EXHIBIT C
Proposed General Plan Amendments

TABLE OF CONTENTS

List of Figures

List of Charts

List of Tables

3

LAND USE

The Land Use Element is the centerpiece of the General Plan. It contains the maps and strategies that will shape the physical form of San Leandro over the next 20 years. The Chapter identifies those areas of the city where change will be encouraged and those areas where the existing land use pattern will be maintained and enhanced. More than any other part of the General Plan, this Chapter reflects the input provided by San Leandro residents and businesses during the General Plan Update process.

This Element contains five sections:

- "Framework" describes the major themes of the General Plan and presents the Land Use Map.
- "Residential Neighborhoods" contains goals, policies and actions for the city's residential areas.
- "Business and Industry" contains goals, policies, and actions for the city's commercial and industrial areas.
- "Focus Areas" contains strategies for specific areas of the city where change is likely during the next 20 years.
- "Beyond the City Limits" provides general direction for San Leandro's Planning Area and Sphere of Influence. These are unincorporated areas with issues that could affect San Leandro's future.

A reduced version of the Land Use Diagram for San Leandro is shown on Figure 3-3. A larger version, displaying individual parcels, may be viewed on the City's website here.

A total of 18 land use categories appear on the Diagram, including six residential categories, three mixed use categories, three predominantly commercial categories, three industrial categories, and three public/ open space categories. Table 3-1 indicates the land area in each category.

There may be multiple zoning districts within each General Plan category, particularly in the commercial and mixed use areas. This will allow finer distinctions to be made between the specific land uses to be allowed and the development standards to be applied within each area of the city. The General Plan categories are correlated with the City's zoning districts in Table 3-2. The Table indicates which zones are compatible and conditionally compatible with each General Plan category. The use of a zone noted as "conditionally compatible" would only be acceptable if the types of development allowed by that zone are consistent with General Plan goals and policies.

Land Use Categories

Residential Categories

The following six categories appear on the General Plan Diagram. Each definition includes a reference to a *gross* density, which includes the area taken up by streets, easements, and common open space, and *net* density, which is based on developable parcel area only. Gross density is intended to communicate the general character of the areas within each category and is used to describe entire neighborhoods or large subdivisions. It is intended to be descriptive and not regulatory. Net density is used to establish the maximum number of units that may be built on a single parcel in a given category. It is regulatory, and provides the basis for the applicable zoning districts in each category. Since a few of the designations contain multiple zoning districts, the maximum net density is not necessarily permitted on all parcels. In each case, the maximum net density may be exceeded pursuant to state density bonus provisions for senior and/or affordable housing.

desire to retain most of these areas for retail, service, office, and similar employment-generating land uses.

Neighborhood Commercial. This designation corresponds to small shopping centers or clusters of street front buildings with local-serving businesses and services. Allowable uses include groceries, local-serving offices, pharmacies, laundromats, dry cleaners, restaurants, and other businesses that serve the daily needs of nearby residential areas. The maximum allowable Floor Area Ratio (FAR) is 0.5. Residential uses and mixed use development may be considered within Neighborhood Commercial areas, subject to a maximum net density of 24.2 units per acre and an FAR limit of 0.5.

General Commercial. This designation corresponds to larger shopping centers, shopping districts, and commercial uses providing a broader range of goods and services and serving a broader market than the neighborhood commercial areas. Allowable uses include but are not limited to supermarkets, department stores, apparel stores, theaters, and non-retail services such as offices and banks. These areas also contain primarily auto-oriented uses such as hotels and motels, car dealerships, auto service and repair businesses, and construction suppliers. The uses are generally designed for the convenience of persons arriving by car. The maximum allowable Floor Area Ratio (FAR) is 1.0. However, there are multiple zoning districts in this category, including several that are subject to lower maximum limits. Some of the zoning districts in this designation permit residential uses, subject to conditional use permit requirements and a maximum net density of 24.2 units per acre. In such cases, maximum FARs also apply. Residential uses are not permitted in all districts due to the potential for conflicts with heavier commercial activities and the need to retain land for local services and revenue generation.

Mixed Use Categories

There are four mixed use categories on the General Plan Diagram, corresponding to the areas of greatest development density and intensity in the city. Multi-family residential and commercial uses are encouraged in all four categories. Mixed use development (projects combining commercial and residential uses on a single parcel) is strongly encouraged in all four categories but is not mandatory unless specifically called out by a Specific Plan or Area Plan covering areas with these designations. Within each area, zoning may be used to identify areas where residential uses are preferred (or required) and areas where commercial uses are preferred (or required). The intensity of development in mixed use areas is typically regulated by floor area ration rather than units per acre, although some mixed use zoning districts may incorporate both metrics.

Downtown Mixed Use. This designation corresponds to the area that has historically been the central business district of San Leandro. It allows a range of uses which together create a pedestrian-oriented street environment. These uses include retail shops, services, offices, cultural activities, public and civic buildings, and similar and compatible uses, including upper story residential uses. These activities may be located within the same building or within separate buildings on the same site or nearby sites. More specific guidance on the mix and design of uses is specified in General Plan policies for the Downtown area and in the 2007 Downtown TOD Strategy. A maximum FAR of 3.5 applies, although this maximum is not permitted in all zoning districts within this area.

Mixed use development with housing is encouraged in this area, with allowable residential densities up to 125 units per net acre, depending on the zoning district. The City also offers density bonuses of up to 20 percent above the General Plan maximums stated above where the average unit size is smaller than 750 square feet.[1] Regardless of unit size, a maximum FAR of 3.5 also applies to mixed use development. This maximum is not permitted in all zoning districts within the Downtown Mixed Use area. Several Downtown zoning districts have been established to respond to existing land uses and development opportunities, and to facilitate Downtown revitalization goals.

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1 These bonuses may not be added to the state-required density bonus for affordable housing. Only one density bonus program may be applied to any given development.

Transit-Oriented Mixed Use. The purpose of this designation is to provide for a mix of high-intensity land uses that capitalize on proximity to the San Leandro BART station. This designation maximizes the potential for transit-oriented infill development and achieves compatible transitions to adjacent residential districts through design standards and zoning.

Several zoning districts have been established for the Transit-Oriented Mixed Use areas. These districts emphasize the vertical mixing of different uses, with housing being the predominant use in some areas and office/retail the major use in others. The maximum floor area ratio in areas with this designation is 4.0, although intensities of 5.0 may be considered on sites adjacent to the BART station. The transit-oriented zoning districts specify minimum densities (generally 20 to 60 units per acre) and some specify minimum floor area ratios (generally 1.0) to ensure that land is used as efficiently as possible. The maximum number of residential units on any given property is dictated by floor area ratio limits in some zoning districts and maximum density limits in others.

Corridor Mixed Use. This designation allows a mix of commercial and residential uses oriented in a linear development pattern along major transit-served arterials such as East 14th Street. A range of commercial and office uses is permitted, primarily serving neighborhood and community needs. Residential uses may be either free-standing or integrated into the upper floors of mixed use projects. Development should be designed to encourage walking and bicycle use, and should be sufficiently dense to support increased transit services along the corridors. A maximum allowable FAR of 2.5 applies in areas with this designation. . Maximum residential density in this category is dictated by the above floor area ratio limit rather than limits on housing units per acre.

Bay Fair Transit-Oriented Development. This designation includes approximately 120 acres within the San Leandro city limits around the Bay Fair BART Station, including Bayfair Center, Fairmont Square and Fashion Faire Place, and other commercial properties along Hesperian Boulevard, Fairmont Drive, and East 14th Street in the Bayfair Center vicinity. The BART parking lot is also included. As of 2016, a TOD Specific Plan for this area was underway. The intent is to create a new vision for this area, including retail, office, higher density housing, open space, and public land uses. A more urban development form is envisioned, with pedestrian-scaled streets and an orientation toward BART access and transit use. A maximum FAR of 3.0 applies. Maximum residential density in this category is dictated by floor area ratio limits rather than upper limits on housing units per acre.

Industrial Categories

Three industrial categories have been identified, as described below.

Light Industrial. Light Industrial areas may contain wholesale activities, distribution facilities, research and development or e-commerce uses, business services, technology, and manufacturing operations which produce minimal off-site impacts. Campus-style industrial parks and professional offices also are permitted. A limited range of commercial uses also is permitted in these areas. Uses in areas with this designation must be capable of locating adjacent to residential areas without creating adverse effects. A maximum floor area ratio of 1.0 applies, although this area contains multiple zoning districts and this maximum may not be attainable in all districts.

General Industrial. General Industrial areas may contain a wide range of manufacturing, transportation, food and beverage processing,

TABLE 3-2 CORRESPONDENCE BETWEEN LAND USE DIAGRAM AND ZONING DESIGNATIONS

Land Use Category	Corresponding Zoning Designations	Conditionally Compatible Zoning Designations
Garden Residential (RG)	RO	RS, PS
Low Density Residential (RL)	RS, RS-40, RS (VP)	RS (PD), RD, PS, CN
Low-Medium Density Residential (RLM)	RS (PD)	RD, RS, PS
Medium Density Residential (RM)	RD, RM-3000, RM-2500, RM-2000	RS (PD), RD, PS
Medium-High Density Residential (RMH)	RM-1800	RM-2000, RM-2500, RM-3000, PS
High Density Residential (RH)	RM-875	RM-1800
Neighborhood Commercial (CN)	CN, P	CC, CR, PS
General Commercial (CG)	CC, CS, CR	CN, PS, P
Downtown Mixed Use (MUD)	DA-1, DA-2, DA-3, P	RM-875, RM-1800, CN, PS
Transit-Oriented Mixed Use (MUTOD)	DA-2, DA-3, DA-4, DA-6	RM-875, RM-1800, PS
Bay Fair TOD Mixed Use (BTOD)	B-TOD	
Corridor Mixed Use (MUC)	NA-1, NA-2, SA-1, SA-2, SA-3, DA-2	RM-875, RM-1800, RM-2000, CC, IL
Light Industrial (IL)	IL, IP	IG, CC, CS, P, PS
General Industrial (IG)	IG, IL, IP	CC, CS, P, PS
Industrial Transition (IT)	IT	IG, CC, IL, IP
Public/Institutional (PI)	PS	Depends on type of use
Parks and Recreation (PR)	OS	PS, CR
Resource Conservation (RC)	OS	PS

Source: City of San Leandro, 2016

7

ENVIRONMENTAL HAZARDS

OVERVIEW

Environmental Hazards incorporates the state-mandated "Safety" and "Noise" elements of the General Plan. The Chapter addresses natural and man-made hazards in the City, including earthquakes, landslides, floods, sea level rise, wildfire, air and water pollution, hazardous materials, aviation accidents, and climate change. It includes a summary of emergency preparedness in San Leandro with policies that provide the foundation for disaster planning in the City, including evacuation. The Element also addresses noise issues, with the dual objective of mitigating existing noise problems and avoiding future disturbances and conflicts.

The overall purpose of this Element is to minimize the potential for damage and injury resulting from environmental hazards. The State Government Code requires that the Element identify and evaluate the hazards that are present and establish appropriate goals, policies, and action programs to reduce those hazards to acceptable levels. The Government Code also requires that the Element include appropriate goals, policies, and action programs to reduce the impacts of climate change on the community. Environmental hazards define basic constraints to land use that must be reflected in how and where development takes place.

Public education is critical to the successful implementation of this Element. Although San Leandrans are generally aware that the City is located in "earthquake country," there is still much that can be done to improve readiness and response when disaster strikes. The Environmental Hazards Element takes a pro-active approach to emergency preparedness, emphasizing mitigation and reduced exposure to hazards as well as response and recovery. This Element is closely coordinated with the City's Local Hazard Mitigation Plan (LHMP), a

federally mandated plan to reduce exposure to hazards and ensure eligibility for federal disaster preparedness and relief funds.

The Element also sets forth a pro-active strategy for addressing noise issues in the community. San Leandro's proximity to a major international airport and location alongside some of California's busiest freeways and rail corridors create relatively high levels of noise in much of the city. The Element recommends several programs to resolve domestic, transportation, and airport noise conflicts.

