo Alto Municipal Golf Course, the Baylands Athletic Center, the Palo Alto Landfill, a flood control basin, and several natural salt marshes. The Palo Alto Airport (under Santa Clara County jurisdiction) is located just west of the golf course. The existing facilities support a number of recreational uses such as hiking, biking, sailing (small boats only), windsurfing, kayaking and bird watching. Among the wildlife supported by the salt marshes are the salt marsh harvest mouse (*Reithrodontomys raviventris raviventris*) and California clapper rail (*Rallus longirostris obsoletus*).

The Palo Alto Yacht Harbor operated in the Baylands area beginning in 1928. The harbor accommodated 109 berths and supported primarily small boats. From 1963 until 1986, the harbor was operated by the Santa Clara County Parks Department, which had a long-term lease agreement with the City of Palo Alto. As part of this agreement, the County was responsible for dredging the harbor on a regular basis to ensure that passage and storage of boats would not be constrained by siltation.

The Baylands Master Plan, which was adopted in 1978, identified “interim” and “forecast” plans for the harbor, both of which envisioned the eventual restoration of the harbor to salt marsh. The former plan called for continuation of harbor operation and dredging for 15 to 20 years with limited marshland restoration. The latter called for the eventual removal of the yacht club, berths, and all other structures with the exception of the harbor master’s cottage (a historically significant structure), and restrooms. This plan also included the termination of dredging activities, which would have eventually restored the salt marshes on the site through natural siltation.

While the Baylands Master Plan envisioned harbor operations on the site for approximately 15 to 20 years, a voter-approved measure that called for closing down the harbor much sooner passed in November 1984. Following passage of this measure, the harbor was completely shut down and most structures, including docks and piles, were removed. The closing of the harbor required permits from approximately 12 agencies with jurisdiction over the area, including the Bay Conservation and Development Commission (BCDC), State Lands Commission, Department of Fish and Game, Bay Area Air Quality Management District (BAAQMD) and the Regional Water Quality Control Board. The permitting process took about two years to complete. Remaining on the site are the harbor master’s house, which has been restored, the interpretive center and several other small structures.

Following the closing of the harbor and the restoration of the salt marsh, several projects have been carried out on the site with the goal of improving access to the Baylands and restoring additional areas to marshlands. One such project was the “Palo Alto Improvements Project” undertaken in early 1990s. Additionally, in the 1980s and 1990s, the Sea Scouts were involved in trying to repair their facility on the site, which had fallen to disrepair as a result of periodic flooding. Their attempts were unsuccessful and presently, an environmental non-profit is working on restoring this building.

The City of Palo Alto Comprehensive Plan (which functions in the place of a General Plan), contains several policies which serve to ensure that the marshlands, salt ponds, sloughs, creeks, and other natural water and wetland areas are preserved and protected as open space and that urban uses within this area are limited. The California Department of Fish and Game periodically monitors the site and administers permits related to the wildlife that exists there.

Loch Lomond Marina (San Rafael, CA)

The Loch Lomond Marina is located in San Rafael, Marin County, approximately 25 miles northwest of the City of San Leandro. Currently, the marina includes a 517-berth harbor, a restaurant, a bait shop, a canvas repair shop, a boat maintenance and repair shop, a grocery store, a structure that houses the Loch Lomond Yacht Club, and other small buildings intended to serve marina patrons. The marina accommodates boats ranging in size from 30 to 46 feet and is currently about 85 percent occupied.

The desire to redevelop the underutilized Loch Lomond Marina came to the forefront during the update of the City's General Plan, when the vision of encouraging housing and neighborhood commercial development was conceived. Community charettes were conducted and a formal application was filed by a developer in 2005 to develop the "Village at Loch Lomond". The two-phase project would construct a total of 88 housing units, a 0.6-acre public park, and a 20,800-square-foot retail/office building which would include restaurant space and outdoor plaza area. The existing yacht club and boat repair facilities would remain. Approximately 450 parking spaces and 41 dry-dock boat storage spaces were also proposed, although subsequently the dry dock spaces were eliminated. In addition, as part of the project, the Bay Trail would be improved and enhanced.

For the past two years, the City has been involved in preparing environmental compliance documents for the proposed development (pursuant to CEQA), as well as obtaining public input. More than 40 public meetings have occurred to date. Public concerns included traffic and the placement of a 5,000-square-foot retail space, which was perceived by some in the community as a convenience type store that would have potentially negative effects on the urban fabric of the neighborhood. In addition, plans to displace the existing dry dock storage have met some resistance, although the project has been revised to include 16 dry docking stations.

The City engaged BCDC during the planning and environmental review processes. The proposed plan underwent BCDC design review board scrutiny and was approved. Although several of the proposed townhomes and some marina uses encroach within the BCDC shoreline band jurisdiction, the Commission focused on the improved public access and overall concluded the project met the goals of the Bay Plan. The U.S. Army Corps of Engineers were involved, to a lesser extent since the proposed project involved minimum wetland disturbance. Filling a small wetland (278-square-foot) was to be mitigated by enhancing nearby wetlands at a 33:1 ratio.

No "in-water" activities are proposed as part of the Village at Loch Lomond project; therefore the State Lands Commission was not involved in the permitting process. The RWQCB was involved as the proposed project would need to comply with applicable stormwater regulations. To this

end, a comprehensive water quality plan was prepared for the site, which included specific measures to ensure compliance with these regulations. The measures included diverting some of the stormwater runoff into the proposed landscaped/grassy areas to infiltrate, installing catchment basins to pull out some of the sediment prior to discharge, turf block usage, and others. The RWQCB will also be involved with soil remediation as a gas station was located on the site. The Department of Toxic Substances Control (DTSC), USFWS and CDFG, however, have either not been involved or have been involved to a small degree.

The marina redevelopment project is currently undergoing design review, with certification of the EIR completed for the project in August.

Coyote Point Marina

Coyote Point Marina is located in unincorporated San Mateo County, approximately 10 miles south of San Francisco and 10 miles southwest of the San Leandro Marina. The Marina contains 580 berths, a Harbormaster's Office, a yacht club, fuel dock, a three-lane boat ramp, a pump out facility, a restroom, and public recreation areas. The Marina currently has two basins and is part of the 687-acre Coyote Point Recreation Area park site (comprised of 149 land acres and 538 water acres), which also contains a playground, a pistol and rifle range, a museum, and a conference center. A natural tidal salt marsh exists at the southeastern edge of the marina. The eddying affects of prior levee configuration deposits silt, sand, and seashells in the marina. The deposits result in cordgrass and pickleweed sprouting, which forms tidal mudflats in the area. The mudflats provide foraging habitat for migrating and wintering birds, including waterfowl, shorebirds, wading birds, gulls and terns.

The marina is a self-funded unit of the San Mateo County Parks Department, and does not receive funds from the County. Approximately 70 percent of the marina has been dredged over the past three years.

The Coyote Point Marina has operated since the 1940s. Since that time, a number of improvements have been made, including: the construction of the inner berm that separates Basins 1 and 2 (1950s); the construction of the outer berm using sediment dredged from Basin 2 (1961); the paving of the outer berm to accommodate parking and restrooms (1961-1967); and multiple dredging projects that were undertaken in support of the originally planned third basin. While some of the dredged materials were discharged in various marina locations, most of it was historically taken by barge to the Alcatraz Aquatic Disposal Site (SF-11), located immediately south of Alcatraz Island in the central San Francisco Bay.

The marina harbor can currently accommodate boats in slips ranging from 24' to 50' in length and single side ties for vessels up to 22'. The marina is currently 80 percent occupied with primarily smaller boats ranging from twenty to forty feet in length.

The Coyote Point Recreational Area has been the subject of a master planning process since 2000. Currently, the San Mateo County Parks Department is circulating the Draft Coyote Point Recreational Area Master Plan and associated Mitigated Negative Declaration for public review.

The marina and the surrounding marshlands are addressed in these documents as one of the Recreational Area's sub-areas. Improvements that are identified in the Master Plan include the replacement of the Harbor Master office with a temporary structure due to safety concerns, the replacement of Dock 29, and refurbishing the restrooms. The Master Plan designates Special Study Areas that would be analyzed by the County in the future, including the San Francisco Bay Access Trail launch ramp, camping improvements proposed near the Yacht Club, and potential for a third marina basin. Among the permits that will be required prior to implementing the Master Plan (in addition to environmental review pursuant to CEQA) are the following:

US Fish and Wildlife Service, Endangered Species Division

- Section 7 permit – Endangered Species,
- Section 10 permit processing,
- Mitigation banking.

State Water Resources Control Board/Regional Water Quality Control Board

- Section 401 Permit,
- National Pollutant Discharge Elimination System permit
- Storm Water Pollution Program permit

San Francisco Bay Conservation and Development Commission

- permit for shoreline development, including grading within 100 feet of the shoreline
- permits for filling in the Bay or in certain tributaries of the Bay
- permits for dredging materials from the Bay bottom

US Army Corps of Engineers/ US Environmental Protection Agency

- Section 10 permit for any structures in waterways
- Section 404 permits for any activity that would impact wetlands (once a RWQCB section 401 permit has been issued)

Bay Area Air Quality Management District

- permit for demolishing existing structures

California Department of Fish and Game

- Streambed Alteration Agreement

The San Mateo Parks Department recently initiated a planning process that would reconfigure the berths and docks to better meet the current boating trends for larger vessels. This is a separate effort from the Master Planning process.

City of Benicia Marina

The Benicia Marina, in the City of Benicia, is approximately 25 miles north of San Leandro. It is surrounded by multi-family residential uses to the north and west, by a parking lot used by boaters to the east, and a strip of wetland areas and the San Francisco Bay to the south. The full-service Benicia Marina contains a fuel dock, pump-out station, launch ramp, general store, restrooms and showers, laundry facilities and secured gates.

The marina has been in operation since 1977, and was developed as part of a master plan, which included residential and commercial uses near the harbor. The environmental analysis was completed in conjunction with planning efforts, and all necessary master-level permits were obtained at that time. At the time of development, environmental regulations were not as rigorous, and as a result, only minor permits were required from BCDC, the Army Corps of Engineers, and the State Lands Commission.

Within the past fifteen years, all the planned residential units have been constructed and occupied. The commercial development, however, was blocked following a community-initiated city-

approved measure, which rezoned the areas previously set aside for commercial uses to “waterfront, open space,” thus preventing commercial redevelopment. Community opposition to the commercial uses stemmed from the fact that the development would obstruct views of the bay for residents.

Although the occupancy rate at the marina is over 90 percent, reconfiguration of slips will likely occur in the near future, which would convert 30-foot slips to 40- and 45-foot slips, due to market demand. The marshlands that border the marina to the south are established and do not require regular maintenance; however, wetland improvements in the recent past required collaboration with BCDC.

The Benicia channel is approximately 850 feet long and dredging is undertaken annually at a high expense to the City (approximately \$170,000 per dredge cycle). Because the proposed commercial project was never undertaken, the City had to develop alternative financing for the dredging, which would otherwise have come from tax revenues associated with the commercial uses. Currently, the City’s general fund subsidizes the Marina fund and the City runs a budget deficit associated with the dredging. However, it is estimated that after 2024, the costs of renting out the berths will be greater than the cost of the marina mortgage, at which point the cost of dredging will be comparatively less expensive and the marina fund would become self-sufficient.

1.4 Scope and Methodology

This evaluation is based on site reconnaissance (July 5 and 24, 2007), review of pertinent background documentation, and computer database searches. Documents and persons consulted are listed in Chapter 4 *References*.

The primary purpose of this analysis is to evaluate possible environmental constraints affecting any possible development of the study area. Accordingly, the emphasis of this report is on

evaluating potential environmental constraints of each sub-area and describing the resulting potential environmental impacts. Specific analysis topics include land use and recreation, biological resources, geology and soils, hazardous materials, drainage and water quality, transportation and circulation, noise, air quality, and public services and utilities.

**TABLE 1-1
SUMMARY TABLE OF CONSULTATIONS WITH OTHER MARINAS**

	Palo Alto Baylands	Loch Lomond Marina	Coyote Point Marina	City of Benicia Marina
Location (in relation to San Leandro Marina)	20 miles southwest	25 miles northwest	10 miles southwest	25 miles north
Size	2,100 acres	Approximately 30 acres of dry land, 40 acres of marina basin, and 60 acres of water.	687 acres (Coyote Point Recreation Area)	N/A
Existing Uses	Park, golf course, athletic center, landfill, flood control basin, and several natural salt marshes.	517-berth harbor, restaurant, bait shop, repair shop, grocery store, yacht club.	580-berth harbor, office, yacht club, fuel dock, boat ramp, pump out facility, restroom, public recreation areas.	Fuel dock, pump-out station, launch ramp, store, restrooms and showers, laundry facilities and secured gates.
Prior Actions	1980s: Closure of marina and restoration of harbor to salt marshes.	N/A	1950s-1960s: Construction and paving of berms, dredging projects.	1977: Marina developed as part of a master plan.
Proposed Actions	None.	2005: "Village at Loch Lomond" -residential uses, public park, retail, office, restaurant uses, improvement of Bay Trail. Yacht club and boat repair facilities to remain.	2000: "Coyote Point Master Plan" – Replacement of several marina-serving facilities, reconfiguration of berths.	None.
Key Environmental and Regulatory Issues	Close proximity to sensitive habitats (Salt marsh harvest mouse, California clapper rail), restoration of harbor required extensive permitting from and collaboration with multiple agencies, periodic flooding.	Traffic impacts, proposed construction of a retail space that was perceived to have the potential to result in adverse socio-economic impacts, encroachment within BCDC Shoreline Band jurisdiction.	Natural tidal salt marsh at southeastern edge of marina provides foraging habitat for migrating and wintering birds, extensive permitting will be required from multiple agencies.	Community opposition to planned commercial uses, alternative finance scheme implemented to finance dredging.

SECTION 2

Constraints Analysis

The study area analyzed in this report consists of public (City-owned) parcels, several private parcels, and the Dredge Materials Management Site (DMMS). While a project has not yet been defined, the area is envisioned to be redeveloped into a mixed-use development encompassing a combination of retail, potential office, hotel, potential residential, recreational, open space uses as well as habitat restoration or dredged materials management areas.

The following environmental analysis examines select environmental issue areas that could potentially be impacted by future development. The discussion for each issue area includes setting, regulatory framework, methodology, evaluation criteria, and identification of potential environmental and regulatory constraints to site development. It is important to note that the analysis of constraints considers only development options that the City is currently considering. Moreover, any future development proposal would be required to undergo full environmental analysis at the time of application.

A summary table at the end of each issue area discussion indicates the level of environmental and regulatory constraint applicable to those pertinent sub-issues.

2.1 Land Use

Setting

The following land use discussion highlights key policies likely to be of concern to the local land use agency, in this case, the City of San Leandro. It is not a comprehensive policy review, nor a formal public policy interpretation, which would typically include consultation with local planning agency staff. Potential inconsistencies with such policies relate to, but do not necessarily represent, physical environmental constraints to site development.

Ranging from urban to recreational, land uses along the San Leandro bayshore serve many different purposes. The northern shorelines (north of Williams Street and approximately one quarter mile north of the project site) are highly industrialized, while the interior sections, including the project site, are suburban/residential, commercial, and light industrial. The southern shoreline, including the project area, is devoted to recreational uses, with some supporting commercial. Protected wetlands, owned by the City, flank the shoreline to the south of the project area. The wetlands are the recently (1995) restored San Leandro Shoreline Marshlands (SLSM)

(part of a larger area known as Roberts Landing). Industrial uses line the railroad tracks east and north of the project area.

Sub-Area Surrounding Uses

Descriptions of the existing uses on the five sub-areas analyzed in this report are provided in Section 1, *Project Description*. Land uses which surround each sub-area are listed below.

- San Leandro Harbor is generally bounded on the north, west and south by the San Francisco Bay and on the east by Monarch Bay Road, which is adjacent to the Marina Golf Course.
- The Marina Golf Course is generally bounded on the west by Monarch Bay Drive, on the east by residential land uses, on the north by Marina Boulevard, and on the south by Marina Park and Monarch Bay Golf Club.
- The public parcels at Fairway Drive and Aurora Drive are bounded by the Marina Golf Course to the west and by single-family residential uses to the north, east and south.
- Two adjacent private parcels at Neptune Drive and Marina Boulevard are bounded by the San Francisco Bay to the west, by single- and multi-family residential uses to the north and east, and by the Marina Golf Course to the south.
- The Dredged Materials Management Site (DMMS) is bordered by the Estudillo Canal to the north, by wetlands to the south and southeast, by residential development (Marina Vista) to the east, and by the Monarch Bay Golf Course to the west.

Regulatory Framework

The discussion of major land use policies is based on a preliminary review of the City of San Leandro General Plan 2015, which was adopted in 2002, and the San Francisco Bay Plan that is implemented by the Bay Conservation and Development Commission. Land use incompatibilities often result from other impacts of a project, such as noise and traffic. These issues would typically be discussed and evaluated in an environmental document (i.e., Initial Study or Environmental Impact Report) to be prepared once a specific redevelopment project is proposed.

San Francisco Bay Conservation and Development Commission and the San Francisco Bay Plan

The Bay Conservation and Development Commission (BCDC) is the California state commission charged with the protection and enhancement of San Francisco Bay. The San Francisco Bay Plan (Bay Plan) was originally adopted by BCDC in 1968 and transmitted to the California Legislature and the Governor in 1969, thereby completing its original charge given to it in the provisions of the McAteer-Petris Act of 1965, which mandated the study of the Bay. Among other conclusions, the Bay Plan concluded that “[t]he most important uses of the Bay are those providing substantial public benefits and treating the Bay as a body of water, not as real estate.” Major plan proposals in the Bay Plan include the development and preservation of land for water-related industry;

development of waterfront parks and recreation facilities; maintenance of wildlife refuges in diked historic baylands; and encouragement of private shoreline development (i.e., water-oriented housing) (BCDC, 2003).

Bay Conservation and Development Commission Jurisdiction

A large portion of the project area is located within BCDC Bay and Shoreline Band Jurisdiction. The Bay jurisdiction includes all tidally influenced portions of the site up to Mean High Tide or, in tidal marshes, up to 5 feet above mean sea level. The shoreline band jurisdiction is a 100-foot-wide portion of the upland measured inland from the edge of the Bay jurisdiction.

Bay Plan Policies

Dredging and Filling. A permit from BCDC is required for any Bay filling or dredging within BCDC jurisdiction. A permit must be obtained prior to placing fill or dredging. For purposes of the Bay Plan, fill is defined to include earth or any other substance or material placed in the Bay, including piers, pilings, and floating structures moored in the Bay for extended periods. Public hearings must be held on all permit applications except those of a minor nature.