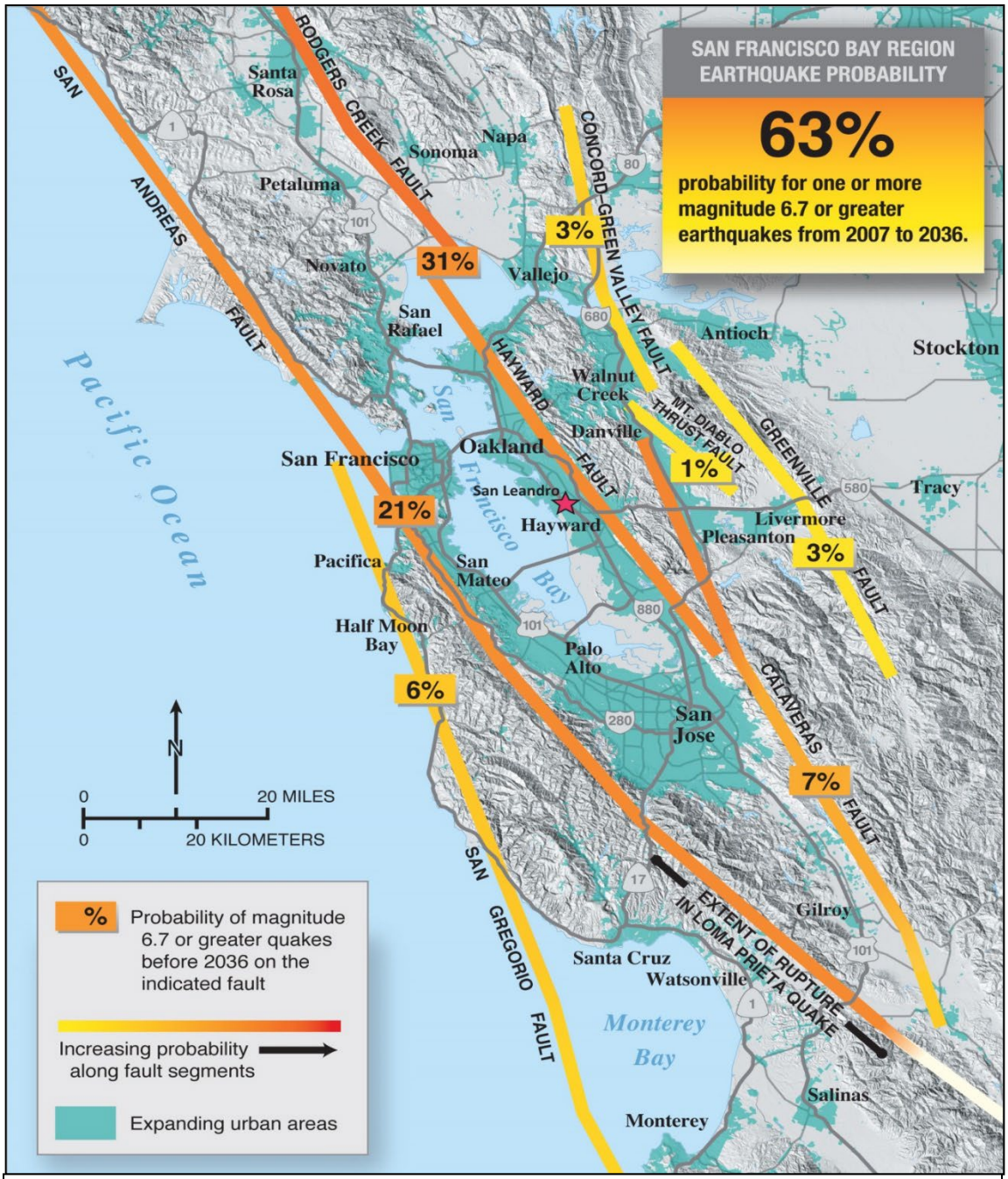
NATURAL HAZARDS

Earthquakes

Seismic Conditions

Earthquakes are the most pervasive safety hazard in San Leandro. The eastern edge of the City is crossed by the Hayward Fault, creating the potential for serious and widespread damage. The last great quake on the Hayward Fault—a magnitude 7.0 temblor in 1868—destroyed many buildings in San Leandro and changed the course of the City's history when it destroyed the Alameda County Courthouse in the center of town (see photo below).

A 2008 study of earthquake probabilities by the US Geological Survey and other partners estimated that there is a 63 percent chance that a magnitude 6.7 or greater quake will strike the Bay Area in the next 30 years. Published forecasts indicate a 31 percent likelihood that such a



SAN LEANDRO 2035

Figure 7-1

Earthquake Probabilities

Source: 2007 Working Group on California Earthquake Probabilities, 2008. The Uniform CA Earthquake Rupture Forecast, Ver. 2 (UCERF 2)

quake will occur on the Hayward Fault. A major earthquake could also occur on the

the San Andreas Fault, which is located about 15 miles west of San Leandro, and the Calaveras Fault, which is about 10 miles to the east (see Figure 7-1). A quake of this magnitude could topple buildings, disrupt infrastructure, cripple the transportation system, and trigger landslides throughout the hills in San Leandro.

The major earthquake-related hazards in San Leandro are ground shaking, ground failure, and liquefaction. These hazards tend to be amplified on artificial fill and on deep alluvial soils like those found along the Bay and old streambeds. Earthquake hazard maps prepared by the Association of Bay Area Governments indicate that a large Hayward Fault quake would trigger very strong shaking throughout the city and a high risk of liquefaction in the Marina Faire/Mulford Gardens and Washington Manor/Bonaire neighborhoods.

The California Geological Survey has designated the area immediately adjacent to the Hayward Fault as a "Special Studies Zone." Before any development may occur within this zone, geologic studies are required to determine the precise location of active fault traces and feasibility of construction. Structures must be set back at least 50 feet from any fault trace and must be engineered to reduce the potential for earthquake damage. Elsewhere in the City, the California Building Code contains specific requirements for structural design, foundations, grading, and seismic loads, to reduce the potential for quake damage.

Figure 7-2 shows the location of the Hayward Fault and Special Studies Zone, along with those areas identified as having the highest risk for liquefaction in a major earthquake.

Structural Hazards

Enforcement of the California Building Code by the San Leandro Building Department helps ensure that new construction will withstand the forces associated with a major earthquake. However, many of the buildings in San Leandro pre-date modern codes and are susceptible to damage. The City has implemented a decades-long program to retrofit unreinforced masonry buildings (URMs), most of which were located in and around Downtown. With that hazard now substantially reduced, the focus has turned to soft-story buildings, concrete tilt-up structures, and older single-family homes that could be seismically strengthened.

There are about 350 soft-story buildings in San Leandro. These are mostly two- and three-story structures with "tuck under" parking at the ground level and one to two stories of residential or office uses above. The design of such structures, with large openings, few internal walls on the ground floor, and slender columns supporting the weight of the upper floors, can result in inadequate lateral support during an earthquake. This type of construction was especially prevalent in the 1950s and 60s, a period during which much of San Leandro's multi-family stock was built. Structural stability can be improved through the addition of shear walls and lateral bracing at the lower level. The General Plan recommends a soft story building improvement plan to avoid the potential for loss of housing stock and casualties during an earthquake.

The City has about 320 tilt-up structures, mostly in the industrial areas. Many of these structures require additional roof-to-wall connections to avoid their collapse during an earthquake. Structural upgrades are typically required as these buildings are remodeled.

There are also a large number of older wood-frame homes in San Leandro. About 10 percent of the City's housing stock pre-dates 1940. The City has been implementing programs to help residents seismically strengthen their homes, including classes and seminars, tool lending, do-it-yourself retrofit guidance, and limited financial support to low-income homeowners. Many "brace and bolt" measures are relatively simple and affordable, but some can be a significant cost burden for property owners. The City will continue to pursue grants and other funding sources to support these programs in the future.

San Leandro has completed the retrofitting of most public facilities, including City Hall, the Police Station, the Main Library, and most fire stations. Both the San Leandro and San Lorenzo Unified School Districts have also undertaken major seismic retrofit programs and continue to work to improve the safety of school facilities. Retrofit work by Caltrans and BART is ongoing, while EBMUD is undertaking a comprehensive program to reinforce its reservoirs and major water lines.

Landslides and Erosion

Landslides are relatively common in the East Bay Hills, especially during high intensity rainstorms. Most slides occur naturally, but they may be exacerbated by excessive grading, improper construction, and poor drainage. The San Leandro Hills have a history of destructive landslides, including a 1998 event that required the relocation of two homes and threatened five others. Any additional development in the hills must be carefully engineered to avoid the risk of further property damage or loss of life.

Projected increases in the intensity of atmospheric river events and extreme precipitation associated with climate change may also exacerbate existing landslide risks in the San Leandro Hills.

Erosion is the wearing away of the soil mantle by running water, wind, or geologic forces. It is a naturally occurring phenomenon and ordinarily is not hazardous. However, excessive erosion can contribute to landslides, siltation of streams, undermining of foundations, and ultimately the loss of structures. Removal of vegetation tends to heighten erosion hazards. The City enforces grading and erosion control ordinances to reduce these

hazards. Maintenance programs along San Leandro Creek also reduce the threat of erosion.

Wildfire

The risk of urban wildfire in California has increased dramatically as a result of population growth on fire-prone hillsides and the effects of drought and climate change. The danger is not just limited to rural areas. In fact, the costliest wildfire in U.S. history took place in an urban area just eight miles north of San Leandro in 1991. That fire caused 25 deaths and $3 billion in property damage and resulted in the loss of over 3,000 homes in the Oakland Hills.

The risk is less severe in the San Leandro Hills than in the Oakland Hills due to the lack of a dense tree canopy, gentler slopes, newer development, and the width and grade of local streets. Nonetheless, the City is adjacent to thousands of acres of potentially flammable coastal scrub and forested open space. The California Department of Forestry and Fire Prevention (CalFire) has designated the eastern edges of the Bay-O-Vista neighborhood and the Daniels Drive area of San Leandro as being a "Very High Fire Hazard Severity Zone" (see Figure 7-3). Such areas are the focus of collaborative efforts between CalFire, Alameda County Fire, and local cities to reduce fire hazards and improve response to wildfires.

Land within the San Leandro city limits is classified as a Local Responsibility Area (LRA) by CalFire. Fire protection within LRAs is provided by local fire departments and fire districts, rather than by the State. The Alameda County Fire Department is responsible for wildfire prevention activities in the City. The Department works with property

owners to maintain defensible space around homes and to require the removal of flammable vegetation and combustible litter. The California Fire Code specifies additional requirements that are enforced by the City's Building Department. The City also requires fire-resistant roofing materials in new construction and major remodeling projects. Additional historical data and information about wildfire hazard areas can be found through the United States Geological Survey and the CalFire historical wildfire database.

Climate change is anticipated to increase wildfire risk as a result of projected increases in temperature, precipitation variability, and the frequency of drought conditions. These changes have the potential to increase both the size and severity of wildfires with higher probability of wildfires occurring, particularly in areas designated "Very High Fire Hazard Severity Zone."

Figure 7-2 also shows the locations of critical facilities that help with emergency response or community functions within the City including fire stations, city buildings, parks, and libraries.