Shoreline Development. A permit from BCDC is required before proceeding with shoreline development. Permits may be granted or denied only after public hearings and after the process for review and comment by the city or county has been completed. The Commission should approve a permit for shoreline development if the agency specifically determines that the proposed project is in accordance with defined standards for use of the shoreline, provision of public access, and advisory review of appearance. The McAteer-Petris Act specifies that for areas outside the priority use boundaries, the Commission may deny a permit application for a proposed project only on the grounds that the project fails to provide maximum feasible public access to the Bay and shoreline consistent with the project. Shoreline development should increase public access to the Bay to the maximum extent feasible.

Other Uses of the Bay and Shoreline

Policy 1: Shore areas not proposed to be reserved for a priority use should be used for any purpose (acceptable to the local government having jurisdiction) that uses the Bay as an asset and in no way affects the Bay adversely. This means any use that does not adversely affect enjoyment of the Bay and its shoreline by residents, employees, and visitors within the site area itself or within adjacent areas of the Bay or shoreline.

Policy 2: Accessory structures such as boat docks and portions of a principal structure may extend on piles over the water when such extension is necessary to enable actual use of the water, e.g., for mooring boats, or to use the Bay as an asset in the design of the structure.

Policy 3: Wherever waterfront areas are used for housing, whenever feasible, high densities should be encouraged to provide the advantages of waterfront housing to larger numbers of people. (BCDC, 2003)

State Lands Commission

The mission of the California State Lands Commission is to manage some 4.5 million acres of land held in trust for the people of California. The State holds these lands for all the peoples of the State for the public trust purposes of water related commerce, navigation, fisheries, recreation, and open space. The State Lands Commission deeded away State holdings in the project area, and therefore relinquished its jurisdiction over any of the project area. No permits would, therefore, be required from the State Lands Commission for the redevelopment of the study area.

Airport Land Use Policy Plan (ALUPP)

The function of the Alameda County Airport Land Use Commission (ALUC) Airport Land Use Policy Plan (ALUPP) is to promote compatibility between the public use airports in Alameda County and the land uses that surround them. As adopted by the ALUC, the ALUPP serves as a tool for use by the ALUC in fulfilling its duty to review airport and land use development proposals within the Airport Influence Area (AIA). Additionally, the ALUPP establishes compatibility criteria for use by local agencies in their preparation or amendment of land use plans and ordinances and by land owners in their design of new development.

The ALUPP is concerned with land uses near the three public-use airports in Alameda County: Hayward Executive Airport (HWD), Livermore Municipal Airport, and Oakland International Airport (OAK). The airport influence areas associated with each airport includes one or more of the following jurisdictions: Alameda County and the cities of Alameda, Dublin, Hayward, Livermore, Oakland, Pleasanton and San Leandro. In addition to the land use policies applicable within the airport influence areas, certain elements of the ALUPP apply countywide to development actions that may have aviation-related compatibility implications.

ALUC is currently updating the ALUPP. The updated version will be published in three volumes, each volume corresponding to each airport within Alameda County. The draft version of the document is anticipated to be available to the public by 2008.

Based on the ALUPP, the project site is located within the boundaries of the OAK designated *ALUC Height Referral Area* and *ALUC Hazard Prevention Zone*, although it is not within the boundaries of the OAK designated *ALUC Safety Zone* or *ALUC Noise Zone*. Part of the study area is also within the boundaries of the HWD *Height Referral Area*. Regarding potential limitations on land use and development that an ALUPP could impose, there are typically four land use compatibility factors that would need to be considered for any possible development within the study area: Noise, Safety, Airspace Protection, and Overflight.

Noise: Certain types of noise-sensitive land uses (i.e., schools, hospitals, places of worship, etc.) are typically prohibited or restricted within certain CNEL¹ contours. As discussed further in the report, the majority of the project site is within areas corresponding to

¹ CNEL or Community Noise Equivalent Level is a measurement of the sound level, averaged over a 24 hour period. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

between 60 dB CNEL and 65 dB CNEL relative to aviation noise. Therefore, development of residential uses may require sound insulation and other measures to reduce indoor noise levels.

Safety: This category typically determines the number of new dwelling units that would be acceptable within certain parts of an airport's environs, as well as density/intensity criteria for nonresidential uses. The study area is not within the designated *ALUC Safety Zone*, therefore this is not considered a land use constraint.

Airspace Protection: Airspace protection is dictated by Federal Aviation Regulation Part 77, which determines the height of objects in an airport's environ. The study area is within the *ALUC Height Referral Area* for Oakland and Hayward Airports; therefore, height restrictions will apply to portions of the site which are in the approach path of an airport runway. According to ALUPP, "for an airport runway more than 3,200 feet in length, a sloping surface identifies the airspace above one foot in height for each 100 feet (100:1) horizontally from the nearest point of the nearest runway, up to 20,000 feet." The closest sub-area to the nearest runway (Runway 11/29) is the San Leandro Harbor, located approximately 5,800 feet from the southeastern end of the runway. Structures in this area would, therefore, be limited in height to approximately 58 feet (not withstanding height restrictions imposed by the Zoning Code). Structures further away would be permitted to be slightly taller (for example, approximately 70 to 80 feet on the Marina Golf Course).

Overflight: Overflight means that a real estate agent or property owner would be required to disclose to a buyer the potential of aircraft overflight due to the property's proximity to an airport. Overflight could also require other policies like aviation easements, which refer to the right to use the airspace above a specified altitude for aviation purposes.

City of San Leandro General Plan

The City of San Leandro General Plan Land Use Element describes the city wide land use policy framework, which consists of twelve general goals with related objectives and policies, as well as descriptions of the land use categories which are applied to the land use maps. The Land Use Element is the centerpiece of the General Plan. The Land Use Element contains a general goal to recognize and take advantage of the unique business amenities offered by the San Leandro Marina/Shoreline area, which contains the study areas. Goals that would apply to the redevelopment of the study area are provided below:

Goal 9.01 – Neighborhood Impacts: Maintain an ongoing dialogue with residents of neighborhoods adjacent to the Marina to address traffic, noise, and other issues associated with Marina operations and future development.

Goal 9.02 – General Enhancement: Enhance the San Leandro Marina area as a distinguished recreational shoreline, with complementary activities that boost its appeal as a destination for San Leandro residents and visitors.

Goal 9.03 – Water-Oriented Development: Capitalize upon the Marina's potential to attract and support water-oriented development. Future projects should be compatible with the area's scenic and recreational qualities.

Goal 9.04 – Revenue Generation: Encourage future uses and activities at the marina which provide the revenue necessary to enable continued operation and maintenance of the boat berthing, basin, channel, landside, and other related activities.

Goal 9.07 – Urban Design: Encourage cohesive urban design and high-quality architecture at the Marina. Buildings should be oriented to maximize water views and shoreline access.

Methodology and Criteria

Land use issues considered in this evaluation are based on general principles put forth in CEQA Guidelines Appendix G. They include the following:

- Physical division of an established community; and
- Inconsistency with land use plans, policies or regulations of an agency with jurisdiction over the project, related to protection of the physical environment.

The following thresholds are used to determine land use constraints:

- *High Constraint* if the project would require extensive mitigation (or if mitigation may not be feasible) in order to achieve project compatibility with on-site and adjacent land uses.
- *Moderate Constraint* if the project would require limited mitigation in order to achieve project compatibility with on-site and adjacent land uses.
- *Low Constraint* if the project would require no or minimal mitigation in order to achieve project compatibility with on-site and adjacent land uses.

Evaluation

A discussion of land use constraints for each study sub-area is presented below. Table 2.1-1 provides a summary of existing uses, land use designations and zoning controls identified for each study sub-area. Table 2.1-2, at the end of this discussion, summarizes the Land Use and Policy Constraints. The proposed land uses considered for the project area include: retail, office, hotel (with a possible conference center), residential, recreational, and open space.

City of San Leandro General Plan and Zoning Code Consistency Analysis

San Leandro Harbor

The General Plan land use designation for the San Leandro Harbor is *General Commercial*. This designation is characterized by larger shopping centers, shopping districts, and commercial uses providing a broader range of goods and services and serving a broader market than neighborhood commercial areas. Uses are generally designed for the convenience of people arriving by car.

**TABLE 2.1-1
SUMMARY OF EXISTING USES AND LAND USE/ZONING CONTROLS**

Site	Existing Uses	Redevelopment Options	General Plan Designation	Zoning Designation	Maximum Allowable Height	FAR
San Leandro Harbor	Operational marina and recreation areas; Commercial uses (hotel and restaurants)	Small boat marina, retail, office, residential, hotel (with conference center), recreational, open space	General Commercial	Commercial Recreation	40	0.3
Marina Golf Course	Nine-hole golf course and supportive uses	Retail, office, residential, hotel (with conference center), recreational, open space	Parks and Recreation	Open Space	N/A	N/A
Public Parcels (Fairway and Aurora Drives)	Library and surface parking/light industrial uses	Retail, office, residential, recreational	Parks and Recreation	Commercial Recreation	40	0.3
Private Parcels (Neptune Drive and Marina Blvd)	Single-family dwelling and vacant lot	Retail, office, residential, recreational	Garden Density Residential	Residential Outer	30	N/A
DMMS	Storage and drying area for dredged sediment	Drying and storage area for dredged materials (from other jurisdictions), actively restored wildlife habitat	Resource Conservation	Open Space	N/A	N/A

Source: San Leandro General Plan 2015; San Leandro Zoning Code

Permitted uses in the *General Commercial* designation include supermarkets, department stores, apparel stores, theaters, and non-retail uses such as offices and banks, as well as primarily auto-oriented uses (i.e., hotels and motels, car dealerships, and construction suppliers). The types of development that would be considered by the City on this site include a hotel with conference facilities, commercial uses such as retail establishments and/or offices, residential uses (either single- or multi-family) or recreational facilities.

The San Leandro Harbor zoning designation is *Commercial Recreation*. Uses generally permitted in this zoning district include eating and/or drinking establishments, marine sales and service, park and recreation facilities, retail sales, theaters and travel services. Most of the City's prospective uses for the site would be consistent with the site's General Plan and zoning designation; however, some uses, such as residential, would require an amendment to the General

Plan and the Zoning Code. Therefore, the land use consistency constraint for this site would be **moderate**.

**TABLE 2.1-2
SUMMARY OF LAND USE AND POLICY CONSTRAINTS**

Location	Divide an Establish Community	Conflict with Plans, Policy, or Regulation	Overall Constraint
San Leandro Harbor	Low	Moderate	Moderate
Marina Golf Course	Low	Moderate	Moderate
Public Parcels (Fairway and Aurora Drives)	Low	Moderate	Moderate
Private Parcels (Neptune Drive and Marina Boulevard)	Low	Moderate	Moderate
DMMS	Low	Low	Low

Marina Golf Course

Marina Golf Course has a General Plan land use designation of *Parks and Recreation*. This designation denotes land which is used for active recreational purposes, including neighborhood, community, and regional parks, golf courses, and the recreational amenities at the San Leandro Marina. Permitted uses include athletic fields and sports facilities, civic buildings with a primarily recreational or social function, and leisure oriented uses (e.g., picnic areas, boat slips, and tot lots). The zoning designation for the Marina Golf Course is *Open Space*. Uses permitted in an Open Space District include managed open space intended for the protection of natural habitat. Park and Recreation facilities are a conditionally permitted use in this district.

The City is considering several types of development on this site, including retail, office, residential, hotel, recreational and open space. With the exception of recreational use and open space, the uses being considered by the City for development would be inconsistent with the land use designation for the site and conflict with the San Leandro Zoning Code. Because certain uses would require an amendment to the General Plan and the Zoning Code, the land use consistency constraint for Marina Golf Course would be **moderate**.

Public Parcels (Fairway Drive and Aurora Drive)

The General Plan land use designation for the Public Parcels is *Parks and Recreation*. Under this designation, land is used for active recreational purposes, including neighborhood, community, and regional parks, golf courses, and the recreational amenities at the San Leandro Marina. Permitted uses include athletic fields and sports facilities, civic buildings with a primarily recreational or social function, and leisure oriented uses (e.g., picnic areas, boat slips, and tot lots).

The Public Parcels are zoned as *Commercial Recreation*. Uses permitted in this zoning district include eating and/or drinking establishments, marine sales and service, park and recreation facilities, retail sales, theaters and travel services. Based on existing General Plan and Zoning Code designations, the most appropriate redevelopment options on this site would be civic, recreational, or restaurant uses. Residential, hotel, or office uses would require an amendment to the General Plan and Zoning Code. Therefore, the land use consistency constraint for the public parcels at Fairway and Aurora Drives is **moderate**.

Private Parcels (Neptune Drive and Marina Boulevard)

The private parcels at Neptune Drive and Marina Boulevard have a General Plan land use designation of *Garden Density Residential*. This designation is intended for detached single family homes in a country or semi-rural environment. Permitted uses include small-scale commercial gardens and animal husbandry, consistent with the residential character of the area.

The Zoning designation of these parcels is *Residential Outer*. This district has a purpose of providing opportunities for additional single- and two-family dwellings on larger lots, subject to appropriate standards and to permit horticulture, animal husbandry, and small-scale truck gardening within limitations consistent with the basic residential character of the district. Permitted uses include animal husbandry, day care, garage and yard sales, limited horticulture, park and recreation facilities, limited residential care, and single-family residential. While residential or park facilities would be permitted on this site, all other options being considered by the City would require an amendment under the General Plan and Zoning Code. Therefore, the land use consistency constraint for the private parcels at Neptune Drive and Marina Boulevard is **moderate**.

Dredged Materials Management Site (DMMS)

The General Plan land use designation of the DMMS is *Resource Conservation*. This designation denotes land which is to remain undeveloped due to high environmental sensitivity, or land to be used primarily for passive recreation (such as walking trails). Development is generally not permitted in Resource Conservation areas; the land is to be managed to enhance and restore its natural features. The DMMS is zoned as *Open Space*. Uses permitted in an Open Space District include managed open space intended for the protection of natural habitat.

No new permanent fill or structures are currently being envisioned for the DMMS site (reasons for this assumption are provided in Section 1, *Project Description*). Possible options that the City could consider for the site include operating it as a drying and storage area for dredged materials removed from channels belonging to other marinas or actively restoring the site either at the time of Marina redevelopment or at a later date, as mitigation measure for other developments. All of these options would likely require permits from US Fish and Wildlife Service, California Department of Fish and Game, and/or U.S. Army Corps of Engineers, but would be generally consistent with the uses envisioned for this area by the San Leandro General Plan and Zoning Code. The land use consistency constraint for the DMMS is **low**.

Conclusion

Land use setting and regulatory policies would moderately constrain the redevelopment of the San Leandro Marina. Depending on the redevelopment options chosen by the City, all of the evaluated sites, with the exception of the DMMS, may require a change in the General Plan and/or Zoning Code. In addition, parcels within the 100 feet mean high tide line would be subject to BCDC development regulations, as described above. The redevelopment of the area, would not, however, divide an establish community, as it would require City planning review during the conception and processing phases.

2.2 Biological Resources

Setting

The study area includes the San Leandro Harbor, the Marina Golf Course, two public parcels located northwest of the intersection of Fairway Drive and Aurora Drive, two private parcels located to the northwest of the intersection of Neptune Drive and Marina Boulevard, and the Dredged Materials Management Site (DMMS). The study area is bordered on the south by the 315-acre, recently restored San Leandro Shoreline Marshlands (SLSM) (also known as Roberts Landing area). The topography of the study area is flat.

Special Status Plants

Appendix A lists eight special-status² plant species potentially occurring at the five sub-areas based on documented observations within the area, according to the California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDDB) and California Native Plant Society for the San Leandro 7.5 minute topographic quadrangle. Because these sub-areas are all highly disturbed and contain very little (if any) natural habitat, it is unlikely that any of these plants are present in the study area.

Special Status Wildlife

Appendix A also lists 22 special-status animal species potentially occurring in the five sub-areas. Three species have a high potential of occurrence in the project vicinity: the salt marsh harvest mouse (*Reithrodontomys raviventris raviventris*) and the California clapper rail (*Rallus longirostris obsoletus*) are known to occur in the wetlands immediately south of the study area; and monarch butterflies (*Danaus plexippus*) congregate in the grove of eucalyptus trees in the Marina Golf Course during the fall and winter months. In addition, there is a possibility of encountering mature breeding birds in association with project area trees or the vegetated island in the Dredge Materials Management Site (DMMS). These species are considered below.

² The term "special-status" species includes those that are listed and receive specific protection defined in federal or state endangered species legislation, as well as species not formally listed as threatened or endangered, but designated as rare or sensitive on the basis of adopted policies and expertise of state resource agencies or organizations, or policies adopted by local agencies such as counties, cities, and special districts to meet local conservation objectives.

Salt Marsh Harvest Mouse

The salt marsh harvest mouse (SMHM) is a federally endangered species. Two species of harvest mice (genus *Reithrodontomys*) occur in the Pacific states. The western harvest mouse (*R. megalotis*) is widespread in upland habitats throughout the Pacific region. The SMHM is restricted to saline emergent wetlands in the San Francisco Bay Area. These two closely-related species overlap at the upper edges of marshes and in marsh fringe areas (Fisler, 1965).

Two subspecies of the SMHM are endemic to the salt and brackish marshes bordering San Francisco Bay. The northern subspecies (*R. r. halicoetes*) inhabits saline emergent wetlands bordering Suisun and San Pablo Bays, while the southern subspecies occurs in central and south San Francisco Bay. Preferred habitat of this species occurs at the mid-to higher-elevation tidal wetlands and adjacent transition zones which provide refugia during extreme high tides (S.F. Estuary Project, 1992). Mice have been shown to congregate at the upper edges of marshes during the winter months and scatter out into the pickleweed (*Salicornia virginica*) during the summer months, regardless of tidal stage (Fisler, 1965).

This species is dependent on densely vegetated tidal marshes dominated by pickleweed (Fisler, 1965). Studies have shown that the best type of pickleweed association for harvest mice has 100 percent cover, 60 percent or more of which is pickleweed, and with a cover depth of 30-50 cm at summer maximum (USFWS, 1984). These areas typically support a diverse mixture of annual and perennial herbaceous vegetation at higher elevations.

SMHM live on leaves, seeds and stems of plants. In winter, they seem to prefer fresh green grasses. The rest of the year, they tend toward pickleweed and saltgrass.