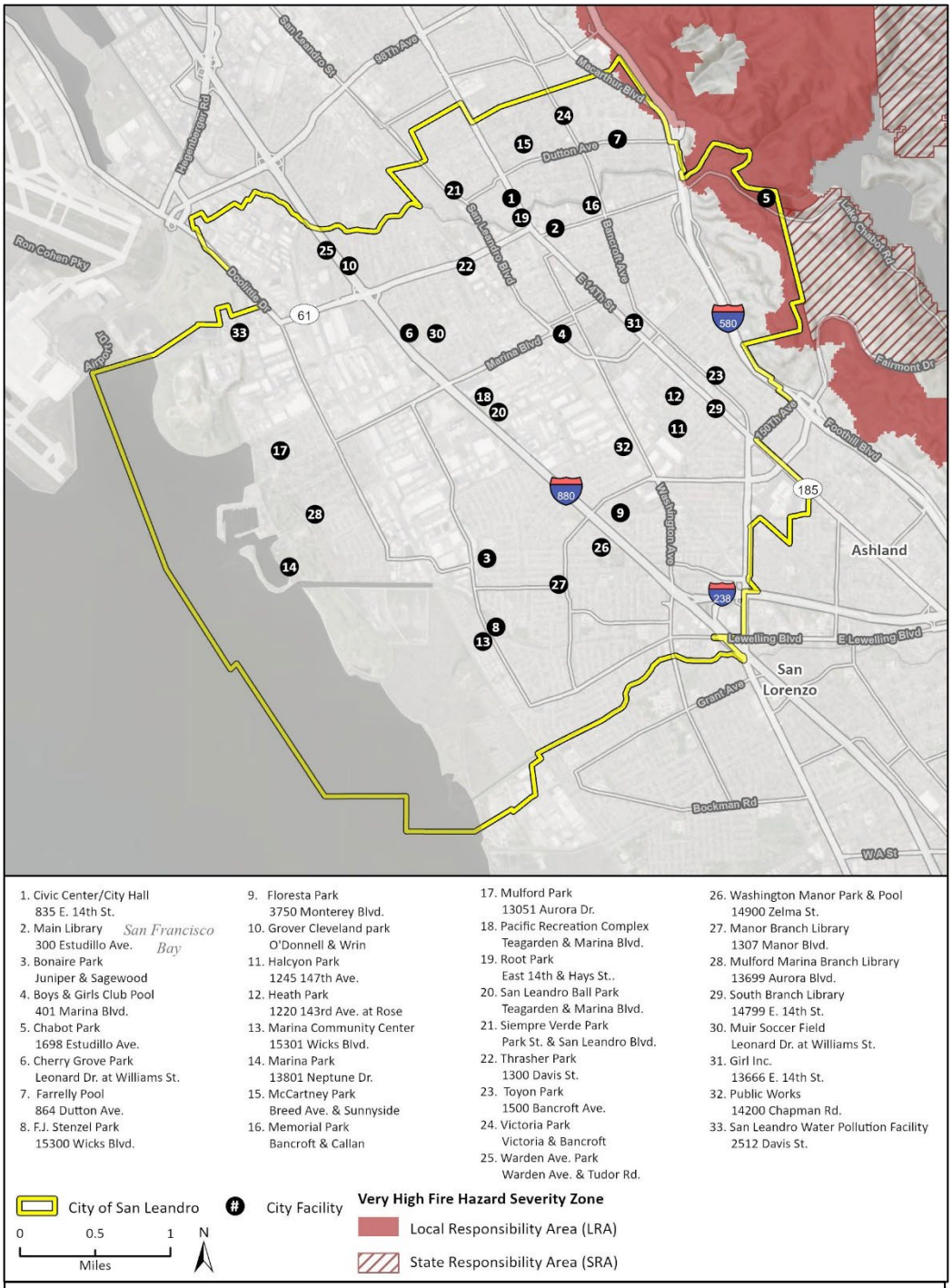


Figure 7-2

Very High Fire Hazard Severity Zones & Critical Facilities

Flooding

Flood hazards in San Leandro are associated with overbank flooding of creeks and drainage canals, dam failure, tsunamis, and sea level rise.

Overbank Flooding

At one time, flooding along creeks and streams was relatively common in San Leandro. These hazards were greatly reduced during the 1960s and 1970s when the Alameda County Flood Control and Water Conservation District (ACFCWCD) channelized the lower portions of San Leandro Creek and constructed flood control ditches in the southern part of the City. Today, ACFCWCD manages a network of channels, levees, storm drains, pump stations, culverts, and dikes intended to reduce flood hazards throughout the county.

Although the channels were effective, they did not eliminate flood hazards entirely. During the last 50 years, urbanization in the watersheds has increased impervious surface area, which has resulted in faster rates of runoff and higher volumes of stormwater in the channels. Maps published by the Federal Emergency Management Agency (FEMA) indicate that a 100-year storm (e.g., a storm that has a one percent chance of occurring in any given year) could cause shallow flooding in parts of

Creek, and the Estudillo Canal; land along flood control channels in the vicinity of Bayfair Center and Bonaire Park; and coastal areas surrounding

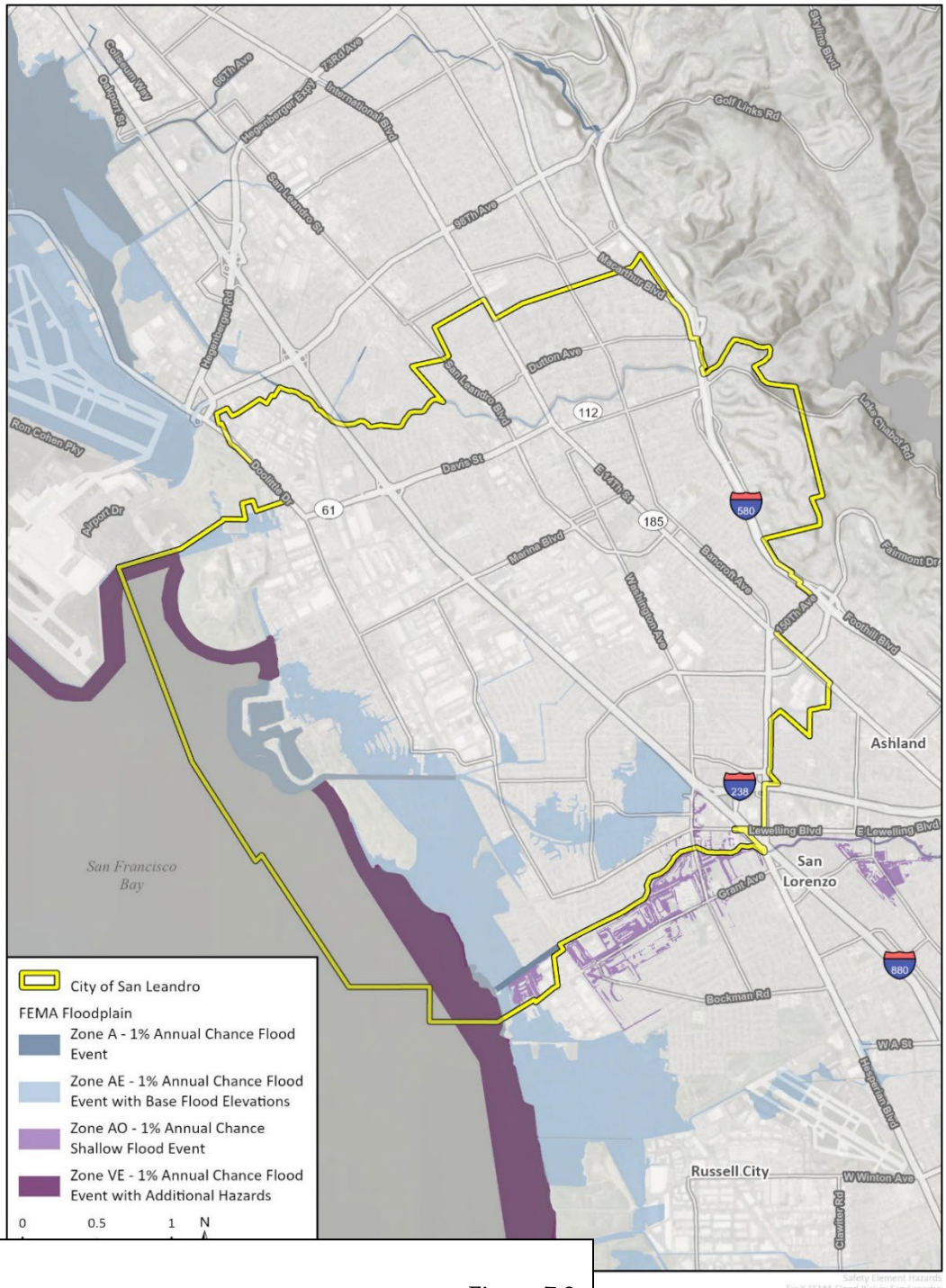


Figure 7-3

FEMA Designated Floodplains

Oyster Bay Regional Shoreline, the San Leandro Shoreline, and Heron Bay. Other types of flood hazards, including coastal flooding and ponding, have also been mapped in the city. Areas within the 100-year (1%) flood zones (shown in Figure 7-3) include land adjacent to San Leandro Creek, San Lorenzo.

The principal consequence of a property is its designation within the 100-year flood zone. Flood insurance is required for federally insured mortgage loans and provided as a subsidy by the government. Insurance also may be required by other mortgage lenders. Moreover, the City's Flood Plain Management Ordinance requires that new construction, additions, and major home improvement projects be raised at least one foot above the base flood elevation—this can be a significant expense for homeowners making alterations to existing structures. FEMA regulations also require that any development in the flood plain must be preceded by a hydrologic and hydraulic analysis and must demonstrate that the development does not cause any increase in flood hazards elsewhere.

FEMA revised its coastal flood maps for Bay Area counties and finalized revised Flood Insurance Rate Maps (FIRMs) effective December 2018. The Alameda County Public Works Agency and the City of San Leandro are working together on actions that will remove approximately 1,000 properties in western San Leandro from the 100-year flood plain designation shown on these maps. This will require the construction of sea walls in locations such as the western edge of Mission Bay Mobile Home Park, and the raising of bank heights along the Estudillo Canal below Wicks Boulevard. The City and Flood Control District are in the process of evaluating and improving other levees so they meet FEMA certification standards. This could remove additional areas from the 100-year floodplain.

Other planned flood control projects in the San Leandro area include rehabilitation of the Estudillo Canal tide gates and hazardous tree removal along portions of San Leandro Creek. FEMA is also studying the effects of sea level rise on Bay Area shorelines, creeks, and levees to determine what changes may be needed to provide adequate flood protection. ACFCWCD is also studying options to provide greater flood protection to properties in the San Lorenzo Creek watershed, including increasing the capacity of Don Castro Reservoir, constructing flood walls, and removing bottlenecks along the San Lorenzo Creek channel.

Increased precipitation intensity associated with climate change may increase flood risk in the City. Areas of the city located in FEMA-designated flood zones, including along creeks and streams in San Leandro, are at greatest risk for larger and more frequent flood events.

Other Flood Hazards

Dam Failure. Dam failure refers to the uncontrolled release of impounded water stored behind a dam. It can be caused by heavy rainfall, earthquakes, landslides, improper operation or maintenance, poor construction or maintenance, vandalism, and other natural or human actions. The California Office of Emergency Services (CalOES) requires the preparation of Emergency Action Plans by dam operators identifying warning, evacuation, and post-flood actions in the event of a dam failure.

CalOES prepares dam inundation maps for major dams around the state. Their maps indicate that San Leandro would be directly impacted by failure of either of the East Bay Municipal Water District (EBMUD) dams on San Leandro Creek. The Upper San Leandro Reservoir Dam was built in 1977 and the Lake Chabot Dam was built in 1892. Both dams are inspected on an annual basis to ensure they are safe and performing as intended. While failure of these dams is extremely unlikely, fast-moving water could cause substantial damage in the northern part of San Leandro and would flood most of the city.

Tsunamis. Tsunamis are oceanic waves that are generated by earthquakes, volcanic eruptions, or underwater landslides. Most tsunamis result in strong and fast tides, rather than giant breaking waves; casualties are often the result of currents and floating debris. Although over 50 tsunamis have been observed in the Bay Area since 1850, local damage has been very limited. The risk is much lower in San Leandro than it is in

coastal cities because the Bay is an enclosed body of water. There is a slight potential for flooding in low lying areas along the immediate

shoreline. Portions of the shoreline area with elevations less than 12 feet above sea level are located within a designated tsunami inundation evacuation zone and could face an evacuation order in the event of a very large off-shore earthquake.

Rising Sea Level. Global sea level has been rising as a result of melting sea ice and thermal expansion of the ocean. The rate has been accelerating, with multiple sources indicating a potential rise of 55 inches by Year 2100. Projections are consistent with best available science and state guidance modeled through Adapting to Rising Tides Shoreline Flood Explorer. This poses a number of risks to western San Leandro, including increased incidences of flooding from King Tides, storm surges, and runoff from creeks and flood control channels. Development in vulnerable areas must be planned and designed to be elevated above future projected coastal flood levels. There is also a need to make existing development along the shoreline more resilient, either by adapting structures to recognize the potential for future flooding or by constructing flood protection devices along the shoreline.

Presently, sea level rise risk assessments are required for projects in areas where the long-term risk of coastal flooding is present. Such assessments will need to address the likelihood of flooding and the need for shoreline improvements such as levees and seawalls. The City itself will need to engage in adaptation planning to protect public and private property in vulnerable areas.

Facilities that have been identified as located within projected sea level rise risk zones include Stenzel Park, Marina Community Center, the Mulford Marina Branch Library, Bonaire Park, Marina Park, and the Water Pollution Control Plant. Approximately 13 percent of San Leandro residents currently reside in projected end-of-century sea level rise inundation zones. Figure 7-4 depicts mid-century sea level rise of 1.9 feet and an end-century sea level rise of 6.9 feet. Large areas are shown to be under water by mid- and end-century.

Figure 7-5 and Figure 7-6 shows rising groundwater levels, which is a secondary potential impact of sea level rise. This impact occurs when the rising Bay water level forces groundwater up towards the surface of the ground. This can present flood complications, stressed pipes, affect roadbeds, amplify the potential for liquefaction, disrupt structural foundations and basements, and stress septic systems. Figure 7-5 presents the depth of groundwater in San Leandro by the mid-century while Figure 7-6 presents end-century risk.

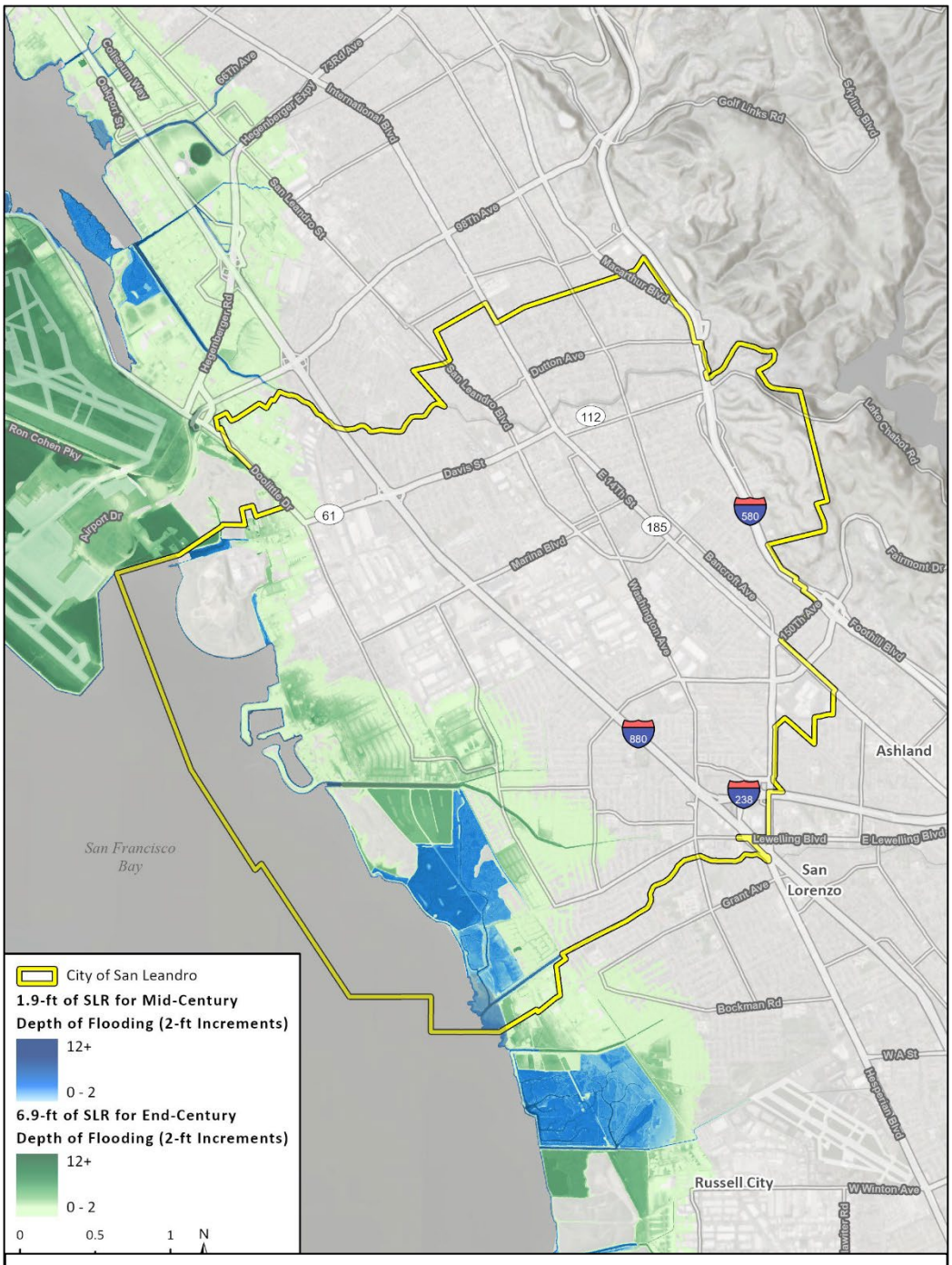


Figure 7-4

Mid and End-Century Sea Level Rise

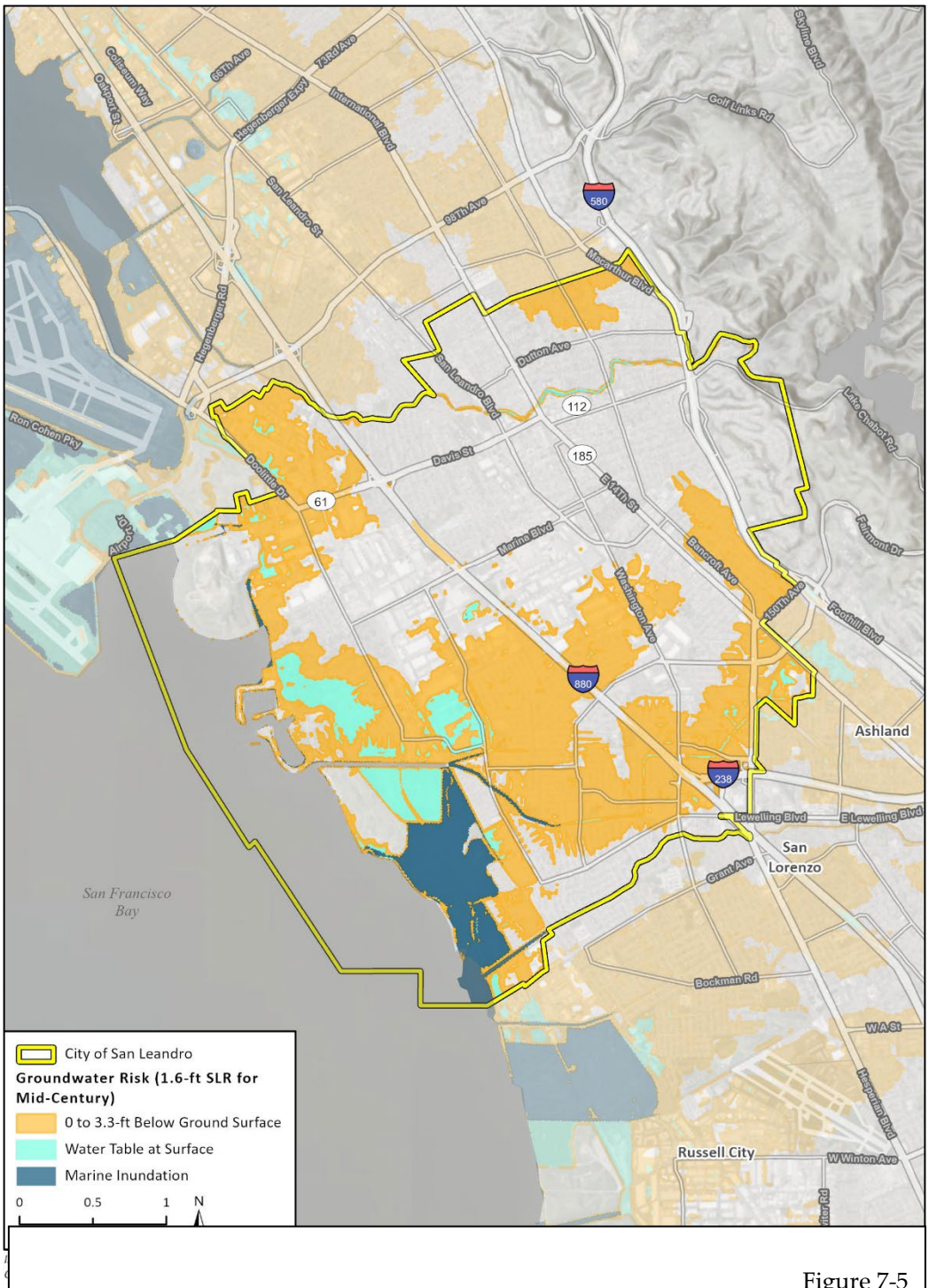
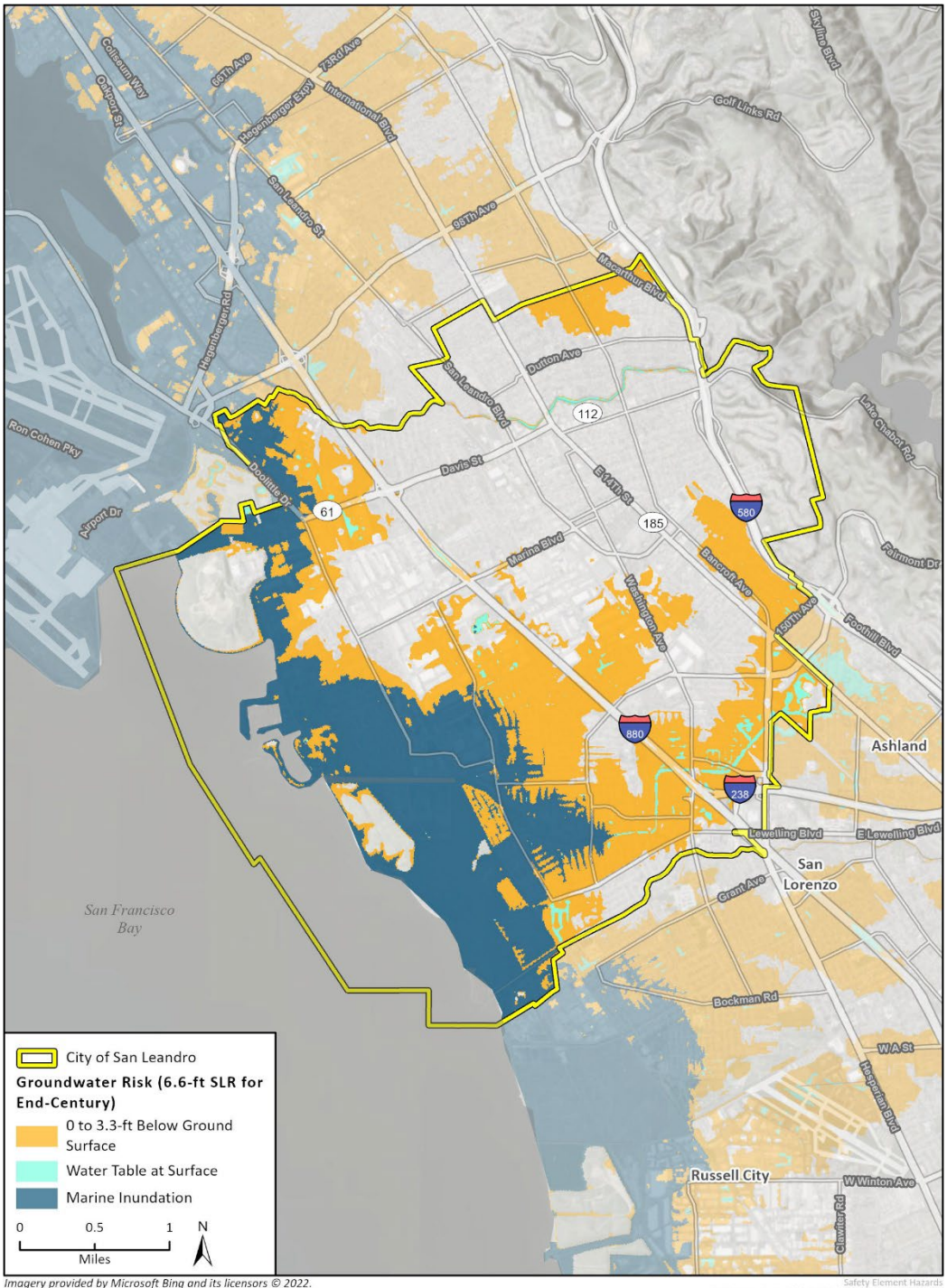


Figure 7-5

Mid-Century Groundwater Risk



Imagery provided by Microsoft Bing and its licensors © 2022.
CoSMoS Groundwater, 2020; San Leandro Local Hazard Mitigation Plan, 2015.