Leitner's recent trapping efforts in 1997, 1998, and 1999 verified the presence of SMHM in the SLSM, immediately south of the study area and adjacent to the DMMS (Leitner, 1997; 1998; 1999). Although a lack of nesting and foraging habitat (in particular, a lack of pickleweed) makes the study area unsuitable for this species, individual SMHM may occasionally stray into the DMMS.

Clapper Rail

The California clapper rail (CCR) is a federal and State-listed endangered species. It is a resident subspecies of clapper rail that occurred historically in the tidal salt and brackish water marshes of San Francisco, as well as sporadically in marshes from Morro Bay north to Humboldt Bay (USFWS, 1984). Habitat for this species steadily eroded over the last century due to marsh destruction for salt ponds, agricultural lands, and bay fill and the relative lack of upland cover in many estuarine areas has also reduced habitat quality for California clapper rail. Of the 193,800 acres of tidal marsh that bordered San Francisco Bay in 1850, about 30,100 acres remain - an 84 percent reduction (USFWS, unknown date). Furthermore, a number of factors limit the habitat value of the remaining tidal marshes for the CCR, such as high levels of mercury, high levels of predators, and insufficient space.

Four characteristic features characterize CCR habitat: (1) an extensive network of tidal sloughs providing direct tidal circulation; (2) salt and brackish marshes dominated by perennial pickleweed with extensive stands of pacific cordgrass in the lower marsh elevation zones (in brackish marshes this species also uses areas supporting bulrush [*Scirpus* spp.]); (3) extensive marsh cover in the upper tidal zone consisting of pickleweed and marsh gumplant; and (4) abundant invertebrate populations for feeding, especially mussels (*Mytilus californianus*, *Ischadium demissum*) and mud crab (*Hemigrapsus oregonensis*) (S.F. Estuary Project, 1992).

The CCR frequents shallow water areas and mud flats with overhanging vegetation, where mussels and crabs are most abundant. During high tide events this species moves to upper transitional vegetation zones away from the waxing tide. Nests are typically constructed adjacent to relatively narrow channels with vegetated edges, which are the rail's preferred feeding areas. For predator avoidance, nest platforms are typically covered with cordgrass, pickleweed, gumplant, salt grass, or drift materials (USFWS, 1984). The breeding season of CCR begins by February. Nesting starts in mid-March and extends into August, with two peaks in nesting activity – during late April to early May, and late June to early July (USFWS, 1984). The end of the breeding season is typically defined as the end of August, which corresponds with the time when eggs laid during renesting attempts have hatched and young are mobile (USFWS, 1984).

2005 and 2006 surveys by the Invasive Spartina Project confirmed CCR presence in the SLSM (Spautz and McBroom, 2006). Although the study area lacks suitable nesting and foraging habitat, individuals may nest nearby in the adjacent salt marsh, and wander into or along Estudillo Canal immediately north of the DMMS.

Monarch Butterfly

Although the monarch butterfly (*Danaus plexippus*) is not a federal or California protected species, overwintering grounds are considered significant and unique by the State of California. In addition, the City of San Leandro Municipal Code (adopted in Title 4, Chapter 4-1-1000 of the City Municipal Code) prohibits the interference of these butterflies during the entire time they remain within the San Leandro Marina, Tony Lema Golf Course and Marina Golf Course, in whatever spot therein they may choose to stop.

In the fall, monarchs migrate through the western states and the southern portions of western Canada to overwintering sites along the California sea coast, extending from Mendocino County south along the coast to the Ensenada region of Baja California Sur. One of these overwintering sites is located at the eastern end of the Monarch Bay Golf Complex near the intersection of Aurora and Fairway Drives, where they congregate in large numbers from October through January. Every year they return to the same grove of trees, which provides a moderate microclimate extreme, and protection from strong winds. These butterflies begin mating in late January, and by March they leave the colony on their spring migration.

Roosting monarch butterflies do not appear to be highly sensitive to noise, movement, or visual intrusion from nearby people or vehicles, but can be disturbed by vibrations resulting from noise originating near roost trees. The greatest potential impact to overwintering grounds are long-term

microclimate changes – cold, moist conditions are detrimental to the monarchs, and these conditions may be instigated by altering nearby vegetation, wind patterns, and waterways.

Raptors and Breeding Birds

Birds such as red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), great-horned owl (*Bubo virginianus*), northern harrier (*Circus cyaneus*), and white-tailed kite (*Elanus leucurus*), among others listed in Appendix A may nest in study area trees, on buildings, or in the small patch of grasslands in the DMMS site.

Regulatory Framework

Special Status Species

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). Two federal agencies oversee the FESA: the U.S. Fish and Wildlife Services (USFWS) has jurisdiction over plants, wildlife, and resident fish, while the National Marine Fisheries Service (NMFS) has jurisdiction over anadromous fish and marine fish and mammals. Section 7 of the FESA mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. The FESA prohibits the “take”³ of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery.

Section 10 of the FESA requires the issuance of an incidental take permit before any public or private action may be taken that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt any individual of an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of individuals that may occur, incidental to implementation of the project, by providing for the overall preservation of the affected species through specific mitigation measures. Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present in the project area and whether the proposed action will have a potentially significant impact on such species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species proposed to be listed under the FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]).

Similarly, the permitting responsibilities of the Corps include consultation with the USFWS and NMFS when federally listed species (i.e., listed under the FESA) are at risk. At both the state and

³ “Take” is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

federal levels, the process requires that a Biological Assessment be prepared to determine the effects on listed species. Under both USFWS and CDFG policy, species of concern are not subject to the same consultation requirements as listed endangered, rare, or threatened species, but the agencies encourage informal consultation for species of concern that may become officially listed before completion of any CEQA process.

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFG is responsible for maintaining a list of threatened and endangered species (California Fish and Game Code 2070). The CDFG also maintains a list of candidate species, which are species that the CDFG has formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. The CDFG also maintains lists of species of special concern that serve as watch lists. Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFG encourages informal consultation on any proposed project that may affect candidate species. Any project-related impacts to species on the CESA endangered list or threatened list would be considered significant in this environmental document. Impacts to species of special concern would be considered significant under certain circumstances.

Other Statutes, Codes, and Policies Affording Limited Species Protection

Nesting and Migratory Birds

All native breeding birds (both common and special-status) are protected under Section 3503 of the California Fish and Game Code (the Code), although game birds may be taken with a hunting license; raptors are protected under Section 3503.5 of the Code; and both Section 3513 of the Code and the Federal Migratory Bird Treaty Act (16 USC, Sec. 703 Supp. I, 1989) prohibit the killing, possession, or trading of migratory birds. Finally, Section 3800 of the Code prohibits the taking of non-game birds, which are defined as birds occurring naturally in California that are neither game birds nor fully protected species. Impacts to these species would not be deemed significant unless they are known or have high potential to nest in the study area or to rely on it for primary foraging.

Monarch Butterflies

As discussed above in Special Status Wildlife, the City of San Leandro has a Monarch Butterfly Protection Ordinance (adopted in Title 4, Chapter 4-1-1000 of the City Municipal Code) that prohibits the disturbance or harm of overwintering monarch butterflies within the City.

Wetlands

Federal

Under section 404 of the Federal Clean Water Act (CWA), waters of the United States (including wetlands) are subject to Corps jurisdiction. Section 404 regulates the dredging and filling of U.S. waters. A Section 404 permit is required for project construction activities including placement of fill materials or excavation of waters of the United States or adjacent wetlands. In reviewing Section 404 permit applications, the Corps stresses avoidance of impacts, minimization of unavoidable impacts, and mitigation of unavoidable impacts.

State

The state's authority in regulating activities in waters and wetlands resides primarily with the CDFG and the State Water Resources Control Board (SWRCB). CDFG provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. CDFG is also authorized under the California Fish and Game Code, Section 1600-1616, to enter into a Streambed Alteration Agreement with applicants and develop mitigation measures when a proposed project would obstruct the flow or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams. The SWRCB, acting through the nine Regional Water Quality Control Boards, must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act). The SWRCB may also require Waste Discharge Requirements (WDR) (or waiver thereof), in addition to 401 Certification and may require water quality requirements or conditions separate than those set forth in the 404/401 permitting process.

Wetland jurisdictional features may be defined and regulated differently as a result of the recent Supreme Court decision, *Rapanos et ux., and et al. v. United States* (No. 04- 1034) as decided on June 19, 2006.

Methodology and Criteria

Biological resource issues considered in this evaluation are based on general principles set forth in CEQA *Guidelines* Appendix G, and laws, regulations, guidelines and policies employed by the primary agencies charged with natural resources management Corps, U.S. Fish and Wildlife Service (USFWS), and California Department of Fish and Game (CDFG). Three categories of potential resources – wetlands, and special-status plant or animal species – were analyzed. Further in-depth surveys would be required as part of any CEQA review or additional permitting.

The following thresholds are used to determine biological constraints:

- *High Constraint* if the project would affect known or highly likely locations of (and suitable habitat for) plant or animal species (individuals or populations) listed or currently proposed for listing by the state or federal government as endangered or threatened, or species of local importance, where adequate mitigation would not be feasible or would entail considerable expense or delay. An example would be impacts to potentially occupied aquatic habitat for California freshwater shrimp (endangered at the state and federal levels).

In some cases, this constraint may be reached when, in addition to listed species issues, organisms with a “Species of Special Concern” (or other designation of rarity at the state level), are known to be present, or the site possesses vegetative resources that are considered to be (1) significant by the state or federal governments; (2) communities which, if degraded on-site, might result in a dramatic change in plant and wildlife patterns on-site and in the vicinity, or (3) protected by state or federal law or regulation (e.g., Section 404 of the Clean Water Act, Sections 1600 *et seq.* of the California Fish and Game Code).

- *Moderate Constraint* if the project would affect known locations of (and suitable habitat for) plant or animal species (individuals or populations) listed by the state or federal government as endangered or threatened, or with other special-status, where adequate mitigation for habitat *would* be feasible. An example would be a burrowing owl potential nesting site (California Species of Special Concern and protected under California Fish and Game Code 3503.5), mitigated by avoiding construction during the nesting season. This category includes vegetative resources as described above, when they are of insignificant size or extent (defined for the purposes of this analysis as <2,000 square feet).
- *Low Constraint* if the project site comprises areas with vegetative communities that are not protected, are generally common and widespread throughout the state, or which are severely degraded and which support animal species that are relatively common, or, if accorded special-status, considered unlikely to occur.

Evaluation

Constraints Common to All Sub-Areas

Nesting Birds

There is the potential for native, nesting birds (both common and special-status) to be present at all five sub-areas, although unlikely at the San Leandro Harbor, public parcels, and private parcels. Construction disturbance during the breeding season could result in the loss of a nest tree, the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment and/or reproductive failure. If work cannot be completed between September and February, which is outside the breeding season for birds, then a standard pre-construction breeding bird survey should be included as a CEQA mitigation measure to avoid potential impacts to nesting birds. Constraints related directly to nesting birds would be **low** for the San Leandro Harbor, public parcels, and private parcels; **moderate** for the Marina Golf Course; and **high** for the DMMS.

Constraints Specific to Sub-Areas

A discussion of biological constraints for each study sub-area is presented below. Table 2.2-1 provides a summary of individual site characteristics and various constraints identified for each site.

San Leandro Harbor

The San Leandro Harbor is a flat, concrete sub-area with several buildings (two restaurants, a hotel, and buildings associated with harbor operations), which lacks native vegetation aside from

a few small trees. During the July 23, 2007 site visit, ESA biologist Dana Ostfeld noted several gulls (*Larus* spp.) and rock doves (*Columba livia*) at the site. Birds may nest in any of the scattered trees or on any of the buildings at the site, although unlikely due to the small size of the trees; this sub-area is considered unsuitable habitat for any other special-status plants or animals. The wildlife constraint for this site is considered **low**.

Marina Golf Course

The Marina Golf Course is made up largely of maintained landscaping (mostly grass), and several small structures used by the golf course patrons and operators. There are several eucalyptus trees that support overwintering monarch butterflies in the eastern edge of the Golf Course. In addition, there are several trees scattered throughout the course that may provide a suitable structure for nesting birds. Finally, though unlikely, burrowing owls may nest in the golf course grasslands. The wildlife constraint for this site is considered **high**, due to the high number of potential nesting trees for birds, the monarch butterfly overwintering site, and the high amount of pervious surfaces at the site.

Public Parcels at Fairway and Aurora

The public parcels are located at the northernmost edge of the study area, at the intersections of Fairway Drive and Aurora Drive. The parcels are adjacent and contain a one-story building that houses the Mulford-Marina Branch Public Library and a surface concrete-paved parking lot. Although there are trees near the Library that may provide nesting habitat for birds, it is unlikely to provide habitat for any other special-status plants or animals. The wildlife constraint for this site is considered **low**.

Private Parcels at Marina and Neptune

Two adjacent private parcels are located at the northernmost edge of the study area, just west of the intersection of Neptune Drive and Marina Boulevard. The northernmost parcel contains a single-story single-family home. The southernmost parcel is undeveloped and contains a grassy field. There is one large sycamore at this sub-area that may provide habitat for nesting birds; it is unlikely to provide habitat for any other special-status plants or animals. The wildlife constraint is considered **low**.

**TABLE 2.2-1
SUMMARY OF BIOLOGICAL RESOURCE CONSTRAINTS**

Site	Wetlands/Special Status Plants	Possible Mitigation	Special Status Animals	Possible Mitigation	Overall Constraint
San Leandro Harbor	No wetlands or drainages on site; No potential for special-status plants.	None likely required.	Low potential for nesting birds in sub-area trees or on buildings.	Perform construction activities between September and February to avoid nesting bird season, or conduct pre-construction nesting bird surveys.	Wetlands/Plants: Low Wildlife: Low
Marina Golf Course	No wetlands or drainages on site; No potential for special-status plants.	None likely required.	High potential for nesting birds in sub-area trees, and burrowing owls nesting in the grasses. Although not special status, monarch butterflies overwinter in a eucalyptus grove on the Marina Golf Course.	Perform construction activities between September and February to avoid nesting bird season, or conduct pre-construction nesting bird surveys. Avoid all roosting monarch butterfly trees, and establish a 100' buffer around the trees.	Wetlands/Plants: Low Wildlife: High
Public Parcels (Fairway and Aurora Drives)	No wetlands or drainages on site; Low potential for special-status plants.	None likely required.	Low potential for nesting birds in sub-area trees.	Perform construction activities between September and February to avoid nesting bird season, or conduct pre-construction nesting bird surveys.	Wetlands/Plants: Low Wildlife: Low
Private Parcels (Neptune Drive and Marina Boulevard)	No wetlands or drainages on site; Low potential for special-status plants.	None likely required.	Low potential for nesting birds in sub-area trees.	Perform construction activities between September and February to avoid nesting bird season, or conduct pre-construction nesting bird surveys.	Wetlands/Plants: Low Wildlife: Low
DMMS	Wetlands are present; Low potential for special-status plants.	Avoidance or consultation with and obtainment of permits from the Corps and the RWQCB. Any permits with the Corps or RWQCB would require mitigation (e.g. enhancement efforts of the adjacent SLSM, or restoration of a portion of the DMMS).	High potential for nesting birds in the grasses, for nearby nesting California clapper rails in the SLSM, and for occasional California clapper rails and salt marsh harvest mouse wandering over from the SLSM.	Perform construction activities between September 1 and January 1 to avoid CCR breeding season (and nesting bird season). Prior to any construction activities, erect mouse-proof enclosure fencing that is three feet high and buried at least three inches around any construction areas, to keep out SMHM and CCR.	Wetlands/Plants: High (Regulatory) Wildlife: High

Dredge Materials Management Site

The Dredged Materials Management Site (DMMS) is bordered by the Estudillo Canal to the north, by San Leandro Shoreline Marshlands (SLSM) to the south and southeast, by residential development (Marina Vista) and the Union Pacific railroad tracks to the east, and by the Monarch Bay Golf Club to the west. It is comprised of approximately 100 acres of wetland and upland habitat that consists of two enclosed basins – West Basin (Basin 1) and East Basin (Basin 2). Historically, this site has been used as a temporary drying and storage area for the materials that were dredged from the San Leandro channel. Levees surround the DMMS and six weirs at the northern end of the project site and one weir at the southern end control the flow of water in and out of the Estudillo Canal and into the DMMS, respectively. Several habitat islands are located within each basin, and the area provides habitat for shorebirds and other wildlife.

At one time the DMMS was a salt marsh wetland similar to those to the south and southeast in the SLSM. Although constant dredging activities have removed the site's salt marsh vegetation, soils, and hydrology, it is evident that this site would be a salt marsh under normal circumstances, because (1) there was a scattering of young salt marsh species (i.e., pickleweed) that sprouted since the last disturbance and were present throughout the DMMS during the July 23, 2007 visit, and (2) this site receives tidal influence through the southern weirs. Therefore, the DMMS is a highly disturbed wetland that is a subset of "waters of the United States," and it receives protection by Section 404 of the Clean Water Act under the jurisdiction of the US Army Corps of Engineers (Corps); any disturbance to this jurisdictional wetland would require consultation and permits from the Corps. In addition, the State Water Resources Control Board (SWRCB), acting through the nine Regional Water Quality Control Boards (RWQCB), must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act), so consultation and permits from the RWQCB would also be necessary. These permits would require mitigation if there is a net loss of wetlands. Mitigation could include such actions as enhancement of the adjacent salt marshes, or restoration of a portion of the DMMS. Although the DMMS is being considered exclusively for dredged materials management or habitat restoration, the presence of wetland vegetation and Section 404 jurisdiction by the Corps, as well as extensive permitting requirements from multiple other agencies, result in a **high** regulatory constraint at this site.

The SLSM to the south and southeast of the DMMS is known habitat for two federally endangered species, the California clapper rail (CCR) and salt marsh harvest mouse (SMHM). Although suitable habitat for these species is not present in the DMMS, due to an overall lack of salt marsh vegetation and constant disturbance, the CCR may nest nearby, and both species may wander into this sub-area.

Several special-status birds, including the snowy plover, white-tailed kite, American kestrel, and northern harrier, and have been observed in the DMMS, particularly in the winter months when it is ponded. In addition, the DMMS contains several habitat islands dominated by thick patches of non-native species, including clover (*Melilotus* spp.). These uplands may provide valuable cover for common wildlife (e.g., black-tailed jackrabbits [*Lepus californicus*]), and nesting birds. The potential for nesting or migratory birds, and SLSM and CCR, presents a **high** wildlife constraint.

Conclusion

The redevelopment of the DMMS has a high wetland constraint because it is a jurisdictional “water of the U.S.,” and is protected by the Clean Water Act. However, the DMMS is not envisioned to be redeveloped with any urban-type uses, but would either continue to be used in its current capacity or be restored as a wetland. No other sub-areas have high constraints for biological resources.