Safety Element Hazards
Fig X Groundwater Risk SLR End-Century in San Leandro

Figure 7-6

End-Century Groundwater Risk

MAN-MADE HAZARDS

Air Pollution

Air pollution is a byproduct of industrial, domestic, agricultural and transportation activities, particularly the combustion of fossil fuels. It is strongly influenced by topography and climatic factors such as wind direction and temperature. The effects of air pollution range from minor problems such as reduced visibility to serious health hazards like asthma and heart disease. Maintaining clean, healthful air is an important goal in San Leandro, to be achieved not only by regulating stationary sources but also by influencing the way people travel in and around the City. The City's air quality strategies dovetail with its climate action strategies, as both are focused on the reduction of greenhouse gas emissions.

Motor vehicles are the primary source of air pollution in San Leandro and the Bay Area. Industrial and commercial activities such as electronics manufacturing, auto repair, dry cleaning, and the use of solvents are also contributors. Additionally, particulate matter is emitted into the air during construction, grading, and wood burning, which can compound air quality problems. On warm summer days, these sources result in high levels of ozone, carbon monoxide, and particulates throughout the region.

Air pollutants are regulated by numerous federal and state laws. Ambient air quality standards have been established for some of these pollutants, including carbon dioxide, ozone, nitrogen oxides, sulfur dioxide, and fine and coarse inhalable matter (see text box for more information). Because the federal and state standards for ozone and particulate matter are

sometimes exceeded, the Bay Area has been designated a "non-attainment area" for these pollutants. Any air basin that does not meet federal standards is required to prepare a Clean Air Plan which identifies strategies for improving air quality. In the San Francisco Bay Area, preparation of such plans is the responsibility of the Bay Area Air Quality Management District (BAAQMD). The Clean Air Plan is regional in nature but identifies many strategies that can be implemented at the local level.

The regional Clean Air Plan in effect at the time of General Plan adoption was adopted in 2010, although an update is forthcoming. The Plan's focus is on Stationary and Area Source Measures and Transportation Control Measures (TCMs) aimed at attaining the federal and state ozone standards. Typical TCMs include improving regional rail service, promoting ridesharing, and using pricing policies to influence travel choices. Other regional plans, such as ABAG/MTC's Plan Bay Area, support the goal of improving air quality by reducing dependence on gasoline-powered automobiles. This is principally achieved by improving transit, adding bicycle and pedestrian infrastructure, focusing growth on areas near public transit, and shortening commute lengths by creating a more even distribution of jobs and housing throughout the region.

The San Leandro 2035 General Plan implements the regional Clean Air Plan at the local level by incorporating many transportation control measures as land use and transportation policies. These policies aspire to reduce automobile dependency and promote transportation alternatives. By encouraging transit-oriented development, better transit service, improved provisions for bicycles and pedestrians, shuttles and carpools, and shorter commutes, the Plan will help achieve cleaner air.

BAAQMD also issues permits to stationary sources of air pollution in the Bay Area and inspects these sites to ensure that they operate within allowable standards. Stationary sources include dry cleaning businesses, gas stations, medical offices, retail stores, building suppliers, printers, and a range of other industrial and commercial activities. The BAAQMD also maintains a data base of air quality complaints filed by residents and businesses in each Bay Area community. Over 12,000 complaints a year are typically received, with most relating to noxious odors, smoke, and non-compliant vehicles. Each complaint is investigated and corrective action is required if a problem is detected.

The Air District is also addressing resident exposure to toxic air contaminants (TACs), especially along freeways and in areas with heavy truck traffic. Particulate Matter accounts for 85 percent of the cancer risk from airborne toxics, with internal combustion engines being the primary source. New regulations for diesel-powered vehicles have reduced risk levels, but additional precautions may be needed for development near high volume roadways such as Interstate 880. In the future, health risk assessments may be required for new development in areas of heavy traffic, and special air filtration systems may be required to reduce the potential for TAC exposure.

Policies in the San Leandro General Plan call for the enforcement of state and federal air quality standards, the regulation of construction and grading to control airborne dust, tree planting to absorb carbon monoxide, and the siting of development to avoid exposure to odors and air contaminants. The Plan also promotes public education on air quality hazards and encourages residents to "spare the air" by curtailing certain activities when pollution hazards are greatest.

In a Nutshell...

An Air Pollution Primer

The major components of air pollution are ozone, carbon monoxide, suspended particulate matter, nitrogen and sulfur dioxide, and toxic air contaminants.

Ozone (O_3) is formed through a series of photochemical reactions involving reactive organic compounds and nitrogen oxides. It is characterized by a visibility reducing haze. Motor vehicle emissions, refineries, power plants, solvents, and pesticides are the primary sources. Ozone is considered a regional pollutant because its precursors are transported and diffused by wind. This makes it particularly difficult to eliminate. The State and federal ozone standards are rarely exceeded at the monitoring location closest to San Leandro (in Oakland) but are occasionally exceeded at monitoring locations in Livermore, Concord and other inland areas.

Carbon Monoxide (CO). Carbon Monoxide is an odorless, colorless gas formed by the incomplete combustion of fuels and other organic substances. Motor vehicles are the main source, particularly vehicles which are idling or driving slowly. High levels of atmospheric CO can lower the amount of oxygen in the bloodstream, aggravate cardiovascular disease, and cause fatigue, headaches, and dizziness. In contrast to ozone, CO tends to be a localized problem. Concentrations usually correspond to areas of traffic congestion (called "hot spots"). CO levels at monitoring stations in the East Bay are well within State and federal standards.

Suspended Particulate Matter (PM_{10} and $PM_{2.5}$). PM_{10} and $PM_{2.5}$ include solid and liquid inhalable particles that are less than 10 and 2.5 microns in diameter, respectively. These particles include smoke, dust, aerosols, and metallic oxides. Major sources include road traffic (i.e., dirt particles), agriculture, fires, and construction and demolition activities. Health hazards are usually most severe during wildfires, and during the winter months when firewood is burned. Between 2011 and 2015, the state standard for PM_{10} was exceeded once at the monitoring station closest to San Leandro, while the federal standard for $PM_{2.5}$ was exceeded on seven days.

Nitrogen Dioxide and Sulfur Dioxide. These pollutants are both within acceptable levels in the Bay Area. Nitrogen dioxide is a brown-colored gas that is a byproduct of the combustion process. Sulfur dioxide is a colorless gas with a strong odor. It is generated through the combustion of fuels containing sulfur, such as oil and coal. Major contributors of nitrogen dioxide and sulfur dioxide include motor vehicles, power plants, and refineries.

Toxic Air Contaminants. Toxic air contaminants (TACs) are emissions with short-term and/or long-term health effects which may be harmful even in very small quantities. These emissions, which include asbestos, benzene, beryllium, diesel particulate matter, mercury, and vinyl chloride, are regulated through emission limits rather than ambient air quality standards. Several of these chemicals are known carcinogens. Common sources of TACs include gas stations, factories, medical incinerators, dry cleaners, wastewater treatment plants, and hospitals. Regulation of toxic air contaminants is achieved through federal and state controls on individual sources.

Water Pollution

The creeks and channels that flow through San Leandro are prone to pollution from a variety of sources. Fifty years ago, the most egregious sources of pollution in the area were heavy industries, landfills, and sewage plants, many of which discharged directly into San Francisco Bay with little or no wastewater treatment. Passage of the 1969 Porter Cologne Water Quality Act in California and the 1972 federal Clean Water Act brought about numerous pollution control requirements aimed at both "point" (open pipe) and "non-point" sources. These requirements have resulted in significant improvements to water quality in the Bay and the partial recovery of several fish and wildlife species.

At the federal level, the US Environmental Protection Agency implements water quality regulations and sets standards for all surface waters. Waters that do not meet these standards are considered "impaired" and are subject to additional requirements, including mandatory plans to achieve compliance. At the state level, the Porter Cologne Act established the State Water Resources Control Board and a system of nine Regional Water Quality Control Boards (RWQCB) in California. Each Board must adopt a water quality control plan and implement programs to address local water quality issues. The San Francisco Bay RWQCB updated its Basin Plan in 2015.

In general, non-point source pollutants such as runoff from lawns and parking lots are harder to control than point sources. Runoff can contain oil, grease, litter, animal waste, household chemicals, pesticides, and other substances that are washed into storm drains and local creeks. This results in high levels of nutrients and depletion of oxygen in these water bodies, which harms aquatic life and causes other environmental problems. In San Leandro, all stormwater runoff eventually discharges to San Francisco Bay. The Bay is considered impaired by a number of pollutants, such as mercury and PCBs. San Leandro and San Lorenzo Creeks are considered impaired by diazinon, which was once a commonly used insecticide. Illegal dumping, homeless encampments, and trash are also problems in San Leandro Creek.

In 1987, the U.S. Environmental Protection Agency began requiring National Pollution Discharge Elimination System (NPDES) permits for surface water discharges. These permits identify limits on the allowable concentrations of pollutants that may be contained in receiving water bodies, as well as prohibitions on certain types of discharges. Discharges in San Leandro are covered by a Municipal Regional Permit (MRP) administered by the San Francisco RWQCB. The most recent permit (MRP 2.0), which includes all cities in Alameda County plus the County itself, went into effect on January 1, 2016. The permit requires the implementation of a countywide Clean Water Program.

The Clean Water Program includes several components, including regulatory compliance and management, watershed planning, stormwater monitoring, public information and participation, public

works maintenance, development and construction controls, illicit discharge control, and a best management practices program. Program achievements in San Leandro include storm drain stenciling, distribution of information at City fairs and festivals, public tours of the Water Pollution Control Plant, and City support to the Friends of San Leandro Creek. Numerous improvements to the storm drainage system to remove trash and pollution also have been completed.

An important part of the Clean Water Program is Provision "C.3" of the MRP. This empowers the City of San Leandro to require site design and stormwater treatment measures in new development to avoid future pollution from urban runoff. All new development or redevelopment projects that create or replace 10,000 square feet of impervious surfaces (or 5,000 square feet or more of impervious surfaces for specific uses such as parking lots) are subject to these requirements. Design measures to reduce runoff are also required for projects that create or replace between 2,500 and 10,000 square feet of impervious surface. To avoid downstream flooding and erosion problems, Provision C.3 also requires that runoff rates not be increased as a result of development. This is primarily accomplished through low impact development (LID) measures such as pervious pavement, rain gardens, green roofs, and water collection systems on roof gutters.

Another part of the Clean Water Program relates to construction and earth-moving activities. State law requires projects that disturb more than one acre of land to prepare stormwater pollution prevention plans. These plans must list the steps that applicants will take to prevent soil erosion and the discharge of construction-related pollutants to nearby waters. Typical steps include silt fencing, fiber rolls, and coverings for stockpiled soil and debris. The plans must also include monitoring programs and show how the project will comply with post-construction runoff requirements.

San Leandro also administers a Storm Water Management and Discharge Ordinance. The intent of the Ordinance is to eliminate non-storm water discharge to City storm inlets and reduce pollutants in storm water discharge to the maximum extent practical. The Ordinance provides a mandate for preventive measures such as street sweeping and regular cleaning of storm drain inlets. It also establishes a local inspection and enforcement program, with fines and penalties for violations. The Ordinance also prohibits development within 30 feet of the centerline of any creek or 20 feet from the top of bank without written authorization from the City.

Water quality monitoring is another key part of the City's Clean Water Program. Monitoring is regularly conducted in San Leandro Creek and in

San Francisco Bay near the San Leandro shoreline. The purpose of the monitoring is to assess water quality conditions and trends and identify potential sources of contamination. No specific "hot spots" have been identified in San Leandro. However, the urban character of the watershed continues to present a challenge to restoring water quality.

Hazardous Materials

Hazardous materials include substances that may pose a threat to human health or the environment when they are improperly handled, stored, transported or disposed. As a City with a large industrial presence and an extensive rail and freeway network, San Leandro faces the risk of hazardous materials incidents every day. Even if all handling and storage regulations are properly followed, hazardous substances may present a health risk if they are released during an accident or emergency. Many of the hazardous materials issues in the City are the result of activities that pre-date current environmental regulations. Thus, local programs are designed to prevent future problems while correcting problems that originated in the past.