All five of the sub-areas have the potential for native, nesting birds (common and special-status). This poses a low wildlife constraint (due to lack of suitable nesting locations) at the San Leandro Harbor, public parcels, and private parcels. The Marina Golf Course has a high wildlife constraint, because in addition to suitable habitat for nesting birds, monarch butterflies are known to overwinter there. The DMMS also has a high wildlife constraint, because in addition to suitable habitat for nesting birds, the site may have potential incidental California clapper rail and salt marsh harvest mouse occurrences, and nearby marshes are known to have nesting California clapper rails.

2.3 Geology and Soils

Setting

Topography

The project area is located along the eastern San Francisco Bay margin with very little topographic relief. Elevations range from sea level to approximately five feet above mean sea level. Although generally flat, there is a very slight gradient west, towards the Bay. However, there is no potential risk for landslides in the project area or for the project area to be affected by landslides.

Regional Geology

The project site lies within the geologically complex region of California referred to as the Coast Ranges geomorphic province.⁴ The Coast Ranges province lies between the Pacific Ocean and the Great Valley (Sacramento and San Joaquin valleys) provinces and stretches from the Oregon border to the Santa Ynez Mountains near Santa Barbara. Much of the Coast Range province is composed of marine sedimentary deposits and volcanic rocks that form northwest trending mountain ridges and valleys, running subparallel to the San Andreas Fault Zone. The relatively thick marine sediments dip east beneath the alluvium of the Great Valley. The Coast Ranges can be further divided into the northern and southern ranges which are separated by the San Francisco Bay. The San Francisco Bay lies within a broad depression created from an east-west expansion between the San Andreas and the Hayward fault systems.

⁴ A geomorphic province is an area that possesses similar bedrock, structure, history, and age. California has 11 geomorphic provinces.

Soils

Soils of the project area have not been mapped by the Soil Conservation Service. However, based on the project area location, the site soils are likely underlain by a combination of artificial fills and marsh or estuarine deposits known as the Bay Mud. Historically, portions of the Bay margins were infilled during the early part of the 20th century in land reclamation projects.

Seismicity

The proposed project area lies within a region of California that contains many active and potentially active faults and is considered an area of high seismic activity.⁵ The 2001 California Building Code locates the entire Bay Area within Seismic Risk Zone 4. Areas within Zone 4 are expected to experience maximum magnitudes and damage in the event of an earthquake. The U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities evaluated the probability of one or more earthquakes of Richter magnitude 6.7 or higher occurring in the San Francisco Bay Area within the next 30 years. The result of the evaluation indicated a 62 percent likelihood that such an earthquake event will occur in the Bay Area between 2003 and 2032 (USGS, 2003).

Regional Faults

The San Andreas, Hayward and Calaveras Faults pose the greatest threat of significant damage in the Bay Area according to the USGS Working Group (USGS, 2003). These three faults exhibit strike-slip orientation and have experienced movement within the last 150 years.⁶ The closest active fault to the project area is the Hayward fault, located approximately four miles to the east.

Seismic Hazards

Surface Fault Rupture. Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The site is not located within an Alquist-Priolo Fault Rupture Hazard Zone, as designated through the Alquist-Priolo Earthquake Fault Zoning Act, and no mapped active faults are known to pass through the immediate project region. Therefore, the risk of ground rupture at the site is very low.

Ground Shaking. Strong ground shaking from a major earthquake could affect the project site during the next 30 years. Earthquakes on the active faults are expected to produce a range of ground shaking intensities at the project site.

⁵ An "active" fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 11,000 years). A "potentially active" fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not, of course, mean that faults lacking evidence of surface displacement are necessarily inactive. "Sufficiently active" is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 1997).

⁶ A strike-slip fault is a fault on which movement is parallel to the fault's strike or lateral expression at the surface (Bates and Jackson, 1984).

Liquefaction. Liquefaction is the transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. In addition, liquefaction can occur in unconsolidated or artificial fill sediments and other reclaimed areas along the margin of San Francisco Bay. The depth to groundwater influences the potential for liquefaction, in that sediments need to be saturated to have a potential for liquefaction. Hazard maps produced by the Association of Bay Area Governments (ABAG) depict liquefaction and lateral spreading hazards for the entire Bay Area in the event of a significant seismic event (ABAG, 2003).⁷ According to these maps, the project site is in an area expected to have a high potential to experience liquefaction. The California Geological Survey (CGS) has designated the entire project area as a Seismic Hazard Zone (discussed below) for liquefaction potential.

Earthquake-Induced Settlement. Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, uncompacted, and variable sandy sediments above the water table) due to the rearrangement of soil particles during prolonged ground shaking. Given the geologic setting of the project area, this area could be subjected to earthquake-induced settlement, especially if artificial fill is present.

Other Geologic Hazards

Considering the geologic context of the project area and nature of the project, other typical geologic hazards could include slope instability, soil erosion, settlement, expansive soil materials, tsunamis, and seiches. These hazards are discussed briefly below and provide the initial context for further evaluation in the impact analysis.

Expansive Soils. Expansive soils possess a “shrink-swell” behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. There is a low potential that expansive soils will be encountered.

Soil Erosion. Erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind and underground water. Excessive soil erosion can eventually lead to damage of building foundations and roadways. At the project site, areas that are susceptible to erosion are those that would be exposed during the construction phase and along the shoreline where soil is subjected to wave action. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or slope protection.

⁷ Lateral spreading is a ground failure associated with liquefaction and generally results from predominantly horizontal displacement of materials toward relatively unsupported free slope faces.

Settlement. Settlement can occur from immediate settlement, consolidation, shrinkage of expansive soil, and liquefaction (discussed below). The project area could contain poorly engineered artificial fills or compressible bay muds that would be susceptible to settlement.

Regulatory Framework

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit may be granted for a site within a Seismic Hazard Zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. The project site is located within a Seismic Hazard Zone for *liquefaction*, as designated by the California Geological Survey. Therefore, evaluation and mitigation of potential liquefaction hazards must be conducted in accordance with the California Geological Survey, Special Publication 117, adopted March 13, 1997 by the State Mining and Geology Board pursuant to the Seismic Hazards Mapping Act.

California Building Code

The California Building Code (CBC) has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The purpose of the CBC is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. Published by the International Conference of Building Officials, the Uniform Building Code is a widely adopted model building code in the United States. The CBC is based on the 1997 Uniform Building Code (UBC) with necessary California amendments. These amendments include significant building design criteria that have been tailored for California earthquake conditions.

The project area is located within Zone 4, one of the four seismic zones designated in the United States. Zone 4 is expected to experience the greatest effects from earthquake ground shaking and therefore has the most stringent requirements for seismic design. The national model code standards adopted into Title 24 apply to all occupancies in California except for modifications adopted by state agencies and local governing bodies.

Methodology and Criteria

The evaluation of the geology, soils, and seismicity constraints is based on the significance criteria put forth in CEQA *Guidelines* Appendix G. The following thresholds are used to determine geologic and soil-related constraints::

- *High Constraint* if there is a high likelihood of surface fault rupture, groundshaking, landslides, subsidence, loss of topsoil, or unstable geologic unit or soil at the project site which would create significant geologic and seismic hazards that could not be mitigated.
- *Moderate Constraint* if there is a possibility of surface rupture, groundshaking, landslides, subsidence, loss of topsoil or unstable geologic unit or soil at the project site and specific design measures would need to be incorporated to mitigate potential geologic and seismic hazards.
- *Low Constraint* if there is low potential of surface rupture, groundshaking, landslides, subsidence, loss of topsoil or unstable geologic unit or soil at the project site and no specific design measures would need to be incorporated taking into account the geologic and seismic hazards.

Evaluation

Although no potential development projects have been defined for the study area, this study assumes a range of possible uses on the site, including, retail, office, hotel (with a possible conference center), residential, recreational, and open space. This range of possible uses on the site is true for all areas except the DMMS area, which would only be used for restoration of habitat or continued use as a dredged spoils facility. Therefore, with the exception of the DMMS, constraints for any potential project implementation associated with geology, soils, and seismicity as per the CEQA significance criteria would be common to all remaining four sites.

A discussion of geological constraints for each study sub-area is presented below. Table 2.3-1 provides a summary of individual site characteristics and various constraints identified for each site.

Constraints Common to All Sub-Areas

Groundshaking

The project area would likely experience at least one major earthquake (Richter magnitude (M) 6.7 or higher) within the next 30 years. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the moment magnitude, and the duration of shaking. A characteristic earthquake on the Hayward fault with an estimated M 7.1 could produce violent shaking in the project area (ABAG, 2007). An earthquake of this intensity could cause considerable structural damage, even in well-designed structures. Substantial cracks could appear in the ground, and the shaking could cause other secondary damaging effects, such as the failure of underground pipes. However, following a detailed site specific geotechnical investigation, registered geotechnical engineers and engineering geologists can develop seismic design criteria

**TABLE 2.3-1
SUMMARY OF GEOLOGY, SOILS, AND SEISMICITY CONSTRAINTS**

Sub-Areas	Potential Constraints					Overall Constraints
	Ground-shaking	Liquefaction	Settlement	Erosion/ Loss of Topsoil	Surface Fault Rupture/ Landslides	
San Leandro Harbor	Moderate	Moderate	Moderate	Moderate	Low	Moderate
Marina Golf Course	Moderate	Moderate	Moderate	Low	Low	Moderate
Public Parcels (Fairway and Aurora Drives)	Moderate	Moderate	Moderate	Low	Low	Moderate
Private Parcels (Neptune Drive and Marina Boulevard)	Moderate	Moderate	Moderate	Moderate	Low	Moderate
DMMS	Low	Low	Low	Moderate	Low	Low

for building construction that could minimize potential damage and injury. Current engineering practices that adhere to the required codes as stated in the California Building Code incorporate measures that are designed to withstand the anticipated groundshaking at the building site location. In locations such as the study area, where Bay Muds are going to be encountered, deep foundation systems such as driven piles are commonly incorporated into building foundation design. Deep foundation systems are designed to anchor building foundations into more competent materials beneath the surface. The constraint related to groundshaking in the four developable sites would be **moderate**.

Liquefaction

The project area is located within a Seismic Hazard Zone for liquefaction according to the California Geological Survey indicating a very high risk for liquefaction. As a result of being mapped in this zone, all proposed structures will be required to adhere to the Seismic Hazards Mapping Act. Therefore, any recommended geotechnical engineering mitigation measures will be required to adhere to the requirements of California Geological Survey's (CGS) Geology Guidelines for Evaluating and Mitigating Seismic Hazards, CGS Special Publication 117. The constraint related to liquefaction in the four developable sites would be **moderate**.

Erosion

Erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind and underground water. Excessive soil erosion can eventually lead to damage of building foundations and roadways. At the project site, areas that are susceptible to erosion are those that would be exposed during the construction phase and along the shoreline where soil is subjected to wave action. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or

slope/shoreline protection. Those sub-areas with shoreline boundaries then would be susceptible to wave erosion and may require improvements such as rip-rap or other shoreline protection measures to ensure prevention of erosion and loss of topsoil. The constraint related to erosion would be **moderate** for sub-areas with shoreline boundaries and **low** for sub-areas that are located more inland.

Settlement

The project area is located in an area of the San Francisco Bay Area that is prone to settlement either through static loading or seismically induced loading. The Bay Muds which are predominant in near shore areas, are soft and easily compressible. However, similar to the discussion regarding groundshaking, current building codes and geotechnical engineering practices can be incorporated into building design to minimize potential impacts from settlement. By constructing deep foundation systems such as driven piles, buildings of significant size can be designed to avoid the potential hazards of settlement.

Constraints Specific to Sub-Areas

Dredge Materials Management Site

The DMMS site is being considered for use as habitat restoration, or continued use as a dredged spoils drying facility. Based on this proposed range of uses, there would be a **low** constraint related to geology, soils, and seismicity. Without a use that calls for the construction of any building, the effects of geologic and seismic hazards would not be significant.

Conclusion

The San Francisco Bay Margin includes subsurface materials that present engineering challenges for construction. Bay Muds and other estuarine deposits are typically soft compressible sediments that make for poor building foundations. However, incorporation of industry standard practices for seismic design can minimize the potential for significant damage or injury to less than significant levels. The location of the project area within an identified Seismic Hazard Mapping Zone, indicates that any proposed structures within the project area would require adequate measures to mitigate potential liquefaction hazards according to the requirements of the Seismic Hazards Mapping Act. Areas that may be underlain by artificial fill may require excavation and importation of engineered fill that would be compacted to industry standards as determined by a California licensed Geotechnical Engineer or Engineering Geologist.

Therefore, there are no geologic, soil-related, or seismic hazards within the study area that would preclude any future proposed development. However, all future development would require sufficient engineering to mitigate the numerous hazards that are typically present in shoreline areas.

2.4 Hazardous Materials

Setting

The term “hazardous material” is defined by law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.⁸ Materials, including wastes, may be considered hazardous if they are specifically listed by statute as such or if they are poisonous (toxic), can be ignited by open flame (ignitable), corrode other materials (corrosive), or react violently, explode or generate vapors when mixed with water (reactive).

In some cases, past industrial or commercial activities at a site could have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. Federal and state laws require that hazardous materials be specially managed and that excavated soils having concentrations of contaminants such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels, be specially managed, treated, transported, and/or disposed of as a hazardous waste. The California Code of Regulations, Title 22, §66261.20-24 contains technical descriptions of characteristics that would cause a soil to be designated a hazardous waste. The California regulations are compliant with the federal regulations and in most cases, more stringent.

Prior uses on or near the project site which utilized hazardous substances include the Trojan Powder Company, which operated in the southern part of what is now the San Leandro Shoreline Marshlands from early 1900s until 1964, and a boat repair shop which operated on the project site (in the San Leandro Harbor sub-area). According to the EIR prepared for the Roberts Landing Rezoning project in March 1991, the Trojan Powder Company appeared on the CERCLIS database of contaminated properties,⁹ but was since designated “no further action” by the EPA, the category for sites where no additional testing or clean-up activities are required. Any contamination that may have resulted from the operation of the boat repair shop, however, is not reflected in the searches of available environmental databases that were conducted. This may be due to the fact that the shop owner was a tenant of the parcel and not its owner, and after closing the shop, no actual transfers of property took place, which otherwise would have triggered reporting of any contamination that may have occurred there.

As noted above, ESA conducted searches of applicable hazardous materials databases. Based on these searches, none of the study sub-areas currently contain sites listed as leaking underground storage tanks (LUST); spill, leaks, investigation and cleanup (SLIC) sites; landfills; Department of Defense (DoD) sites; or public groundwater wells, and no land use restrictions have been issued by the Department of Toxic Substances Control (DTSC). One permitted underground storage tank (UST) is located within the study area on the northern pier of the San Leandro Harbor (this is associated with the fuel dock). In addition, recent site visits to the study areas did

⁸ State of California, Health and Safety Code, Chapter 6.95, Section 25501(o).

⁹ The CERCLIS database is administered under the federal Superfund program pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

not reveal any obvious sources of hazardous materials. Nevertheless, unexpected occurrences of hazardous materials may be encountered during the grading and excavation activities which would likely be required as part of any proposed redevelopment option on most of the sub-areas (with the exception of the DMMS). Therefore, it is recommended that, prior to any soil or structure disturbing activities, a Phase 1 assessment is prepared and, if further investigation is needed based on the findings of the Phase I report, a Phase 2 investigation that includes appropriate soil and groundwater sampling for any identified recognized environmental conditions be conducted.

Regulatory Framework

The major federal, state, and regional agencies enforcing regulations aimed to protect public health and the environment include: the U.S. Environmental Protection Agency (EPA), U.S. Department of Labor Occupational Safety and Health Administration (OSHA), U.S. Department of Transportation (DOT), the Department of Toxic Substances Control, the San Francisco RWQCB, and the Alameda Health Services, Hazardous Materials Management programs. In general, these regulations provide definitions of hazardous substances; establish reporting requirements; set guidelines for the handling, storage, transport, remediation, and disposal of hazardous waste; and require health and safety provisions for workers and the public. Regulatory agencies also maintain databases of sites that handle hazardous wastes or store hazardous substances in underground storage tanks, as well as sites where soil or groundwater quality may have been affected by hazardous substances.

Hazardous Materials Management and Emergency Planning

State and federal laws require businesses that handle hazardous materials to ensure that the hazardous materials are properly handled, used, stored, and disposed of, and in the event that such materials are accidentally released, to prevent or reduce injury to health and the environment. California's Hazardous Materials Release Response Plans and Inventory Law, sometimes called the "Business Plan Act," aims to minimize the potential for accidents involving hazardous materials and to facilitate an appropriate response to hazardous materials emergencies. The law requires businesses that use hazardous materials to provide inventories of those materials to designated emergency response agencies, to illustrate on a diagram where the materials are stored, to prepare an emergency response plan, and to train employees to use the materials safely. This law is implemented locally by the San Leandro Environmental Services Division.

Hazardous Waste Handling

The California Environmental Protection Agency (Cal EPA), Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. The Cal EPA has authorized DTSC to enforce hazardous waste laws and regulations in California. State requirements assign "cradle-to-grave" responsibility for hazardous waste to hazardous waste generators. Anyone who creates a hazardous waste is considered a hazardous waste generator. Generators must ensure that their waste is disposed of properly, and legal requirements dictate the disposal requirements for many waste streams (e.g., banning many

types of hazardous wastes from landfills). All hazardous waste generators must certify that, at a minimum, they make a good faith effort to minimize their waste and select the best waste management method available. Hazardous waste laws and regulations are enforced locally by the San Leandro Environmental Services Division.

In the City of San Leandro, remediation of contaminated sites is performed under the oversight of the Environmental Services Division. At sites where contamination is suspected or known to occur, the project sponsor is required to perform a site investigation and draw up a remediation plan, if necessary. For typical development projects, actual site remediation is done either before or during the construction phase of the project. Site remediation or development may be subject to regulation by other agencies, such as the San Francisco RWQCB.

Methodology and Criteria

Appendix G of the *CEQA Guidelines* lists the following thresholds of significance for hazards and hazardous materials to determine if the project would:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment,
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school,
- 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,
- be located within an airport land use plan or, where such a plan has not been adopted, be located within two miles of a public airport or public use airport, and would result in a safety hazard for people residing or working in the project area,
- be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area,
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, or
- 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.

The following thresholds are used to determine hazards and hazardous materials constraints:

- *High Constraint* if hazardous materials contamination is known to exist within the study area and there is a high likelihood of encountering hazardous materials contamination during potential redevelopment of the study area or if potential redevelopment options would result in a significantly high chemical use than under current conditions and a high

risk of exposure of public and private property to hazardous materials, and mitigation would not be sufficient to ensure minimal impact.

- *Moderate Constraint* if there is some evidence to indicate that hazardous materials contamination may be present and that additional investigation may be required to assess the potential for contamination or if potential redevelopment options would result in an increased chemical use with a moderate risk of exposure of public and private property to hazardous materials, and mitigation would reduce the impact to a less-than-significant level.
- *Low Constraint* if there is little or no potential for encountering hazardous materials contamination during construction, or if potential redevelopment options would result in an increased chemical use with little risk of exposure of public and private property to hazardous materials, and compliance with applicable hazardous materials/waste regulations would ensure a minimal impact.

Any potential redevelopment would be confined to the areas shown on Figure 2 and are described throughout this report, which do not coincide with any airport land use plan or private airstrips. It is assumed that any redevelopment of the study area would be implemented in a way that would not interfere with any emergency response or evacuation plan or expose people or structures to wildland fires. Therefore, these topics are not discussed further.

Evaluation

A discussion of hazardous material constraints for each study sub-area is presented below. Table 2.4-1 provides a summary of individual site characteristics and various constraints identified for each site.

**TABLE 2.4-1
SUMMARY OF HAZARDOUS MATERIALS CONSTRAINTS**

Sub-Areas	Potential Constraints			Overall Constraints
	Hazards Present in the Area	Construction Activities (Disturbance) May Expose Public to Hazards	Redevelopment May Result in Increased Chemical Use	
San Leandro Harbor	Low	Low	Low	Low
Marina Golf Course	Low	Low	Low	Low
Public Parcels (Fairway and Aurora Drives)	Low	Low	Low	Low
Private Parcels (Neptune Drive and Marina Boulevard)	Low	Low	Low	Low
DMMS	Low	Low	Low	Low

Constraints Common to All Sub-Areas

Because no redevelopment project is currently proposed, the level of ground disturbance (such as grading and excavation) is unknown at this time. However, it is likely that all redevelopment options for the San Leandro harbor, the Marina Golf Course, the private parcels at Fairway and Aurora Drives or the public parcels on Neptune Drive and Marina Boulevard would involve some level of demolition and excavation activities. It is assumed that all excavated soil material would be hauled offsite and disposed as per applicable waste disposal regulations or would be reused at the site with prior approval from local agencies. It is also assumed that any residual soil or groundwater contamination, if discovered, would be addressed according to the applicable hazardous waste regulations. Compliance with the applicable regulations would ensure a minimal impact. The constraint associated with hazards that may be present in the area or hazards that would be uncovered through demolition and excavation activities would, therefore, be **low**.

Concerning the possibility of increasing chemical usage within the study area as a result of redevelopment, this constraint would be dependant on the exact nature of the proposed future developments. The uses envisioned on all sub-areas (with the exception of the DMMS) at this time are a combination of retail, office, residential, hotel, and recreational uses. Assuming that any future development would be carried out in such a way that complies with all appropriate DTSC and San Leandro Environmental Services Division rules and regulations pertaining to the handling of hazardous materials, these types of developments would not be expected to introduce significant volumes of hazardous chemicals to the study area or expose the surrounding communities to such chemicals. For the purposes of this report, therefore, this constraint is characterized as **low**.

Constraints Specific to Sub-Areas

Dredged Materials Management Site

The DMMS site is being considered for use as a habitat restoration area or continued use as a dredged spoils drying facility. Based on this proposed range of uses, there would be a **low** constraint related to hazards, assuming that all appropriate permits are granted from the RWQCB and the City's Environmental Services Division. Without a use that calls for the construction of any building, the effects of hazards would not be anticipated to present a great constraint.

Conclusion

Preliminary environmental review, including available database searches and site visits, have yielded no known obvious hazards within any of the study sub-areas. However, because no records associated with a former boat repair shop were easily found, it is recommended that further investigations be conducted prior to any development of the San Leandro Harbor to eliminate the possibility that this sub-area contains hazardous materials or wastes within the subsurface. Hazardous materials are also commonly found in older structures (i.e. asbestos, lead-based paint, and PCBs) and would require thorough screening prior to demolition in order to determine appropriate handling measures. Assuming these investigations will be conducted once

development projects become more defined, and strict adherence will be followed for the identification, handling, and disposal of hazardous materials and wastes, constraints can be characterized as low.

With regard to the types of development that can occur within the study area, there are no obvious constraints that would preclude any of the land uses being considered from being developed on this area. Regulatory compliance with rules and regulations set forth by RWQCB, DTSC and the San Leandro Environmental Services Division would be required for any redevelopment options.

2.5 Hydrology and Water Quality

Setting

The project is located in the City of San Leandro on the eastern shore of San Francisco Bay in the vicinity of the San Leandro Harbor and Alameda County Flood Control District Washington-Estudillo Canal. In the San Francisco Bay Basin Plan, the Regional Water Quality Control Board (RWQCB) identifies a number of beneficial uses of surface waters that must be protected. The beneficial uses for San Francisco Bay include estuarine habitat, preservation of rare and endangered species, fish migration, fish spawning, wildlife habitat, navigation, recreation, commercial and sport fishing, and industrial service supply (RWQCB, 2006).

The study area is divided into the following five sub-areas: the San Leandro Harbor, the Marina Golf Course, the two public parcels at Fairway and Aurora, the two private parcels at Marina and Neptune, and the Dredged Materials Management Site (DMMS). The San Leandro Harbor, Marina Golf Course, the two public parcels, and the two private parcels are located within the Marina Watershed (San Leandro, 2002). The DMMS is located within the Estudillo Canal Watershed, east of the southern portion of the Monarch Bay Golf Club. Local drainages around the site collect storm water flows that drain into Estudillo Canal and San Francisco Bay.

The topography in the study area is generally flat, with elevations less than 50 feet above mean sea level (msl). One deeper aquifer exists approximately 250 feet below the surface. Shallow groundwater in San Leandro generally flows to the west. The groundwater in the study area is generally close to the surface, approximately 5 ft below ground surface (bgs). Some of the groundwater in lower elevations of the City is contaminated by volatile organic compounds, gasoline, and some heavy metals (EnviroStar, 2007). There have been no groundwater studies or documented groundwater contamination in the Project area; however, a regional map of groundwater plumes larger than 1000 feet as compiled by the RWQCB indicate that several plumes are located east and northeast of the project area (EBMUD, 2005). Groundwater contamination due to the DWA Plume, formerly known as the San Leandro Plume, has been documented within one mile east of the Project area (Weiss Associates, 2007). A Public Health Advisory has been issued in the DWA Plume area that advises residents not to use private wells for domestic purposes due to contamination of groundwater.

Flood hazards in the study area are associated with overbank flooding, dam failure, tsunamis, and rising sea levels (San Leandro, 2002). The DMMS area has been designated on the Flood Insurance Rate Map (FIRM) developed by the Federal Emergency Management Agency (FEMA) as a coastal flood hazard with velocity hazard due to wave action (Map Panel 060013 0003 C; FEMA, 2000). The other areas are designated as outside of the 100-year flood zone, except the study area land that is within approximately 120 feet of the San Francisco Bay.

Relevant Plans and Policies

Federal

Clean Water Act

Under section 404 of the Federal Clean Water Act (CWA), waters of the United States (including wetlands) are subject to U.S. Army Corps of Engineers (Corps) jurisdiction. Section 404 regulates the dredging and filling of U.S. waters. A Section 404 permit is required for project construction activities including placement of fill materials or excavation of waters of the United States or adjacent wetlands. In reviewing Section 404 permit applications, the Corps stresses avoidance of impacts, minimization of unavoidable impacts, and mitigation of unavoidable impacts.

Section 303 of the Clean Water Act requires states to establish water quality standards consisting of designated beneficial uses of water bodies and water quality standards to protect those uses for all waters of the United States. Under Section 303(d) of the Clean Water Act, states, territories and authorized tribes are required to develop lists of impaired waters. Impaired waters are those that do not meet water quality standards, even after point sources of pollution have installed the required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for waterways on the lists and develop action plans to improve water quality.

National Flood Insurance Program

FEMA has produced maps showing elevations and areas of 100-year flood hazard. FEMA requires the finished floor elevations for development within the 100-year flood area to be equal to or greater than the 100-year flood elevation.

State and Regional Water Quality Control Board

The State of California's Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. The California legislature has assigned the primary responsibility for the protection and enhancement of water quality in California to the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs). The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the RWQCBs conduct planning, permitting, and enforcement activities. The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of state and federal laws and regulations. In 1999, the SWRCB elected to

adopt only one statewide General Permit, Order 99-08-DWQ, for storm water discharges associated with construction activity. The applicant would be required to submit a Notice of Intent (NOI) to obtain and comply with the General Permit. The Permit requires all dischargers, where construction activity disturbs one acre or more to:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that would prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters;
- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the nation; and
- Perform inspections of all BMPs.

This General Permit is implemented and enforced by the RWQCBs; the Project area is within the San Francisco RWQCB jurisdiction. In 2000, the SWRCB modified the provisions of the General Permit to require permittees to implement specific sampling and analytical procedure to determine whether BMPs implemented on a construction site are:

- Preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired for sediment and silt; and
- Preventing other pollutants that are known or should be known by permittees to occur on construction sites that are not visually detectable in storm water discharges, from causing or contributing to exceedances of water quality objectives.

The RWQCBs adopt and implement water quality control plans (basin plans) that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. San Leandro Creek, to the north of the Project area, and San Lorenzo Creek, to the south of the Project area have been designated as having a number of existing and beneficial uses. The San Francisco Bay RWQCB has set water quality objectives for all surface waters in the region. All surface water within and adjacent to the Project area must adhere to all of the applicable water quality objectives outlined in the basin plan.

Methodology and Criteria

The evaluation of the hydrology and water quality constraints is based on the significance criteria put forth in CEQA *Guidelines* Appendix G. The following thresholds are used to determine hydrology and water quality constraints:

- *High Constraint* if there is a high likelihood of degrading water quality of the water bodies (nearby drainages and tributaries and/or the San Francisco Bay), increased peak flows and concentrations, or altering surface or groundwater flows or creating a flood hazard despite mitigation.
- *Moderate Constraint* if there is possibility of degrading water quality of the water bodies, increased peak flows and concentrations, or altering surface or groundwater flows or

creating a flood hazard, that could be minimized through regulatory compliance and mitigation. If the project would be subject to a specific regulatory requirement such as obtaining a new permit for the release of water into a creek or into a drainage, the constraint is considered as moderate.

- *Low Constraint* if there is low potential for the degradation of water quality of the water bodies (nearby drainages and tributaries and/or San Francisco Bay), increased peak flows and concentrations, or alteration of flows or creation of a flood hazard, and little or no mitigation would be necessary.

Although no potential development projects have been defined for the study area, this study assumes a range of possible uses on the site, including retail, office, hotel (with a possible conference center), residential, recreational, and open space. Constraints for any potential project implementation associated with water quality and groundwater resources as per the CEQA significance criteria would be common to all the five sites (discussed below). Constraints that would differ for the specific sites based on the site location would be drainage and flow on a long term basis (discussed later in the section).

Evaluation

A discussion of water quality and hydrological constraints for each study sub-area is presented below. Table 2.5-1 provides a summary of individual site characteristics and various constraints identified for each site.

**TABLE 2.5-1
SUMMARY OF HYDROLOGY AND WATER QUALITY CONSTRAINTS**

Sub-Areas	Potential Constraints					Overall Constraints
	Increase in Peak Storm Water Flow	Increase in Storm Runoff from Sub-Area	Drainage Infrastructure Needs	Impede or Alter Flows	Expose People to Flood Hazards	
San Leandro Harbor	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Marina Golf Course	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Public Parcels (Fairway Drive and Aurora Drive)	Low	Low	Low	Low	Moderate	Low
Private Parcels (Neptune Drive and Marina Drive)	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
DMMS	Low	Low	Low	Moderate	Moderate	Low

Constraints Common to All Sub-Areas

Water Quality

All construction involving earthmoving, such as soil stockpiling and rough grading could expose soil to erosion that can result in discharge of sediment to the Bay. Sediment degrades water quality and large amounts of sediment can adversely affect the habitat of aquatic species. Construction operations also generate pollutants such as hydraulic fluid or diesel that if released to the environment could degrade waters of the Bay. BMPs in conformance with a SWPPP must be implemented to control sedimentation and runoff caused by any new developments. The BMPs would be based on the *Stormwater Best Management Practices for New Development and Redevelopment* (2003). Additionally, the water quality objectives outlined in the basin plan must be adhered to because of the vicinity of the Project to the San Francisco Bay. Constraints related directly to water quality would be **moderate** for all sub-areas. Hydrologic constraints specific to sub-areas are discussed in the next section.

Groundwater

The Project is not expected to affect groundwater resources because 1) the required excavations would intersect only the shallow water table and 2) dewatering, if necessary, would temporarily remove groundwater with only localized and inconsequential effects to the regional groundwater system. Shallow groundwater underlying the proposed project site is shallow, brackish, and non-potable; this groundwater is unsuitable for domestic use. Construction activities may include short-term dewatering at excavations that are located in areas with high groundwater. Project construction could involve some shallow foundation and utility excavations. If dewatering is required, it could result in short-term, localized alterations in groundwater levels near the surface in the immediate vicinity of the construction site but this reduction would not cause a far-reaching, regional drawdown. The vicinity of the contaminated groundwater plume to the east of the Project site would necessitate monitoring of groundwater that is exposed during construction. Any dewatering that does occur must comply with the National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit and Waste Discharge Requirements for the State of California. Changes to groundwater occurrence and levels due to the project construction and operation, if groundwater levels are affected at all, would not detrimentally affect regional groundwater production or change the existing water quality. Constraints related to groundwater resources would be **moderate** for all sub-areas.

Flooding

All study areas are within 1600 feet of the Bay, but the DMMS is the only sub-area within the Project area where coastal flooding with wave action is expected during a 100-year flood. Most of the study area would be flooded if there was dam failure at the Upper San Leandro or Lake Chabot Reservoir (San Leandro, 2002). Rising sea level could result in an increase in erosion along the waterfront, damage to levees, and raise the hazard of tidal flooding in the Project area. Constraints related to flooding would be **moderate** for all sub-areas.

Constraints Specific to Sub-Areas

The constraint level would vary with the sub-areas therefore the areas are discussed separately below. Table 2.5-1 identifies the constraints and the level of each constraint for each sub-area.

San Leandro Harbor

The San Leandro Harbor sub-area lies adjacent to the Bay and west of Monarch Bay Drive. The Harbor sub-area is relatively flat and largely covered with impervious surfaces such as concrete. As discussed above in *Constraints Common to All Sub-Areas*, implementation of BMPs would need to be incorporated into any development scheme to control erosion and sedimentation and ensure a minimal water quality impact. While redevelopment could result in a small increase in impervious surface area in the area, causing a slightly higher peak storm water flow, there is also significant opportunity to remove existing paved areas and perhaps reduce the overall impervious surface. Storm water flow and runoff would continue to be directed to existing storm drains, rather than directly entering the Bay. Constraints related to peak storm water flow and storm runoff are considered moderate in this sub-area.

The storm drains route water directly to the Bay. The drainage infrastructure would need to be expanded to accommodate any increase in water usage due to development on the lot; therefore, the infrastructure is considered a moderate constraint. The flows may be altered or impeded during any re-grading activities and would be considered a moderate constraint. For any construction in this sub-area, a SWPPP would be required and would help minimize storm runoff. Flooding at the Harbor, although outside of the 100-year or 500-year flood zone, would be considered a moderate constraint, due to potential failure of levees, storm surge¹⁰, or wave action during storm events. This sub-area is approximately at sea level elevation and susceptible to flooding if adjacent levees fail and waves inundate the area. Overall, the San Leandro Harbor has **moderate** hydrology and water quality constraints.

Marina Golf Course

This area is east of the San Leandro Harbor sub-area, is largely vegetated with grass and some trees and is relatively flat. Any increase in impervious surfaces due to development intensification in this area would cause an increase in peak storm water flow and runoff. The drainage infrastructure would need to be altered if any re-grading activities occur or new structures are built in this sub-area. The existing flow patterns would be altered due to any development where re-grading occurs. Any altered surface drainage flow patterns would need to be directed away from the Bay. Some of the possible methods for diverting the water include using grassy swales or sediment traps. An increase in storm runoff from the sub-area represents a moderate constraint. People may be exposed to increased flood hazards in this area because of the potential failure of levees, storm surge, or wave action during storm events. The hydrology and water quality constraints at the Marina Golf Course are considered **moderate**.

¹⁰ A storm surge is an exceptionally high tide caused by the combined effects of wind and low atmospheric pressure.

Public Parcels at Fairway and Aurora

The existing public parcels are located at the northwest corner of Fairway and Aurora. This sub-area is primarily impervious and relatively flat. Any increase in peak storm water flow or runoff would be minimal because a SWPPP would be adhered to during construction and there would be minimal addition of impervious surfaces to the sub-area. The existing library, on one of the parcels, has an established drainage infrastructure. New development may require an improved drainage infrastructure, but is considered a low constraint because these properties are somewhat further removed from the Bay. The alteration of flow would be minimal, because new development would probably not require extensive re-grading or change in impervious surface area. The flooding hazards here are a moderate constraint due to the potential failure of levees, storm surge, or wave action during storm events. The hydrology and water quality constraint at these public parcels is considered **low**.

Private Parcels at Marina and Neptune

The existing private parcels are located immediately west of the intersection of Neptune Drive and Marina Boulevard. This sub-area is relatively flat and includes one house and one grass field. Any increase in impervious area due to development, could cause an increase in peak stormwater flow and runoff. The parcel where the house is located has an existing drainage infrastructure, but the grass area has no drainage infrastructure. Overall, the drainage infrastructure needs present a moderate constraint for these parcels. The storm water and runoff flow may be altered due to increases in impervious surfaces. The flooding hazards represent a moderate constraint due to the possible downstream failure of levees, storm surge, or wave action during storm events. The hydrology and water quality constraint at the private parcels is considered **moderate**.

Dredge Materials Management Site

The DMMS is a relatively flat, low-lying, historic marshland that has been used for dredged material disposal. The area provides habitat for shorebirds and is a jurisdictional wetland (see Biological Resources section). The options that the City is considering do not include constructing new structures. The City is considering the following: continuing to operate it as a drying and temporary storage area for dredged materials removed from channels belonging to other marinas, restoring the site to a more permanent tidal wetland and habitat for endangered species such as the salt marsh harvest mouse, or using it as a mitigation site for development undertaken in the other portions of the study area or other parts of the Bay Area.