Contaminated Sites and Hazardous Building Materials

The State Department of Toxic Substances Control (DTSC) "Envirostor" data base indicates 52 locations in San Leandro that are undergoing some form of hazardous material remediation. Of these locations, 14 are sites that are actively undergoing investigation, cleanup, or maintenance activities. Most are industrial properties, including facilities that are no longer operational or have since been replaced by new uses. Some of these properties have land use restrictions as a result of past contamination. Further clean-up would be required before uses such as housing could be permitted on these sites.

In addition, 40 sites in the city have been identified as undergoing active investigation and/or clean-up requirements specifically for water quality issues.[1] Many of the water quality issues are related to leaking underground storage tanks.

There are also four historic major groundwater plumes in San Leandro that are undergoing site characterization and/or remediation. These are known as the 1964 Williams Street plume, the Caterpillar plume, the Davis-Washington-Alvarado (DWA) plume, and the Hester Street plume. The largest groundwater plume is the DWA plume in central San Leandro, which is approximately two miles long and over one mile wide. In each of the four plumes, the primary contaminant of concern is trichloroethene, or TCE. TCE is a solvent that was commonly used for industrial metal degreasing. Properties within the plume areas may use shallow groundwater for irrigation and other outdoor uses, but may not use groundwater for domestic purposes such as drinking, cooking, showering, or bathing.

The City also has older buildings with asbestos, lead paint, PCBs, and other materials that are potentially hazardous if disturbed. Lead-based paint was widely used before it was banned in 1978. It does not pose a threat if left undisturbed, but deterioration or disruption can result in exposure, which in turn can cause damage to the brain and nervous system. Friable asbestos also may be present in older buildings. If asbestos fibers become airborne during demolition or remodeling, they can contribute to lung disease and other ailments. Polychlorinated biphenyls (PCBs) represent another potential threat—these materials were commonly used in electrical equipment prior to 1979. The potential

[1] *There is overlap between the Envirostor list and the water quality (Geotracker) list. Some of the sites identified in the DTSC data base are also undergoing water quality remediation.*

presence of these substances may require special procedures when remodeling or demolishing older buildings.

The level of hazardous materials clean-up required at any given site depends on the degree of contamination and the type of land use that is planned. Environmental assessments are routinely required on development sites with a documented history of hazardous materials use or hazardous building materials. Clean-up can be a long and complicated process, involving local, state and federal agencies. The City is committed to working with property owners to expedite this process while meeting all applicable requirements and maintaining public safety. The City is also committed to protecting residents and "sensitive receptors" such as schools and nursing homes from potential impacts associated with hazardous materials in the community.

Handling, Transport, and Storage

In California, implementation of many federal and state hazardous materials regulations has been delegated to local agencies. San Leandro became a Certified Unified Program Agency (CUPA) in 1997 and has responsibility for carrying out laws relating to hazardous materials storage, use, treatment, and disposal. The City's Environmental Services Section administers Hazardous Materials Business Plan requirements, the Hazardous Waste Generator Program, the California Accidental Release Program, above ground and underground storage tank programs, and permitting for on-site hazardous waste treatment.

State law requires businesses in San Leandro to submit plans for the safe storage and use of chemicals if those businesses handle or store materials in excess of certain quantities. It also requires businesses to develop emergency response plans and procedures, training programs, and inventories of hazardous materials stored or handled on site. A variety of other codes establish specific provisions for the design of storage tanks, containment facilities, and handling practices. Such provisions significantly reduce the risk of a chemical release and also include provisions for evacuation in the event of an emergency.

The transport of hazardous materials is also closely regulated, although the City has less control over such activities due to the interstate nature of commercial and industrial traffic. Caltrans serves as first responder for hazardous material spills, while the California Highway Patrol enforces hazardous waste transportation rules. Common carriers are licensed by the CHP, with placards required for motor carriers who transport hazardous materials in excess of specific weight limits. Communication with state and federal regulatory agencies is critical to reduce the risk of

accidents and ensure that response to transportation-related hazardous materials incidents is immediate and effective.

Household Hazardous Waste

When hazardous substances used for domestic purposes are discarded, they become household hazardous waste. These substances include paint, lawn care supplies, used motor oil, car batteries, anti-freeze, household cleaners, pool chemicals, roofing products, and any other products containing potentially dangerous materials. Californians improperly discard large quantities of household hazardous waste each year, presenting a threat to water quality and landfill safety, and creating a potential source of groundwater contamination. Household hazardous wastes must be safely disposed at a designated household hazardous waste facility. The closest facilities to San Leandro are in Oakland and Hayward.

As with so many of the programs identified in this Element, public education is critical to the success of the City's hazardous substance programs. Residents should continue to be informed about the proper use, storage, and disposal of hazardous household materials. Businesses should be kept apprised of state and federal hazardous materials regulations. Trucks and other carriers should be licensed and trained in hazardous materials transport. An ongoing effort should be made to inform residents and businesses alike about what to do in the event of a hazardous materials emergency.

Aviation Hazards

Traffic to and from Oakland International Airport results in a large number of flights over the City, including many aircraft passing over residential areas and business districts. San Leandro is also impacted by flights in and out of Hayward Executive Airport and San Francisco International Airport. The potential for a crash at any of these airports is an ever-present concern.

The Alameda County Airport Land Use Commission (ALUC) has designated safety zones at the ends of the runways at Oakland International Airport to ensure the compatibility of future development with airport operations. The intent of these zones is to avoid concentrations of people and/or other high hazard situations in the vicinity of the runways. The Safety Zone for the runways at Oakland's North Field extends into San Leandro, encompassing land below flight approach and landing paths west of I-880 and north of Williams Street. Several different zones are designated, reflecting the level of hazard in each area.

Land in San Leandro falls within Zones 2, 3, 4, 6 and 7. No portion of San Leandro falls within Zone 1, which is the runway protection zone (where the greatest restrictions apply). Zone 2 is the second most restrictive zone and occupies a small area north of Davis Street and generally west of the UP railroad tracks. The ALUC's Land Use Plan suggests that this area be used for open space, warehousing, non-intensive industry, storage, and other uses with employment densities below 60 persons per acre.

Zone 3 occupies two small areas, one north of Adams Avenue and another at the Water Pollution Control Plant, located at the western terminus of Davis Street. This zone allows employment densities up to 100 persons per acre, and strictly limits uses such as day care, medical facilities, and hotels. Zone 4 covers a larger area in the City and is more permissive, allowing certain types of retail uses and distribution centers. Zones 6 and 7 are the largest of the zones geographically, and are relatively unrestricted, with uses such as housing, office, and restaurants permitted. However, certain precautions are still recommended in these areas.

The ALUC has also identified a Height Referral Zone around the airport, in accordance with FAA regulations. Height restrictions do not significantly affect development in San Leandro but could apply in the event that tall buildings, communication towers, or similar structures are proposed in the portion of the City located west of I-880 and north of Marina Boulevard.

Alameda County firefighters are trained to respond to aviation accidents, both on land and at sea. The City of Oakland also has a special fire-fighting unit at Oakland International Airport, equipped with apparatus for aviation incidents. In the event of an aviation accident in San Leandro, the County Fire Department would respond first, with back-up provided by the City of Oakland as needed. The US Coast Guard has designated the San Leandro Marina as the emergency response point in the event of an aircraft accident on the water. The City, County, and Port of Oakland will revisit this designation in the future, given the navigation constraints on the channel and approved plans for the San Leandro shoreline.

EMERGENCY PREPAREDNESS

San Leandro's location on the Hayward Fault makes it imperative to be ready when disaster strikes. The City's emergency preparedness programs are operated collaboratively by the San Leandro Police Department, the Alameda County Fire Department, and other City Departments. The primary aspects of preparedness are mitigation (i.e., reducing exposure to hazards), training and education, disaster response, evacuation, and post-disaster recovery.

The City has developed several mitigation efforts aimed at the seismic retrofitting of buildings, transportation facilities, and infrastructure. The County Community Wildfire Protection Plan contains wildfire mitigation strategies. The City has also adopted a Local Hazard Mitigation Plan (LHMP) which identifies ongoing programs to mitigate hazards as well as new programs to be implemented in the coming years. The City's initial

LHMP was adopted in 2005. In 2010, San Leandro adopted a multi-jurisdictional LHMP prepared by ABAG with regionally applicable recommendations and a local section tailored to San Leandro. In 2015-16, the City prepared an LHMP Update, coordinating this process with the 2035 General Plan Update to ensure internally consistent strategies.

Although earthquakes are the primary threat addressed by the LHMP, the Plan also addresses tsunamis, floods, fire, drought, extreme heat, and dam and levee failure. The focus of the LHMP is on reducing risks *before* disaster strikes by considering hazards in land use and building decisions, and by proactively mitigating hazards where they already exist. This can reduce the cost, loss of life and property, and environmental damage when disasters strike.

Training and education are crucial components of disaster planning. Currently, the Alameda County Fire Department provides Community Emergency Response Team (CERT) and Personal Emergency Preparedness (PEP) training. CERT is designed to improve disaster preparedness at the neighborhood level, while PEP is aimed at individual households. The City has also developed preparedness tips for special needs groups such as children and the elderly. As noted earlier in this chapter, San Leandro also offers training and assistance to residents seeking to retrofit their homes and take steps to reduce earthquake-related hazards.

Another aspect of training involves drills and simulation exercises. Full-scale disaster simulation exercises are conducted regularly with City staff and representatives from other agencies. Such exercises are essential to maintain effective performance and identify where changes in emergency plans may be needed. All City employees receive basic emergency preparedness training, with advanced training provided to personnel with designated positions in the City's Incident Command System.

The City's emergency response programs are based on the Standard Emergency Management System (SEMS). This is a state-mandated organizational structure that allows agencies throughout California to communicate using common terms and operating procedures. In the event of a major emergency, the Senior Community Center on East 14th Street would be activated as an Emergency Operations Center (EOC) and City staff would be deployed to fulfill various management, operations, planning, logistics, and administrative functions.

Other components of emergency response include radio broadcasts and warning sirens. The City's emergency radio band (1610 AM) provides a quick and effective way to convey information to the public. Emergency sirens are in place, although they were inactive at the time of General Plan

adoption. The City is also working to ensure that its emergency preparedness programs reflect language diversity and cultural practices.

Evacuation is another component of disaster preparedness. While the freeways are the most logical routes out of town, they could potentially be impassable following a major earthquake. Arterial streets, particularly Doolittle, East 14th, San Leandro Boulevard, Washington, Halcyon/ Fairmont, Bancroft/Hesperian, and MacArthur/Foothill would function as the major routes out of the City if evacuation became necessary. A formal evacuation plan should be prepared as part of the City's ongoing emergency preparedness program.

Consistent with Government Code Section 65302, the City conducted an emergency evacuation analysis to identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios. The City evaluated five unique scenarios in the context of both city-wide and larger-scale regional evacuations associated with different types of events, including wildfire, tsunami, a pipeline failure, a dam failure, and a hazardous materials explosion. Though evacuation routes were selected based on conditions on the ground during actual emergency events, the analysis indicated the need for effective communication tools and active management of the major travel corridors and intersections depending on the area of evacuation, particularly for major arterials and connectors that feed Interstate 880 and Interstate 580.

In keeping with Government Code Section 65302, Safety Elements must also indicate or identify residential developments in hazard areas that do not have at least two emergency evacuation routes. Single access roads are a local street that feeds into a collector with a singular point of entry and

exit. These roads present potential evacuation complications necessitating added evacuation management. Neighborhoods with single access roads are shown in Figure 7-7. None of the City's identified single access road neighborhoods are currently located within the Very High Fire Hazard Severity Zone (shown in Figure 7-2).

Post-disaster response includes the provision of shelter, food, medical assistance, and financial aid, and the rebuilding process. Mobile medical and communication equipment is also needed to improve readiness. Future revisions to the Emergency Management Plan should include programs to address immediate needs after a disaster strikes, and the longer-term needs associated with recovery and reconstruction.