Peaks in stormwater flow and increase in storm runoff from the area would not be a constraint for any of the options above because there would not be an increase in impervious area or development of structures. The existing drainage infrastructure consists of culverts that are operated to allow tidal water in, from the south, during the winter and the spring. The culverts along the north levee are left in a position so that water backs up to only a shallow depth and drains into Estudillo Canal. The drainage infrastructure needs are considered a low constraint. Any change in the culvert operation would alter the flow of water from marshlands to the Estudillo Canal. Restoration of DMMS would include a reintroduction of tidal waters into the

area on a more year-round basis. Flows may be altered and initially considered a moderate constraint due to adjacent land and wetlands. The DMMS is designated on the FEMA FIRM map (2000) as an area with 100-year flood hazard with wave action. The flooding hazards represent a moderate constraint at DMMS due to the possible failure of levees, storm surge, or wave action during storm events. Overall, the proposed options at the DMMS present a **low** constraint.

Conclusion

Potential redevelopment projects include commercial, office, hotel, residential, recreational, and open space at all sub-areas except the DMMS. The options proposed for the DMMS include continued dredged material management, tidal wetland restoration, or a mitigation site. Regulatory compliance with SWPPPs and BMPs for construction is required for any redevelopment in the study area and will help protect water quality. The sub-areas, besides DMMS, may be hydrologically suitable for any of these purposes, but new buildings would be required to direct the stormwater flow and runoff into existing drainage facilities. All sub-areas have an overall moderate or low constraint; therefore, minimal mitigation will be sufficient to reduce impacts to a less than significant level. The proximity to the Bay of all sub-area necessitates extra precautions against increases in peak storm water discharge and runoff both during construction and operation of the Project. The sub-areas immediately adjacent to the Bay would require additional precautions and monitoring.

The redevelopment options proposed by the City of San Leandro do not include construction of new structures at the DMMS sub-area. Assuming that no permanent structures would be constructed on the study area, the hydrological constraint associated with these options is low. The proximity to healthy wetlands (San Leandro Shoreline Marshlands) and existing habitat for shorebirds provide an opportunity for restoration. Without the construction of new structures, there is still a moderate constraint due to potential flooding with wave action, but the overall constraint of hydrology and water quality is considered low. All options would require some mitigation to protect residents in the vicinity of the DMMS to flood-related hazards.

2.6 Transportation and Circulation

Setting

Regional access to the project area is taken from Interstate 880 (I-880) at its interchange with Marina Boulevard. Doolittle Drive, Fairway Drive and Monarch Bay Drive provide local access to the area. The street network, transit services, and bicycle and pedestrian facilities in the project area are described below.

Street Network

Interstate 880 (I-880), the Nimitz Freeway, is a regional freeway located east of the project site, running north-south along the eastern shore of San Francisco Bay between the San Francisco-Oakland Bay Bridge and San Jose. There are four travel lanes in each direction near the study

area. Ramps to and from I-880 to the project area are located at the Marina Boulevard interchange, approximately a mile and a half away.

State Route 61 (Doolittle Drive) is a north-south state highway located north-west of the project site with two travel lanes in each direction. Doolittle Drive forms the eastern boundary of the Oakland International Airport, and connects to the City of Alameda to the north and the City of San Leandro to the south at Davis Street. It has bike lanes and is posted 45 mph.

Doolittle Drive is a north-south arterial located west of the project site with two- to four-travel lanes in each direction. Doolittle Drive is a divided roadway south of Fairway Drive. On-street parking is permitted. Doolittle Drive is posted at 40 mph and has bike lanes from the flood control channel north to Fairway Drive. Doolittle Drive is a designated local truck route.

Monarch Bay Drive is a two-lane roadway along the western bayshore. Monarch Bay Drive services recreation land uses along the bayshore. The roadway is posted at 30 miles per hour (mph) with limited on-street parking.

Fairway Drive is a designated truck route with a two-lane divided roadway with bicycle lanes. The roadway services residential land uses and is a designated school route. Fairway Drive is posted at 30 mph and has limited on-street parking.

Davis Street (SR 112) is a designated truck route with a two-lane roadway with bicycle lanes. The roadway services industrial land uses. Davis Street is posted at 30 mph and has on-street parking.

Marina Boulevard is a designated truck route with a two-lane divided roadway with bicycle lanes. The roadway services residential land uses and is a designated school route. Marina Boulevard is posted at 30 mph and has on-street parking.

Public Transit

The Alameda Contra Costa Transit District (AC Transit) provides transit service in the project vicinity. Route 55 provides services in the project vicinity between Dutton Avenue and Doolittle Drive, and operates from 6:00 a.m. to 7:30 p.m. on weekdays with 30- to 60-minute headways.

Pedestrian and Bicycle Facilities

Pedestrian facilities are comprised of sidewalks, pedestrian paths, crosswalks, pedestrian signals and other pedestrian amenities. Sidewalks are generally provided along developed roadways in the project area.

Bicycle facilities are comprised of bike paths (Class I facilities), bike lanes (Class II facilities), and bike routes (Class III facilities). Bike paths are paved trails that are separated from the roadways. Bike lanes are lanes on roadways designated for bicycle use by striping, pavement legends, and signs. Bike routes are roadways that are designated for bicycle use with signs.

In the project area, a bike path skirts the waterfront and is part of the Bay Trail, a multi-use recreational corridor that will eventually encircle the Bay. Bike lanes are present on Doolittle Drive from the Flood Control Channel north to Fairway Drive, Fairway Drive, and Marina Boulevard. Neptune Drive north of Marina Boulevard and Doolittle Drive between Fairway Drive and Marina Boulevard are signed as bike routes.

The 2004 Bicycle and Pedestrian Master Plan proposed a bicycle path along the southern boundary of the Flood Control Channel and to complete bicycle lanes on Doolittle Drive between Fairway Drive and Davis Street and on Monarch Bay Drive between Marina Boulevard and Fairway Drive.

Regulatory Framework

The development and regulation of the project area transportation network primarily involves state and local jurisdictions. State jurisdiction includes permitting and regulation of the use of state roads, while local transportation decisions are guided by goals, policies and ordinances laid out in City documents such as the General Plan, Zoning Ordinance, and Bicycle Plan. The City of San Leandro has jurisdiction over all City streets and City-operated traffic signals.

Methodology and Criteria

Appendix G of the *CEQA Guidelines* lists the following thresholds of significance for traffic to determine if the project would:

- cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system,
- exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways,
- 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,
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment),
- result in inadequate emergency access,
- parking capacity, or
- conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.)

The following thresholds are used to determine traffic/transportation constraints:

- *High Constraint* if the project would result in a substantial increase in traffic, conflict with emergency access to a significant degree, noticeably increase traffic safety hazards, and would require extensive mitigation in order to minimize the effect (or if mitigation may not be feasible).

- *Moderate Constraint* if the project would result in an increase in traffic, conflict with emergency access, increase traffic safety hazards or displace people or housing units and would require minimal mitigation.
- *Low Constraint* if the project would not cause a significant traffic impact and no mitigation would be required.

Evaluation

A discussion of transportation and circulation constraints for each study sub-area is presented below. Table 2.6-1 provides a summary of the constraints identified for each study sub-area.

**TABLE 2.6-1
SUMMARY OF TRANSPORTATION CONSTRAINTS**

Site	Road Capacity/ Cumulative	Construction	Design Features	Emergency Access	Parking Capacity	Policy Conflicts/ Alternative Transportation	Constraint Determination
San Leandro Harbor	Moderate	Moderate	Low	Moderate	Low	Moderate	Moderate
Marina Golf Course	Moderate	Moderate	Low	Moderate	Low	Moderate	Moderate
Public Parcels (Fairway Drive and Aurora Drive)	Moderate	Low	Low	Low	Low	Low	Low
Private Parcels (Neptune Drive and Marina Blvd)	Moderate	Low	Low	Low	Low	Low	Low
DMMS	Low to High	Low	Low	Low	Low	Low	Low to High

SOURCE: ESA 2007

NOTES: Air traffic patterns would not be affected by the redevelopment of these parcels, and therefore are not included in this table.

Roadway Capacity, Cumulative Congestion

Marina Boulevard, a residential arterial roadway, is located west of Doolittle Drive, and serves as the main access roadway into the project area. Neptune Drive is a collector between Marina Boulevard and Fairway Drive, and Fairway Drive west of Doolittle Drive is a residential collector. As such, the classification of roadways that provide access to and through the project area is low and thus their function and design standards are set for lower volumes of traffic.

Traffic forecast in the General Plan for the year 2015 shows that most roadways would operate at Level of Service (LOS) D or better with planned improvements. Key intersections in the project vicinity, including the interchange with I-880 at Marina Boulevard would degrade in operation with the redevelopment of the project area, as land use changes on these parcels were not included in the traffic forecasts models. Intersections such as interchange ramps, Doolittle Drive

at Marina Boulevard, Merced Street at Marina Boulevard and Fairway Drive, and San Leandro Boulevard at Marina Boulevard are projected to be operating at LOS D during at least one of the peak hours in 2015. Future development would be required to mitigate traffic congestion, with project options that would generate peak hour traffic (i.e., residential or office uses) having a higher potential for exceeding roadway and intersection capacities. While the constraint associated with traffic congestion would ultimately depend on the types and intensities of development projects that would be proposed in the project area, this constraint can be characterized as **moderate**.

Development in the study area to more intense land uses could increase vehicle traffic in the neighborhood, and with residential land uses located along access roadways, there would be a need for improved neighborhood traffic management. Nearby residential uses would be sensitive to traffic increases, especially along residential arterials and collectors such as Marina Boulevard and Neptune Drive. There would likely be opposition to any increased traffic on local roadways. However, it is the City's policy to consider traffic calming measures as an integral part of urban design improvements. While the constraint associated with the neighborhood's exposure to increased traffic would ultimately depend on the types of development projects that would be proposed in the project area, this constraint can also be characterized as **moderate**.

The following uses are envisioned for the DMMS: continuing to operate it as a drying and temporary storage area for dredged materials removed from channels belonging to other marinas, restoring the site to a more permanent tidal wetland and habitat for endangered species such as the salt marsh harvest mouse, or using it as a mitigation site for development undertaken in the other portions of the study area or other parts of the Bay Area. If the site is restored, it will not have any long-term transportation constraints; thus, transportation constraints associated with this use would be considered **low**. If the site is used to continue storing dredged materials associated with San Leandro marina or other marinas, these materials would need to be brought in and out via trucks, which would increase the amount of truck traffic in the project area. In the case of other marinas, the excavation and hauling activities may take place more frequently than they have historically with San Leandro marina, thereby resulting in the dredged materials removal cycle as often as annually. Because only two routes have access to the DMMS and because, based on past dredged materials management activities here, trucks associated with hauling the materials would generate noticeable impacts along those routes for relatively long stretches of time,¹¹ the transportation constraints associated with this use would be considered **moderate to high**, depending on the amount of dredged materials that would be stored and hauled.

Construction Conditions

Construction activities in the project area that would likely generate off-site traffic include the initial delivery of construction vehicles and equipment to the project site, the daily arrival and departure of construction workers, the delivery of materials throughout the construction period,

¹¹ In the past, truck traffic associated with hauling the San Leandro dredged materials offsite required hauling periods lasting approximately six weeks, during which time trucks left the DMMS at an average interval of one minute between site departures.

and the removal of construction debris. Deliveries would include shipments of concrete, lumber, and other building materials for on-site structures, utilities (e.g., irrigation and plumbing equipment, electrical supplies) and paving and landscaping materials.

Construction-generated traffic would be temporary, and therefore, would not result in any long-term degradation in operating conditions on any project roadways. The impact of construction-related traffic would be a temporary and intermittent lessening of the capacities of project area streets because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. However, given the proximity of the project site to an arterial (Marina Boulevard), and to I-880, construction trucks would have relatively easy and direct routes. Most construction traffic would be dispersed throughout the day. Thus, the temporary increase would not significantly disrupt daily traffic flow on any of the study area roadways.

Although it would be temporary, construction truck traffic could have some adverse effect on traffic flow in the study area. It is therefore recommended that the transport of construction materials and equipment should be limited to off-peak traffic periods. Development constraints from a construction-related traffic standpoint would be considered **low**.

Design Features

If the project area was further developed, there would need to be physical improvements to the roadway and streetscape in order to be a more efficient and attractive gateway for both vehicles and pedestrians. This could include curb bulbouts, landscaped medians, pavement materials, roundabout, landscaping, and widening of sidewalks and roadways. As the City's Engineering and Transportation Department, Community Development Department, and Alameda County Fire Department would review and approve plans in the development application process, and because the City engineers would oversee design features for the public right-of-way, constraints related to design features is considered **low**.

Emergency Access

A rail line operated by Union Pacific Railroad, is located just east of Doolittle Drive. The rail line has two at-grade crossings, one at Marina Boulevard and one at Fairway Drive. In general, rail lines tend to hamper emergency access because they occasionally limit alternative routes to the project area. The at-grade crossings in the study area are equipped with warning bells and crossing guards, which are used to detain vehicles when trains pass. A new station at Williams Street west of the tracks allows for unimpeded access to the Marina. Because the uses in the area are envisioned to be recreational, residential, commercial, and visitor-serving, this constraint would be considered **moderate**.

As the City's Engineering and Alameda County Fire Departments would review and approve plans in the development application process, and because City staff would oversee design features for the public right-of-way, constraints related to emergency access is considered **low**.

Parking Capacity

Under existing conditions there is ample parking in the project area, as much of the land is underutilized. With redevelopment, demand for parking could increase with new and higher density uses. Article 17 of the City's Zoning Code outlines parking requirements for off-street parking spaces and loading spaces. As the City would require future developments to comply with the Zoning Code, the environmental constraint related to parking capacity is considered **low**.

Policy Conflicts/Alternative Transportation

Redevelopment of the site could increase the demand for alternative modes of transportation to and within the project area. Transit service may need to increase frequency if land use changes were to increase demand significantly in the project area. In addition, if land use is intensified, pedestrian and bicycle facilities would need to be improved to accommodate safe transportation access. BCDC would require that public pedestrian access be maintained along the waterfront, and the Bay Trail project would also need to be maintained under future development scenarios.

A regional ferry terminal has been considered for the San Leandro Marina in a study conducted by the Bay Area Water Transit Authority under state legislation that took effect in January 2000. It is speculative if a ferry terminal would operate out of San Leandro Marina, however, and if one were to be constructed, it would have to address roadway capacity constraints on Marina Boulevard, neighborhood traffic management, and parking, to name a few. The environmental constraints related to development of the site is considered **moderate**.

Conclusion

Further development of the San Leandro Marina would have a moderate impact on transportation. Redevelopment of the Marina Golf Course and the San Leandro Harbor site could potentially have moderate to high constraints on roadway capacity and access depending on the density and intensity of land uses. The private parcels, due to their relatively small size, would generate minimal traffic and thus would have lower environmental constraints. The DMMS would have a low to high environmental constraint, depending on whether it continues to use this site to store dredged materials (and expands that use to include material dredged from other marinas and ports), or is restored as a natural preserve.

2.7 Noise

Setting

All of the study sub-areas are located in an urban environment, in close proximity to residences. The closest residences to the study areas are located adjacent to (to the north and east of) the Marina Golf Course, just north of the Estudillo Canal, and along the east side of Orion Road. Primary existing noise sources in the study area are vehicular traffic and the noise from aircrafts departing from and approaching the Oakland International Airport runway, which is located approximately one mile northwest of the San Leandro Harbor area and approximately two miles

northwest of the DMMS. According to the Noise Contours diagram included in the San Leandro General Plan 2015 (Figure 6-2), the San Leandro Harbor is located within areas corresponding to between 60 dB CNEL and 65 dB CNEL¹² relative to aviation noise.

Regulatory Framework

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans, and noise ordinances set forth the specific standards and procedures for addressing particular noise sources and activities.

State of California Noise Insulation Standards

California has established noise insulation standards (Title 24, California Code of Regulations) for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. The noise insulation standards, which set forth an interior standard of 45 DNL in any habitable room, are typically enforced by local jurisdictions through the building permit application process.

City of San Leandro

The City of San Leandro regulates noise through enforcement of its municipal code and through implementation of Policies contained in the Environmental Hazards Element of the General Plan. Section 4-1-1115 of the City's Zoning Code also discusses disturbing, excessive and offensive noises, such as construction-related noise near residential uses, which is regulated by the City.

The Environmental Hazards Element of the City of San Leandro's General Plan has established standards for exterior noise for new developments. Goal 35 (Noise Compatibility) and Policies and Actions 35.01 through 35.08 require that specific measures are implemented during planning and construction activities, such as ensuring that interior noise levels in new residential construction do not exceed 45dB Ldn (Policy 35.02) and discouraging noise-sensitive uses such as hospitals, schools, and rest homes from locating in areas with very high noise levels (35.05). Noise Compatibility goals are implemented through the CEQA process, the development review, the Noise Ordinance and the building code.

¹² Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

Methodology and Criteria

Appendix G of the *CEQA Guidelines* lists the following thresholds of significance for noise to determine if the project would:

- result in exposure of persons to, or generation of, noise levels in excess of local standards established in the local general plan or noise ordinance, or applicable standards of other agencies,
- result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels,
- result in a substantial temporary, periodic or permanent increase in ambient noise levels in the project vicinity above levels existing without the project, or
- be located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, or in the vicinity of an air strip, and would expose people residing or working in the area to excessive noise levels.

The following thresholds are used to determine noise constraints:

- *High Constraint* if the development envisioned within the study area would be infeasible due to the presence of high noise levels in the vicinity that could not be mitigated to less-than-significant levels or if the project would cause a substantial increase in noise levels that could not be mitigated to less-than-significant levels.
- *Moderate Constraint* if the development envisioned within the study area would require noise-reducing mitigation measures (beyond what is already mandated by Title 24 of California Code of Regulations) due to the presence of high noise levels in the vicinity or if the project would cause a substantial increase in noise levels that would require mitigation measures to ensure less-than-significant noise impacts.
- *Low Constraint* if the local noise levels in the vicinity could accommodate the development envisioned within the study area without any mitigation measures and if the project would not cause a substantial increase in noise levels that would affect the sensitive receptors in the vicinity and compliance with local noise regulations would ensure less-than-significant impacts.

Evaluation

A discussion of noise related constraints for each study sub-area is presented below. Table 2.7-1 provides a summary of the constraints identified for each study sub-area.

Constraints Common to All Sub-Areas

Construction

Construction activities associated with any of the redevelopment options would result in the use of heavy construction equipment such as graders, dozers, cranes, and semi-tractor trucks on and off the study site. Noise levels at the nearest residences would average approximately 85 decibels,

**TABLE 2.7-1
SUMMARY OF NOISE CONSTRAINTS**

Sub-Areas	Potential Constraints				Overall Constraints
	Exposure to Construction Noise	Exposure to Noise and/or Groundborne Vibration/Noise	Increase of Ambient Noise in Study Area	Proximity to Airport	
San Leandro Harbor	Low	Low	Low	High	Moderate
Marina Golf Course	Low	Low	Low	High	Moderate
Public Parcels (Fairway and Aurora Drives)	Low	Low	Low	Moderate	Low
Private Parcels (Neptune Drive and Marina Boulevard)	Low	Low	Low	High	Moderate
DMMS	Low	Low	Low	Low	Low

potentially resulting in disturbances to the residences. However, construction activities would be short term in duration and standard mitigation, including compliance with the City's municipal code, would ensure less-than-significant construction noise impacts. Construction noise impacts would constitute a **low** noise constraint.

Operation

This report assumes that out of the five sub-areas, four (the San Leandro Harbor, Marina Golf Course, public parcels at Fairway Drive and Aurora Drive, and private parcels at Neptune Drive and Marina Boulevard) would be redeveloped into a variety of uses, including offices, hotel(s), housing, and recreational uses, all of which have the potential to introduce new sources of noise to those areas as compared to existing conditions. These uses would increase the ambient noise levels within those areas slightly; however, these increases would remain within normally acceptable noise levels and would be compatible with neighboring land uses. The constraints associated with these uses, therefore, would be categorized as **low**.

As noted in the Project Description, the DMMS is envisioned to be redeveloped into one of three possible uses: continuing to operate it as a drying and temporary storage area for dredged materials removed from channels belonging to other marinas, restoring the site to a more permanent tidal wetland and habitat for endangered species such as the salt marsh harvest mouse, or using it as a mitigation site for development undertaken in the other portions of the study area or other parts of the Bay Area. Increased noise associated with the first option would introduce truck traffic to the area, which would increase the ambient noise along the roadways in this neighborhood. Because the volume of trucks arriving at and leaving the site could be high during dredged materials hauling phases, and because this phase would occur cyclically, annually to

once approximately every three years, the constraint related to noise associated with this option would, therefore, be **moderate**. Restoring the DMMS, either as a permanent wildlife refuge or as part of a mitigation program, may result in temporary increase in short-term traffic and noise, but would not result in increased ambient noise in the long term. Constraints associated with these two options would, therefore, be **low**.

Proximity to Oakland Airport

As noted above, the entire study area is within one to two miles of the Oakland International Airport runway. Therefore, all areas would be exposed to the noise generated by aircraft take-offs and landings. The public parcels on Fairway and Aurora Drives are located further away from the airport runway and the aircraft flight path. Therefore, the constraint associated with these two parcels is classified as **moderate**. Likewise, the uses anticipated at DMMS would not be restricted by aircraft noise; therefore, this constraint would be considered **low**.

Conclusion

Although the City is committed to complying with applicable noise ordinances, the noise levels for any of the development options would need to be analyzed to adequately determine the level of significance that would be associated with the San Leandro Marina redevelopment. Overall, noise constraints to the redevelopment of the site are considered moderate for all the sub-areas except the DMMS and the public parcels at Fairway and Aurora Drives, which are considered to have low constraints. The proximity of the project area to the Oakland International Airport and its approach zones increase the overall noise related constraints.

2.8 Air Quality

Setting

The project area is currently designated as non-attainment of the 1-hour State and the 8-hour federal standards for ozone, the annual and 24-hour State standards for respirable particulate matter (PM₁₀), and of the annual State standard for fine particulate matter (PM_{2.5})¹³ (BAAQMD, 2006).

Individuals sensitive to air pollutants include the elderly, young children, people with pre-existing illness, and individuals performing strenuous work or exercise. Occupants of residential areas are also sensitive to air pollutants and odors because residents tend to be at home for prolonged periods of time and thus have the potential for extended exposure. Presently, residential sensitive receptors exist in close proximity to the north, east, and south of all sub-areas with the exception of the San Leandro Harbor which is buffered from residential uses by the Marina Golf Course.

¹³ PM₁₀ and PM_{2.5} are particulate matter of size of 10 and 2.5 microns respectively. A micron is one-millionth of a meter.

Regulatory Framework

The U.S. Environmental Protection Agency (U.S. EPA) is responsible for implementing the myriad programs established under the federal Clean Air Act, such as establishing and reviewing the national ambient air quality standards and judging the adequacy of the state implementation plans (SIPs). The U.S. EPA has delegated the authority of implementing many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

The California Air Resources Board (CARB), California's air quality management agency, is responsible for establishing and reviewing the state ambient air quality standards, compiling the California SIP and securing approval of that plan from U.S. EPA, and identifying toxic air contaminants (TACs). CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county or regional level.

The county or regional air quality management districts are primarily responsible for regulating stationary emissions sources at industrial and commercial facilities within their geographic areas and for preparing the air quality plans that are required under the federal and California Clean Air Acts. As noted above, the Bay Area Air Quality Management District (BAAQMD) is the regional agency with regulatory authority over stationary sources in the Bay Area. The BAAQMD has the primary responsibility to meet and maintain the state and national ambient air quality standards in the Bay Area.

Methodology and Criteria

Appendix G of the *CEQA Guidelines* lists the following thresholds of significance for air quality to determine if the project would:

- conflict with or obstruct implementation of the applicable air quality plan,
- violate any air quality standard or contribute substantially to an existing or projected air quality violation,
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors),
- expose sensitive receptors to substantial pollutant concentrations, or
- create objectionable odors affecting a substantial number of people.

The following thresholds are used to determine air quality constraints:

- *High Constraint* if the redevelopment of the marina would significantly affect sensitive receptors in the vicinity, substantially increase criteria air pollutants, or create objectionable

odors and no feasible mitigation measures would be available to reduce potentially significant impacts to less-than-significant levels.

- *Moderate Constraint* if the redevelopment of the marina would adversely affect sensitive receptors in the vicinity, substantially increase criteria air pollutants, and create objectionable odors, and would require a moderate to high level of mitigation measures in order to reduce potentially significant impacts to less-than-significant levels.
- *Low Constraint* if the redevelopment of the marina would not significantly affect sensitive receptors, would not substantially increase criteria air pollutants, or create objectionable odors and would require minimal or no mitigation in order to ensure less-than-significant impacts.

Evaluation

A discussion of air quality related constraints for each study sub-area is presented below.

Table 2.8-1 provides a summary of the constraints identified for each study sub-area.

**TABLE 2.8-1
SUMMARY OF AIR QUALITY CONSTRAINTS**

Sub-Areas	Potential Constraints					Overall Constraints
	Construction-Related Emissions (with BMPs implemented)	Increase in Air Particulates Due to Vehicle Exhaust	Increase in Air Particulates Due to Proposed Uses	Increase in Greenhouse Gas Emissions	Creation of Objectionable Odors	
San Leandro Harbor	Low	Moderate	Low	Low	Low	Moderate
Marina Golf Course	Low	Moderate	Low	Low	Low	Moderate
Public Parcels (Fairway and Aurora Drives)	Low	Moderate	Low	Low	Low	Low
Private Parcels (Neptune Drive and Marina Boulevard)	Low	Moderate	Low	Low	Low	Low
DMMS	Low	Low to High	Low	Low	Low	Low to High

Constraints Common to All Sub-Areas

Construction

The BAAQMD CEQA Guidelines do not specify construction significance thresholds for the Bay Area because the BAAQMD encourages the implementation of dust control measures that would mitigate construction-related air quality impacts and eliminate the need to establish significance standards (BAAQMD, 1999). Construction equipment also emits carbon monoxide (CO) and ozone precursors (e.g., volatile organic compounds (VOC) and nitric oxides (NO_x); however, these emissions are included in the Bay Area emission inventories that form the basis for regional air quality plans, and are not expected to impede attainment or maintenance of ozone or CO standards in the Bay Area (BAAQMD, 1999). Implementation of the BAAQMD mitigation measures during ground-disturbing activities such as grading, trenching, or excavating, which would likely occur at all sub-areas with the possible exception of the DMMS, would help control fugitive dust and would ensure that the construction-related impacts are less than significant. The air quality constraint for all sub-areas of the San Leandro Marina, therefore, would be **low** during the construction phase(s).

Operation

Pollutant Emissions

As with other environmental issues, operational emissions resulting from study area redevelopment would ultimately depend on the types and intensities of the development. This report assumes that out of the five sub-areas, four (the San Leandro Harbor, Marina Golf Course, public parcels at Fairway Drive and Aurora Drive, and private parcels at Neptune Drive and Marina Boulevard) would be redeveloped into a variety of uses, including offices, hotel(s), housing, and recreational uses, all of which would likely intensify and introduce more traffic to those areas as compared to existing conditions. The pollutant emissions resulting from vehicle exhaust that would be attributable to commuting employees, residents, and visitors to and from these four sub-areas as well as from truck trips that would be periodically required to deliver materials to those areas, would be considered **low** for these four sub-areas.

With regard to the DMMS, as discussed in Project Description, this report assumes that three types of uses would occur at this site: continuing to operate it as a drying and temporary storage area for dredged materials removed from channels belonging to other marinas, restoring the site to a more permanent tidal wetland and habitat for endangered species such as the salt marsh harvest mouse, or using it as a mitigation site for development undertaken in the other portions of the study area or other parts of the Bay Area. If the first option is implemented, it is assumed that dredged materials from other marinas would be delivered to the DMMS (most likely via barge) and then removed by trucks for beneficial reuse elsewhere. As noted in Section 2.6, *Transportation and Circulation*, and based on historic dredge materials hauling associated with DMMS, the volume of truck trips to and from the site could be high, substantially increasing pollutant emissions, including diesel particulates, associated with vehicle travel. This would constitute a **moderate to high** constraint. Alternatively, the second and third options would result in fewer vehicle trips to and from the area, which would correspond to a **low** constraint.

Therefore, on the whole, the constraint related to transportation emissions for all areas would range from **low** to **high**, depending on which redevelopment option is ultimately chosen and how it is implemented.

Since no industrial activities would be anticipated as part of the marina redevelopment, stationary source emissions, generated by combustion of natural gas for building space, water heating, and similar uses, would likely be relatively minimal compared to transportation emissions, and this constraint would be considered **low**.

Greenhouse Gas Emissions

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” Greenhouse gases (GHGs) contribute to an increase in the temperature of the earth’s atmosphere by preventing the escape of heat. The principal GHGs are carbon dioxide, methane, nitrous oxide, and water vapor. (Ozone—not directly emitted, but formed from other gases—in the troposphere, the lowest level of the earth’s atmosphere, also contributes to retention of heat.)

Intensifying the uses on the San Leandro Marina and the Marina Golf Course by introducing residential, commercial, hotel, or recreational uses to these sites would contribute to long-term increases in greenhouse gases (GHGs) as a result of traffic increases (mobile sources) and residential and commercial building heating (area sources), as well as indirectly, through electricity generation. On the other hand, constructing a mix of uses, including residential and commercial, on an “infill” site which is already developed and tied to local infrastructure, would result in less GHG emissions than would otherwise result from a similar project constructed on an undeveloped land. Seen from this perspective, the envisioned development on the site may be considered beneficial.

Nevertheless, while exact greenhouse gas estimates would depend on the nature of the future proposed projects, any of the considered redevelopment options would result in incremental increases in GHG emissions associated with traffic increases and space heating, and would contribute to regional and global increases in GHG emissions and associated climate change effects. Neither the BAAQMD nor any other agency has adopted significance criteria or methodologies for estimating a project’s contribution of GHGs or evaluating its significance. However, it is unlikely that any individual redevelopment project, such as the envisioned redevelopment of the San Leandro Marina, would, by itself, generate sufficient emissions of GHGs to result in a cumulatively considerable contribution in the context of the cumulative effects of regional GHG emissions. As part of any new construction, the structures that would be developed in the study area would be required to meet California Energy Efficiency Standards for Residential and Nonresidential Buildings, helping to reduce future energy demand as well as reduce the project’s contribution to cumulative regional GHG emissions.

Therefore, constraints associated with greenhouse gas emissions that would result from the redevelopment of the San Leandro Marina would be **low**.

Odors

Odor does not appear to be an existing problem in any of the sub-areas. In general, while restaurants can emit cooking odors, these odors are not typically associated with objectionable odors that affect substantial numbers of people. Therefore, the constraints related to adverse odor impacts would be **low** for all sub-areas.

Conclusion

Any development will be required to comply with BAAQMD polices regarding air quality during construction and operation. Overall, air quality constraints to the redevelopment of the site are moderate for all the sub-areas except the two smaller sites (Fairway/Aurora and Neptune Drive), which have low constraints, and the DMMS, which would vary from low to high depending on whether it is used to store dredged materials, expands that use to include material dredged from other marinas and ports, or is actively restored. Air quality constraints are driven by vehicle exhaust, and thus, the more dense or intense a proposed land use, the higher the potential for air particulates and green house gas emissions.

2.9 Public Services and Utilities

Setting

Public Services

The Alameda County Fire Department and the San Leandro Police Department provide fire and police protection services, respectively, to the study area and San Leandro as a whole. San Leandro has a park system which includes 23 parks and recreation facilities including community and neighborhood parks, swimming pools and sports fields. The park system includes Marina Park, a 30-acre regional park that borders the San Leandro Shoreline, and is located off Monarch Bay Drive near Fairway Drive, just south of the Marina Golf Course and southeast of San Leandro Harbor. The San Leandro Unified School District provides public school education services to the study area and is comprised, in total, of eight elementary schools, two middle schools, and two high schools.

Public Utilities

Water service to San Leandro is provided by the East Bay Municipal Utility District (EBMUD). According to the San Leandro General Plan, in 1999, San Leandro's metered water demand was 12.0 million gallons per day. San Leandro is served by two different sanitary sewer systems, the City of San Leandro Public Works Department (which serves the study area) and the Oro Loma Sanitary District.

Methodology and Criteria

Appendix G of the *CEQA Guidelines* lists the following thresholds of significance for public services and utilities to determine if the project would

- result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection, schools, parks or other public facilities, or
- conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board,
- require or result in the construction of new water or wastewater treatment or stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects,
- require new or expanded water supply resources or entitlements,
- result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments,
- be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and comply with federal, state, and local statutes and regulations related to solid waste.

The following thresholds are used to determine public services and utilities constraints::

- *High Constraint* if the project would substantially increase the demand for public services and/or utilities, such that expansion of the existing or construction of new public service or utility facilities would be required.
- *Moderate Constraint* if the project would substantially increase the demand for public services and/or utilities, but would not require the construction or expansion of public service or utility facilities.
- *Low Constraint* if the project would not substantially increase the demand for public services and/or utilities.

Evaluation

A discussion of public services related constraints for each study sub-area is presented below. Table 2.9-1 provides a summary of the constraints identified for each study sub-area.

Constraints Common to All Developable Sub-Areas

Public Services

The proposed project could result in the addition of a substantial number of people at the study area. However, having not determined the specific uses in each sub-area, it is uncertain as to whether additional police or fire services would be required. In addition, the proposed uses could increase employment and residents in the area, thereby resulting in a direct and/or indirect increased demand on the San Leandro Unified School District, as well as increase the use of park and recreation. The constraint related to provision of public services would be **moderate** for larger sub-areas and **low** for smaller sub-areas. DMMS would not have any permanent structures constructed on it; therefore, this constraint would not apply to this sub-area.

**TABLE 2.9-1
SUMMARY OF PUBLIC SERVICES AND UTILITIES CONSTRAINTS**

Sub-Areas	Potential Constraints					Overall Constraints
	Impact to Services	Water Treatment	New Water Facilities	Water Supply	Landfill Capacity	
San Leandro Harbor	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Marina Golf Course	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Public Parcels (Fairway and Aurora Drives)	Low	Low	Low	Low	Low	Low
Private Parcels (Neptune Drive and Marina Boulevard)	Low	Low	Low	Low	Low	Low
DMMS	N/A	N/A	N/A	N/A	N/A	N/A

Public Utilities

The four developable parcels (all sub-areas except the DMMS) are currently served by public utility providers that offer water supply, wastewater conveyance and treatment, energy supply, and solid waste hauling and disposal services. Once a redevelopment option is defined, additional studies would be required to determine the capacities of these systems. At that point, it would be possible to determine whether the envisioned intensification of the study area would stress the existing infrastructure systems to a level that would exceed these capacities. The constraint related to provision of utilities would be **moderate** on larger sub-areas and **low** on smaller sub-areas. DMMS would not have any permanent structures constructed on it; therefore, this constraint would not apply to this sub-area.

Conclusion

As noted above, various public services and utility providers currently serve the study area. Further studies would need to be conducted when redevelopment options are refined and environmental permitting is carried out.

2.10 Recreation

Setting

City Parks

San Leandro park system includes 121 acres, or 23 parks and recreation facilities, including community and neighborhood parks, swimming pools and sports fields. The City also has a 178-acre municipal golf club (Monarch Bay Golf Club) and a 466-slip public marina, which are both in the project area. The park system includes Marina Park, a 30-acre regional park that borders the San Leandro Shoreline, and is located off Monarch Bay Drive near Fairway Drive, just south of the Marina Golf Course and southeast of San Leandro Harbor. Amenities at Marina Park include picnic areas with barbecue grills, play apparatus, three large group picnic areas, a large grassy area and a mile-long par course.

In addition, the San Leandro Harbor area, the Marina Golf Course and Tony Lema Golf Course are used by residents of San Leandro for recreational purposes.

Level of Service Standards

The General Plan established the following Level of Service standards for the City's park system:

- At least 4.86 acres of improved parkland should be provided for every 1,000 residents (which is the City's current parkland ratio).
- A park should be accessible within one-half mile of each San Leandro resident.

The 4.86 acres per thousand standard is based on the existing ratio of parks to population in the City of San Leandro, and should be maintained as the City's population grows. Recreational land uses do not include passive open space, such as the Marshlands to the south of the project site.

Residential access within one-half mile of a park would require the City to focus acquisition and development to several specific areas.

The Bay Trail

The Bay Trail Plan, adopted by ABAG in July 1989, includes a proposed alignment; a set of policies to guide the future selection, design and implementation of routes; and strategies for implementation and financing. The Bay Trail in San Leandro from San Lorenzo Creek to Marina Park runs through the restored marsh, follows the edge of the Bay, crosses the flood control

channel, and continues along Neptune Drive to Oyster Bay area. The trail is paved and wide for its entire length. In the project area, and near Marina Park, the trail runs between the Bay and Monarch Bay. An unmarked network of dirt and gravel trails provides access to different parts of the marsh and the Bayshore. The next segment of the Bay Trail to the north begins at Marina Park, runs around the San Leandro Marina, uses city streets (including Neptune Drive) for a short section, then enters Oyster Bay Regional Shoreline. Further north is Oakland International Airport.