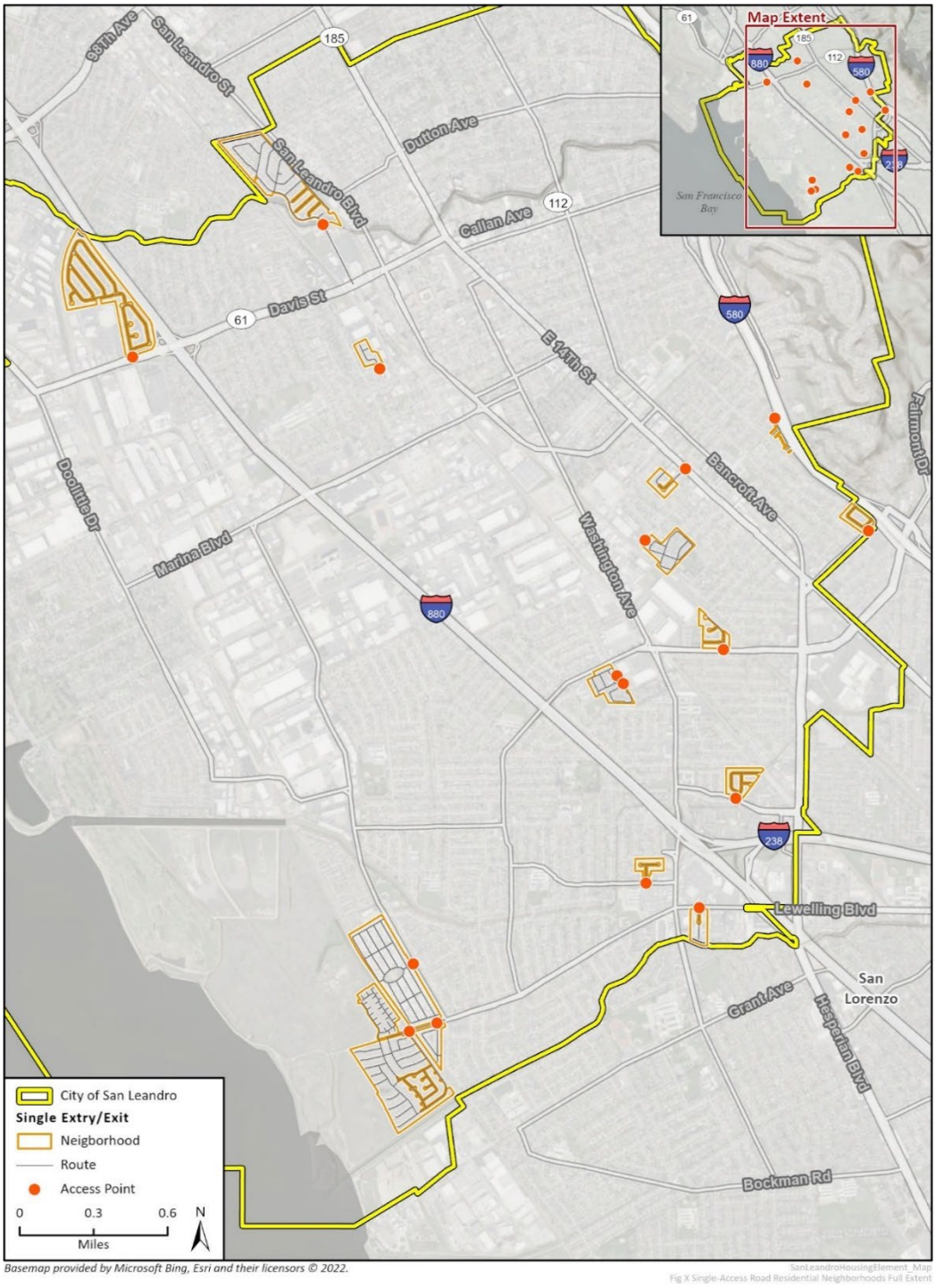


Figure 7-7

Single Access Roads

CLIMATE CHANGE

Research synthesized by the Intergovernmental Panel on Climate Change and in California's Fourth Climate Assessment indicates that increased atmospheric carbon dioxide (CO_2) from human activity is driving complex changes to the Earth's climate. The resulting climate changes are increasing the intensity of sea level rise and coastal storm surge and leading to more erratic rainfall and local weather patterns.

The City conducted a Climate Change Vulnerability Assessment consistent with Government Code Section 65302(g) as amended by SB 379, which assesses how the populations and assets in San Leandro are vulnerable to climate change. According to the Vulnerability Assessment, the City is most vulnerable to regional wildfires, extreme heat, drought, Bayshore flooding, and intense precipitation events. In addition to previous sections, which provide information on the projected influence of climate change on wildfire, flood, and sea-level rise risks, this section includes extreme heat and drought.

Extreme heat events are defined as a period of exceptionally hot days and nights. Extreme heat is classified as days above the 98th percentile in temperature for a given area. In San Leandro this increased rate of extreme heat days is projected to increase from 4 days annually to 14 days annually on average by the end of the century. Older adults, the very young, and those with chronic health conditions are at greatest risk of heat-related illnesses during an extreme heat event.

Drought events are defined as an extended period of below-average precipitation. Drought events can also be amplified by increased temperature conditions, which can increase demand for water. Drought conditions across California, including in San Leandro, are projected to occur more frequently as a result of climate change. The most recent occurrences of drought have been 2007 to 2009, 2012 to 2016 and 2021 to present. Long term drought conditions can stress water infrastructure for both the state and San Leandro. Drought conditions also stress local flora and fauna, which provide a myriad of benefits to the City's residents, including shading and stormwater runoff. Stressed vegetation can also contribute to increased wildfire risk.

NOISE

San Leandro's location in the heart of a major metropolitan area makes it susceptible to noise conflicts. Each day, hundreds of thousands of cars pass through the City on freeways and major thoroughfares. Large and small planes pass over the City throughout the day and night, many flying at low altitudes to and from Oakland International Airport. Freight and passenger trains, BART trains, buses, and trucks produce noise and vibration impacts in many San Leandro neighborhoods. Even in relatively quiet parts of the City, domestic noise sources such as leaf blowers, home and car stereos, security alarms, and barking dogs can be a source of annoyance.

In San Leandro, as in all communities, maintaining neighborhood "peace and quiet" is a basic part of protecting the quality of life. San Leandro residents and businesses, and the City itself, have invested a great deal of time and energy to deal with noise proactively by mitigating existing conflicts and protecting the City from future conflicts. Cities are required to address noise issues in their general plans, primarily by promoting development patterns that recognize the sources of noise and the locations of noise-sensitive uses. This General Plan achieves that objective while also expressing the City's ongoing commitment to reduce noise conflicts in the community.

The following sections of this Element describe the noise environment in San Leandro, the major issues to be resolved, and the strategies for mitigating noise problems. Policies and actions under Goals EH-7, EH-8, and EH-9 set forth a coordinated program to address stationary, transportation, and aircraft noise issues in the future.

Existing and Projected Noise Environment

The text box on page 7-30 provides an overview of how noise is measured. Chart 7-1 indicates the noise levels associated with typical sounds in an urban environment.

Noise levels can be expressed graphically through the use of contour diagrams. Figure 7-5 shows noise contours in San Leandro in 2015 based on traffic volumes and noise monitoring conducted as part of the General Plan update. Each contour band shown on the map corresponds to the approximate noise level generated at the location shown. The contours represent approximations only—the actual noise level at any given location depends on a number of factors, such as topography, vegetation and building cover.

In a Nutshell...

How Noise is Measured

Human perception of noise is usually defined in **decibels (dB)**. Decibels are measured on a logarithmic scale, which means that each increase of 10 dB is equivalent to a doubling in loudness. The measurements are usually taken on an "A-weighted" scale which filters out very low and very high frequencies. Everyday sounds range from 20 dB, which is very quiet, to over 100 dB, which is very noisy. Above 70 dB, noise can become irritating and disruptive.

Noise measurements are usually expressed with some indication of the duration of the measurement period. For longer periods, the measurement reflects the average noise level over the period. Adjustments are usually made to reflect the greater sensitivity of people to noise at night. The term **Community Noise Equivalent Level** (CNEL) is used to describe the average noise level during a 24-hour period, with a penalty of 5 dB added to sound levels between 7 and 10 PM, and a penalty of 10 DB added to sound levels between 10 PM and 7 AM. The term **Day-Night Average Level (Ldn)** is similar, but only includes the 10 dB penalty for 10 PM – 7 AM noise. Shorter measurement durations, typically one hour, are described in **Energy Equivalent Levels** (Leq), indicating the total energy contained by sound over a given sample period.

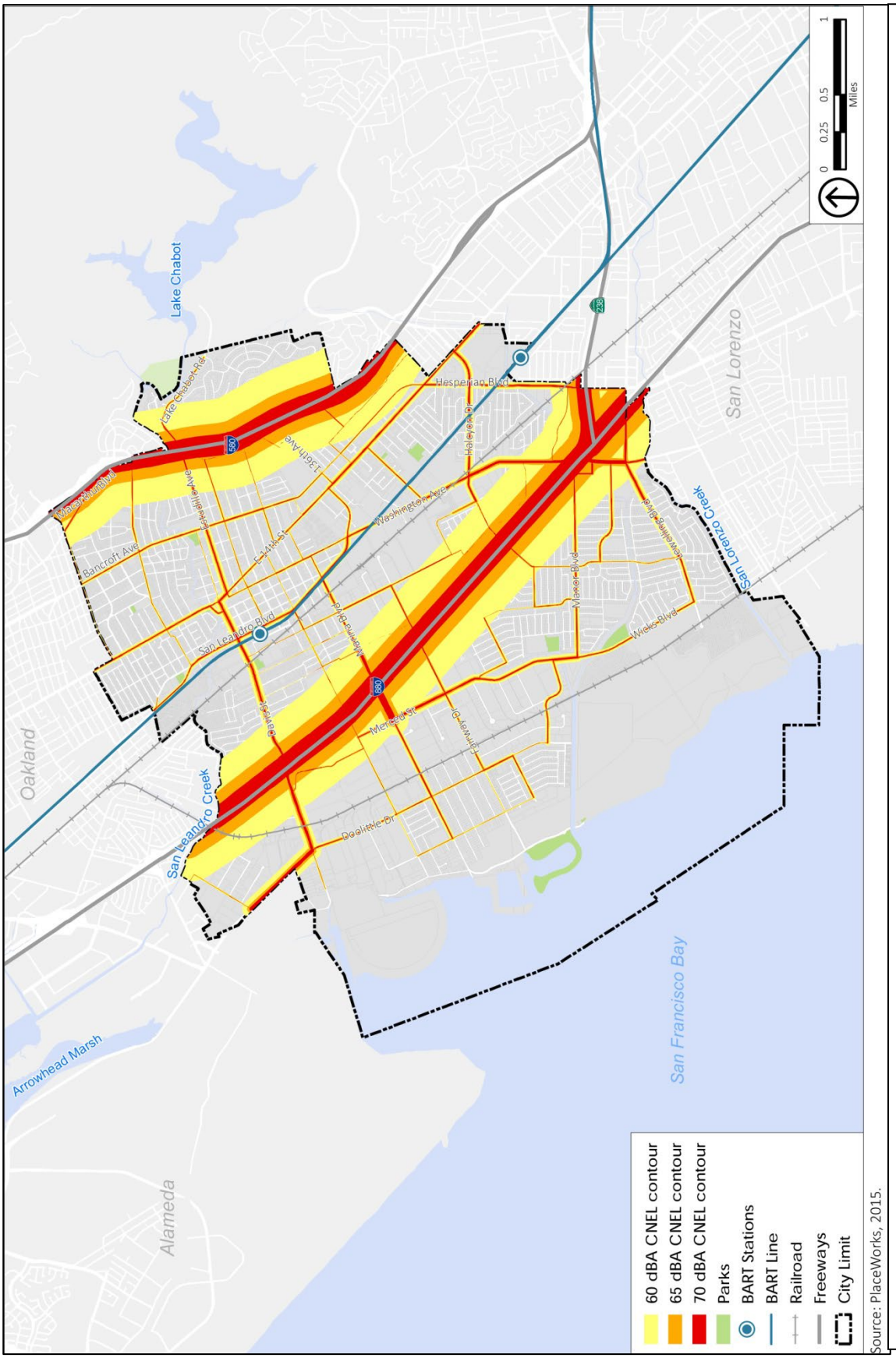
Use of the longer measurement periods accounts for the variations in the frequency of sound levels that may occur during the day. For instance, a landing jet airplane may produce a sustained noise level of 75 dB as it passes over a particular site in San Leandro. The CNEL reading would be much lower, since the noise is not continuous throughout the day and night.