Methodology and Criteria

Appendix G of the *CEQA Guidelines* lists the following thresholds of significance for recreation to determine if the project would:

- increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated, or
- include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

The following thresholds are used to determine recreation constraints:

- *High Constraint* if the project would substantially increase the use of existing parks and recreational facilities or require the construction or major expansion of recreational facilities.
- *Moderate Constraint* if the project would substantially increase the use of existing parks and recreation facilities, however construction of new or expansion of the existing facilities would not be required.
- *Low Constraint* if the project would not substantially increase the use of existing parks and recreation facilities.

Evaluation

A discussion of recreation related constraints for each study sub-area is presented below. Table 2.10-1 provides a summary of the constraints identified for each study sub-area.

Increased Park Use

Marina Park, the Bay Trail, and the Monarch Bay Golf Club are the active recreational areas in the project area, although just the 9-par Marina Golf Course is being considered for redevelopment. If the Marina Golf Course were redeveloped, the City would need to consider mitigating the loss of this relatively large-acreage recreational facility, as it's included in the acreage eligible for inclusion in the City's park impact fee standard. Not only does the golf course contribute to the overall per resident average recreational area calculation provided in the City's General Plan, but it also serves as a key recreation area to residents in the western portion of the City and visual open space to residents immediately adjacent. In addition, if the Marina Golf

**TABLE 2.10-1
SUMMARY OF RECREATION CONSTRAINTS**

Sub-Areas	Potential Constraints		Overall Constraints
	Increase Use of Parks	Adverse Effect	
San Leandro Harbor	Low	Low	Low
Marina Golf Course	High	Low	Moderate
Public Parcels (Fairway and Aurora Drives)	Low	Low	Low
Private Parcels (Neptune Drive and Marina Boulevard)	Low	Low	Low
DMMS	Low	Low	Low

Course were to be developed with residential uses, it would increase the need for recreational areas in the project area. The proposed development could substantially increase the use of other nearby existing parks and recreation facilities. Therefore, the proposed project would have a **low** to **moderate** recreation constraint, depending on whether and to what degree redevelopment of the site would retain some recreational uses.

Adverse Effect from new Development

It is unlikely that the proposed additional development in the project area would require the construction or expansion of recreational facilities in a way that would have an adverse physical effect on the environment. Moreover, the majority of the surrounding area is already developed to some extent, and the DMMS site, which is the largest and most environmentally sensitive of the sub-areas, would not be developed with residential uses that would increase the need for large parks in the area. Further development in the project area would have a **low** constraint on construction or expansion affects related to recreational facilities.

Conclusion

Development in the project area would have low constraints overall related to recreation; however, the redevelopment of the Marina Golf Course could greatly reduce available recreational space in the western portion of the City and visual open space for adjoining residential areas. The City may wish to include the development of recreational uses in the redevelopment area, in keeping with the City's goals of providing a minimum acreage per resident and having every resident within half a mile of a park. The redevelopment of the Marina Gold Course would be subject to a constraint considered "moderate."

SECTION 3

Conclusion

Table 3-1 below presents a summary of constraint levels identified for each sub-area. It is recognized that various issue areas may be considered more vital to project implementation from the City's perspective and, therefore, no weighting was given to one factor over another. Based upon the analysis to date, the broad issue areas with the greatest influence over the environmental and regulatory feasibility of the redevelopment options are traffic/transportation, biological resources, and air quality. No environmental or regulatory "fatal flaws" were identified for any of the redevelopment options under consideration by the City at this time.

Constraints were analyzed with respect to potential environmental impacts as well as other potentially limiting factors. A general qualitative ranking of low constraint, moderate constraint, and high constraint was used, as defined below:

- **High Constraint:** Project would likely entail substantial regulatory complexity and/or result in significant environmental affect and adequate mitigation is not likely to be feasible or would entail considerable expense and/or delay.
- **Moderate Constraint:** Project would likely entail some regulatory complexity and/or result in a significant environmental affect but adequate mitigation is likely to be feasible.
- **Low Constraint:** Project would not likely entail substantive regulatory issues nor result in a significant environmental affect.

Opportunities for potential development on the four developable sub-areas are those outlined throughout this report, namely a mix of retail, office, hotel, residential (both single- and multi-family), and recreational uses, and open space. Environmental impacts would be determined once an exact project is defined and analyzed, and would likely depend more on the intensity of redevelopment than the types of use. In general, residential uses would result in a greater demand on many public services (e.g., water, wasterwater treatment, solid waste) while retail and office uses would generate more traffic. However, because of the relatively large size of the study area, and given the generally developed nature of the area, any redevelopment project would likely consist of a mix of uses. A combination of different land uses would be in keeping with the overall current regional redevelopment trends and would have a greater likelihood of responding to the diverse needs and desires of the community. Therefore, no environmentally preferred option (in terms of land use) is identified.

In terms of potential environmental impacts, the *high constraints* identified for the proposed project in this report are biological resources, transportation and circulation, and air quality,

which are primarily associated with the DMMS. In the case of transportation and circulation, the high constraint would apply only if the City continues to use this site to store dredged materials and expands that use to include material dredged from other marinas and ports, in which case roadway capacity and environmental consequences of haul truck traffic would likely become an issue of concern. Similarly, a large volume of trucks to and from the DMMS would constitute a high air quality constraint, resulting from both dust generation during DMMS excavation activities and vehicular emissions, including diesel particulates, associated with haul truck operations. If this site were actively restored to a more permanent tidal wetland, however, the constraint associated with both of these issues would be reduced to low.

Although the possible alternative uses currently envisioned by the City for the DMMS would be limited to those outlined in this report, its designation as a “water of the U.S.”, and thereby subject to federal jurisdiction under Section 404 of the Clean Water Act, would present a high regulatory biological constraint. This designation would also apply because the DMMS may have potential incidental California clapper rail and salt marsh harvest mouse occurrences. This constraint is more regulatory in nature, rather than environmental, as any “new” activities in the DMMS would require considerable coordination with and permitting from various federal, state, and local agencies with jurisdiction over the site, in particular the Army Corps of Engineers, the California Department of Fish and Game, the US Fish and Wildlife Service, and the Regional Water Quality Control Board. As noted in the *Constraints Analysis* section, the Marina Golf Course has a high wildlife constraint, because in addition to suitable habitat for nesting birds, monarch butterflies are known to overwinter there.

With other environmental and regulatory issues identified in this report, there would likely be adequate mitigation available for any potential environmental affects that could arise due to the redevelopment of the San Leandro Marina. As indicated by several constraints identified as “moderate” in Table 3-1, the geological and hydrological conditions of the four developable sub-areas would require further investigation to determine the type and design of structures that would be most appropriate on those sites. Likewise, any buildings constructed within those areas would be required to mitigate any potential noise impacts that would be generated by aircraft landing at and departing from Runway 11/29 at Oakland International Airport. The City would also be required to fully assess the capacity and/or condition of local utility infrastructure to ensure that it would be able to meet the additional demand generated by new development in the study area. While these constraints could be characterized as “moderate” for some sub-areas (e.g., private parcels, Marina proper), they would likely not prohibit the implementation of any redevelopment options being considered.

**TABLE 3-1
SUMMARY OF CONSTRAINTS**

Site	Land Use	Biological Resources		Geology and Soils	Hazardous Materials	Hydrology and Water Quality	Traffic and Circulation	Noise	Air Quality	Public Services and Utilities	Recreation
		Wetlands/ Plants	Wildlife								
San Leandro Harbor	Moderate	Low	Low	Moderate	Low	Moderate	Moderate	Moderate	Moderate	Moderate	Low
Golf Course	Moderate	Low	High	Moderate	Low	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Public Parcels (Fairway and Aurora Drives)	Moderate	Low	Low	Moderate	Low	Low	Low	Low	Low	Low	Low
Private Parcels (Neptune Drive and Marina Boulevard)	Moderate	Low	Low	Moderate	Low	Moderate	Low	Moderate	Low	Low	Low
DMMS	Low	High	High	Low	Low	Low	Low to High	Low	Low to High	N/A	Low

SECTION 4

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APPENDIX A

Special-Status Species Considered in the Evaluation of the Study Area

APPENDIX A
SPECIAL-STATUS SPECIES CONSIDERED IN THE EVALUATION OF THE STUDY AREA

Common Name Scientific Name	Listing Status USFWS/CDFG/ CNPS	General Habitat	Potential for Species Occurrence in the study area	Period of Identificat- ion
Federally Listed and Proposed Listed Species				
ANIMALS				
Amphibians				
California tiger salamander <i>Ambystoma californiense</i>	FT/CSC	Wintering sites occur in grasslands occupied by burrowing mammals; breed in ponds and vernal pools	Low potential. The study area does not provide suitable habitat for this species.	Winter rains and March-April
California red-legged frog <i>Rana aurora draytonii</i>	FT/CSC	Breed in stock ponds, pools, and slow-moving streams	Low potential. The study area does not provide suitable habitat for this species.	May-August
Reptiles				
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	FT/CT	Coast ranges in chaparral and riparian habitats	Low potential. The study area does not provide suitable habitat for this species.	March-November
Birds				
Cooper's hawk <i>Accipiter cooperii</i>	--/CSC	Nests in riparian growths of deciduous trees and live oak woodlands	Low potential. Study area lacks suitable nesting habitat.	Winter-spring
Western burrowing owl <i>Athene cunicularia</i>	--/CSC	Short grasslands with abundant natural or artificial burrows for cover and breeding	Moderate potential. This species could inhabit the grasslands in the Marina Golf Course, although habitat is highly disturbed.	Year-round
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT/CSC	Nests and forages on sandy beaches on marine and estuarine shores - requires sandy, gravelly, or friable soils for nesting	Moderate potential. This species was observed at DMMS. However, it is not known to nest in the study area, and suitable nesting and foraging habitat is not present.	Year-round (San Francisco Bay)
Northern harrier <i>Circus cyaneus</i>	--/CSC	Nests in coastal freshwater and saltwater marshes, nest and forages in grasslands	Moderate potential. This species has been observed at DMMS, and although it may forage in the study area, it lacks suitable nesting habitat.	Year-round
White-tailed kite <i>Elanus leucurus</i>	FSC/CFP	Nests near wet meadows and open grasslands, in dense oak, willow, or other tree stands.	Moderate potential. This species has been observed at DMMS, and although it may forage in the study area, it lacks suitable nesting habitat.	March-July
Salt marsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	FSC/CSC	Nests in fresh and saltwater marshes, needs thick continuous cover down to water surface for foraging	Moderate potential. Observed within the SLSM (ESA, 2000), and although it may forage in the study area, it lacks suitable habitat.	April-July

Common Name Scientific Name	Listing Status USFWS/CDFG/ CNPS	General Habitat	Potential for Species Occurrence in the study area	Period of Identificat- ion
Federally Listed and Proposed Listed Species				
Bald eagle <i>Haliaeetus leucocephalus</i>	FT/CE	Winter foraging at lakes and along major rivers. Nests in large, old-growth, or dominant live trees with open branchwork. Winters in communal roosts in dense, sheltered, conifer stands	Low potential. The study area does not provide suitable nesting or foraging habitat for this species.	August- January
Alameda (South Bay) song sparrow <i>Melospiza melodia pusillula</i>	FSC/CSC	Emergent wetlands in the San Francisco Bay area	Moderate potential. Observed within the SLSM (ESA, 2000), but study area lacks suitable habitat.	Year-round
California brown pelican <i>Pelecanus occidentalis californicus</i>	FE/CE	Nests on islands, seeks cover on islands, mudflats, beaches, wharves	Low potential (nesting). Moderate quality roosting habitat present in and surrounding the SLSM. No nearby recorded nesting occurrences.	May- February
California clapper rail <i>Rallus longirostris obsoletus</i>	FE/CE	Nests and forages in emergent wetlands with pickleweed, cordgrass, and bulrush	High potential. 2005 and 2006 surveys revealed the presence of this species in neighboring SLSM (Spautz and McBroom, 2006). Although DMMS lacks suitable habitat for this species, strays may wander into it or nest nearby.	Year-round
Black skimmer <i>Rynchops niger</i>	--/CSC	Nests on gravel bars, sandy beaches, islands in unvegetated areas near salt or brackish water. Forages on small fishes and crustaceans in calm, shallow water	Low potential. Study area lacks suitable habitat; nearest occurrence is east of Johnson Landing, approximately three miles south of the study area (CNDDDB, 2007).	June- October
California least tern <i>Sterna antillarum browni</i>	FE/CE	Colonial breeder on bare or sparsely vegetated flat substrates including sand beaches, alkali flats, land fills, or paved areas	Low potential. Juvenile California least terns have been reported roosting on the beach in the SLSM (Baye, 2006). However, suitable nesting habitat is not present within the study area.	April- October
Mammals				
Salt marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE/CE	Saline emergent marsh with dense pickleweed	High potential. Identified throughout the SLSM (Leitner, 1997; 1998; 1999), and may wander into the DMMS although suitable habitat is lacking.	Year-round
Alameda Island mole <i>Scapanus latimanus parvus</i>	--/CSC	Primarily grasslands but found in a variety of habitat types. Needs friable soil for burrowing	Low potential. Known only from Alameda Island.	Year-round

Common Name Scientific Name	Listing Status USFWS/CDFG/ CNPS	General Habitat	Potential for Species Occurrence in the study area	Period of Identificat- ion
Federally Listed and Proposed Listed Species				
Salt-marsh wandering shrew <i>Sorex vagrans halicoetes</i>	--/CSC	Inhabits tidal salt marshes with dense pickleweed around south San Francisco Bay	Low potential. There is not suitable habitat for this species within the study area, and it was not detected during salt marsh harvest mouse surveys in adjacent salt marshes (Leitner, 1997; 1998).	Year-round
Fish				
Tidewater goby <i>Eucyclogobius newberryi</i>	FE/CSC	Shallow waters of bays and estuaries	Low potential. Only one population was observed in S.F. Bay in 1982 and none in 1984 (Moyle et al., 1995).	Year-round
Delta smelt <i>Hypomesus transpacificus</i>	FT/CT	Brackish and freshwater of large channels in the Sacramento-San Joaquin Delta region	Low potential. Rarely occur south of San Pablo Bay. Delta smelt are not known to occur in study area (California State Coastal Conservancy, 2003).	Year-round
Invertebrates				
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT/--	Vernal pools or other areas capable of ponding water seasonally	Low potential. The study area does not provide suitable habitat for this species. Nearest recorded occurrence greater than 5 miles ESE project (CNDDDB, 2007).	Year-round (eggs in dry season, adult shrimp in wet season)
Monarch butterfly <i>Danaus plexippus</i>	--/*	Protected tree groves of eucalyptus, Monterey pine, and cypress with nearby nectar and water sources	Present. This species congregates in the trees in the Marina Golf Course during the fall and winter months. Nearest recorded occurrence approximately one mile north of the study area (CNDDDB, 2007).	December-March
Mimic tryonia (=California brackishwater snail) <i>Tryonia imitator</i>	--/*	Coastal lagoons, estuaries, and salt marshes	Low potential. Not identified in 2001 invertebrate surveys at SLSM (LSA, 2004), and habitat is poor for this species. Nearest recorded occurrence was a shell found in 1947 approximately two miles NW of the Project site at Bay Farm Island, although this species has since been extirpated from the area.	Year-round
PLANTS				
Robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i>	FE/--/1B.1	Openings in woodlands, coastal dunes and scrubs	Low potential. The study area does not provide suitable habitat for this species. This species is likely extirpated in Alameda County.	May-September
Congdon's tarplant <i>Centromadia parryi</i> ssp. <i>congdonii</i>	--/--/1B.2	Valley and foothill grasslands	Low potential. The study area does not provide suitable habitat for this species.	May-October
Point Reyes bird's-beak <i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	--/--/1B.2	Coastal salt marsh	Low potential. The study area does not provide suitable habitat for this species.	June-October

Common Name Scientific Name	Listing Status USFWS/CDFG/ CNPS	General Habitat	Potential for Species Occurrence in the study area	Period of Identificat- ion
Federally Listed and Proposed Listed Species				
Kellogg's horkelia <i>Horkelia cuneata ssp. sericea</i>	--/--/1B.1	Closed-cone coniferous forest and coastal scrub	Low potential. The study area does not provide suitable habitat for this species. Species is likely extirpated from Alameda County.	April- September
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE/--/1B.1	Vernal pools	Low potential. The study area does not provide suitable habitat for this species.	March-June
Adobe sanicle <i>Sanicula maritime</i>	--/Rare/1B.1	Chaparral, coastal prairie, meadows and seeps, valley and foothill grasslands	Low potential. The study area does not provide suitable habitat for this species.	February- May
Most beautiful jewel-flower <i>Streptanthus albidus ssp. peramoenus</i>	--/--/1B.2	Chaparral and grasslands on serpentine soils	Low potential. The study area does not provide suitable habitat for this species.	April-June
California seablite <i>Suaeda californica</i>	FE/--/1B.1	Coastal salt marsh	Low potential. The study area provides suitable habitat for this species in the SLSM, but it is not currently present there (Baye, 2006). The nearest recorded occurrence was documented north of the study area in 1906, and is now extirpated (CNDDDB, 2007).	July- October

STATUS CODES:**Federal Categories (U.S. Fish and Wildlife Service)**

FE = Listed as Endangered by the Federal Government
 FT = Listed as Threatened by the Federal Government
 FPE = Proposed for Listing as Endangered
 FPT = Proposed for Listing as Threatened
 FC = Candidate for Federal Listing
 FSC = Former Federal Species of Concern
 FSLC = Federal Species of Local Concern
 BPA = Federal Bald Eagle Protection Act

California Native Plant Society (CNPS)

List 1A = Plants presumed extinct in California
 List 1B = Plants rare, threatened, or endangered plants in California and elsewhere
 List 2 = Plants rare, threatened, or endangered in California but common elsewhere.
 0.1= Seriously endangered in California
 0.2= Fairly endangered in California
 0.3= Not very endangered in California

State Categories (California Department of Fish and Game)

CE = Listed as Endangered by the State of California
 CT = Listed as Threatened by the State of California
 CR = Listed as Rare by the State of California

3511 = Fully Protected Species

* = Special Animals
 CSC = California Species of Special Concern