The US Environmental Protection Agency has suggested an exterior noise goal of 55 dB (Ldn) in residential areas. The US Department of Housing and Urban Development's minimum standard is 65 dB (Ldn). Most local governments use 60 dB (Ldn) as the limit for exterior noise exposure in new residential areas. As a guideline, interior noise levels should be no louder than 45 dB (Ldn). Since the noise reduction provided by a typical house is about 20-25 dB with the windows closed, special insulation measures are usually required where exterior noise exceeds 60 dB.

CHART7-1: **TYPICAL SOUND LEVELS IN AN URBAN ENVIRONMENT**

Perceived Sound Level	Sound Level (dB)	Examples
Painfully Loud	160	Fireworks at 3 feet
	150	Jet takeoff
	140	Threshold of pain
Uncomfortably Loud	130	Power drill
	120	Thunder
	110	Auto horn at 3 feet, Rock band
Very Loud	100	Snowmobile, Pile driver
	90	Diesel truck, lawn mower at 3 feet
	80	Garbage disposal, Siren at 100'
Moderately Loud	70	Vacuum cleaner, leaf blower at 50'
	60	Ordinary conversation
	50	Average home, light traffic
Quiet	40	Library
	30	Quiet conversation
Very Quiet	20	Soft whisper
	10	Rustling leaves
Barely Audible	0	Threshold of hearing

Source: California Air Resources Board



Source: PlaceWorks, 2015.

Figure 7-8

Noise Contours-2015

Figure 7-5 illustrates that many parts of San Leandro are located in areas where ambient noise levels exceed 60 dB Ldn. A substantial number of homes are within the 65 dB Ldn contour, indicative of a relatively noisy exterior environment. The 60 and 65 dB contours form bands parallel to the city's freeways, railroads, and major arterials. Noise monitoring conducted as part of the General Plan indicated noise levels of 65-67 dB CNEL at locations near the freeway and BART tracks. Sound walls have been constructed in many places to reduce noise levels.

Figure 7-6 illustrates projected noise contours in 2035. Although traffic increases on San Leandro streets are expected, little change to the ambient noise environment is expected. Noise increases of less than 3 dB Ldn over a long period of time are generally not perceptible. There are only a few locations in the city where increases of this magnitude are expected in the next 20 years, principally where existing noise levels are relatively low.

Noise Compatibility

Given the potential for adverse psychological and physiological impacts, some land uses are considered to be more sensitive to noise than others. Residential areas, schools, childcare centers, hospitals, churches, libraries, and nursing homes are typically regarded as noise-sensitive. Certain types of park and recreational areas also may be noise-sensitive. It is important that future land use decisions protect such uses and further, that new noise-sensitive uses are located and designed in a way that protects occupants from harmful noise impacts.

Chart 7-2 provides noise compatibility guidelines for land uses based on State of California guidelines. The guidelines identify those areas where various uses are acceptable, conditionally acceptable, normally unacceptable, or clearly unacceptable based on ambient noise levels. The guidelines recognize that mitigation may make certain uses acceptable, even where exterior noise levels are relatively high. This is important in San Leandro, given the number of future housing sites located near BART, an area with relatively high ambient noise levels.

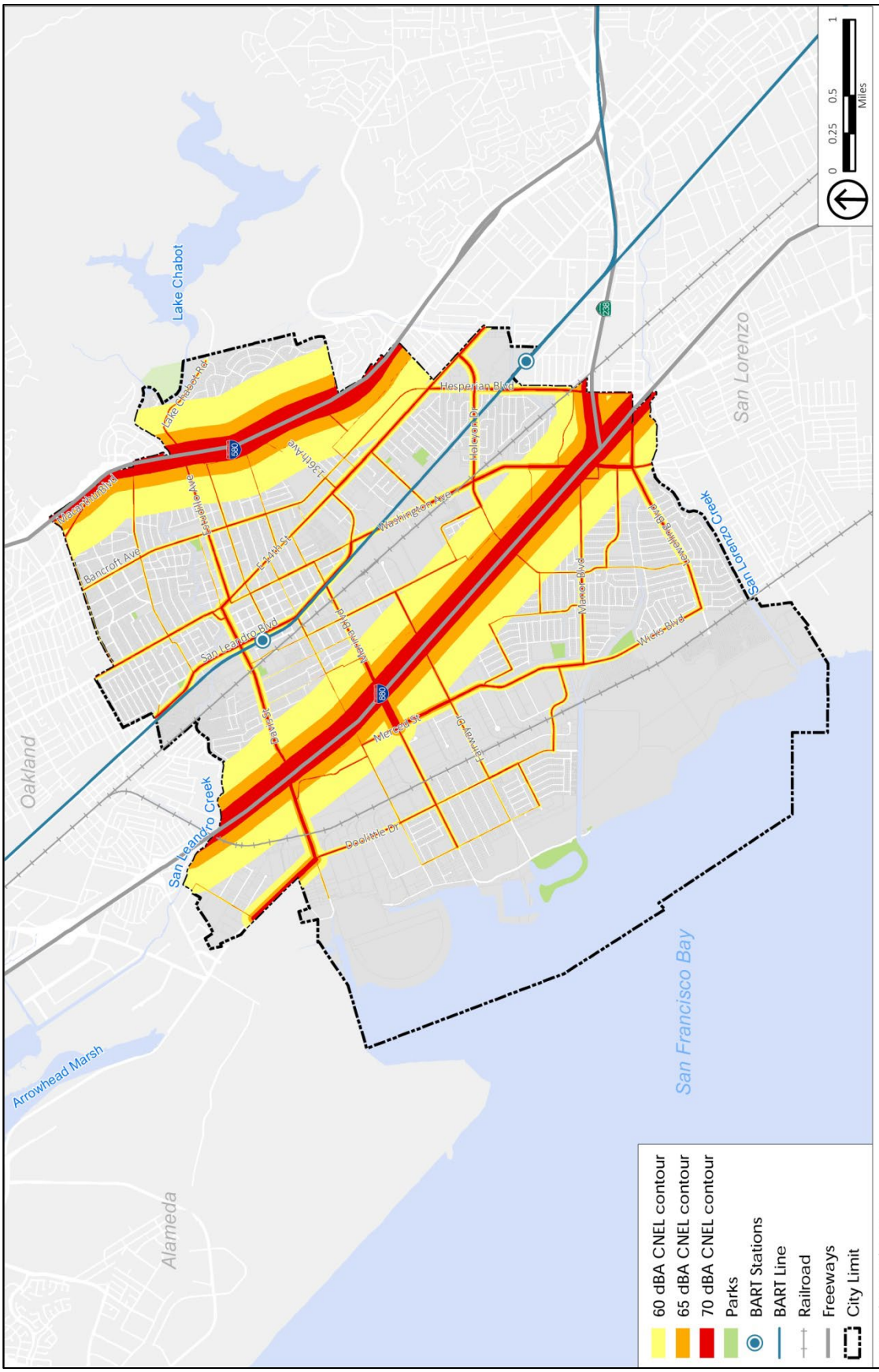
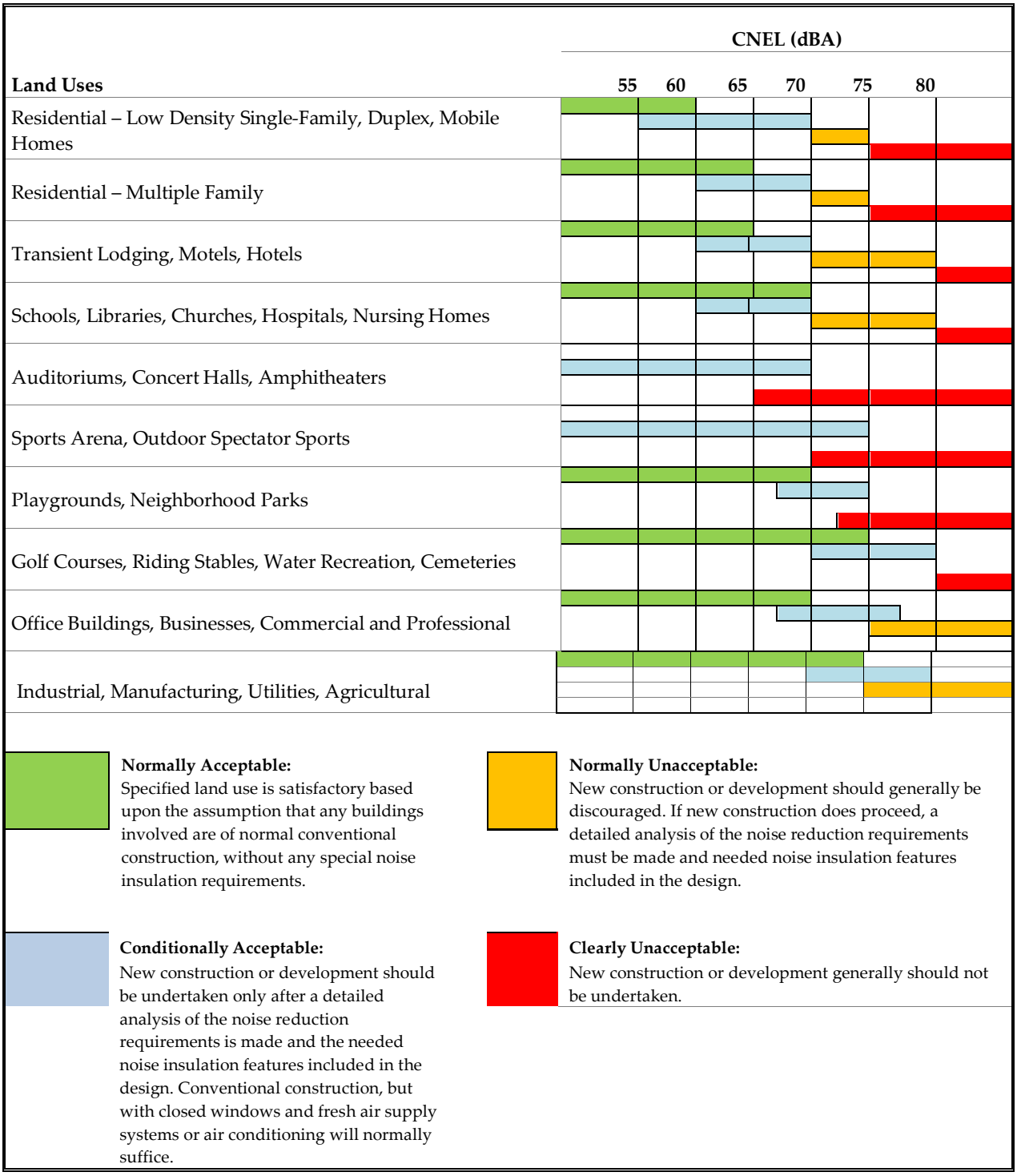


Figure 7-9

Noise Contours-2035

CHART 7-2: **SAN LEANDRO LAND USE COMPATIBILITY GUIDELINES**



Source: Governor's Office of Planning and Research, General Plan Guidelines, November 2003.

Noise mitigation is achieved by reducing the source of the noise, modifying the path between the noise source and receiver, or adjusting the noise receiver. These approaches are described below:

- Reducing noise at the source usually involves muffling the sound, replacing noisy equipment, or regulating the hours during which the source is in operation. For example, federal regulations require mufflers on cars, hush kits on jet airplanes, and curfews at some airports.
- Modifying the path between source and receiver can be accomplished with barriers such as sound walls, berms, or vegetation.
- Adjusting the noise receiver is typically done through building orientation, design, and construction. Double-paned windows, carpeting, acoustical ceiling tiles, and insulation are all examples of ways to reduce noise interior levels at the receiving end.

The California Building Code includes noise insulation standards to limit the extent of noise transmitted into habitable spaces. These standards indicate the extent to which walls, doors, floors, and ceilings must block or absorb sound between exterior and interior spaces. An interior standard of 45 dBA CNEL is required for any habitable room. The City requires an acoustical analysis to demonstrate how dwelling units have been designed to meet this standard on sites where the ambient exterior noise level exceeds 60 dBA CNEL.

Stationary and Construction Noise

Stationary noise sources include industrial and commercial operations, and domestic activities. Construction noise, while temporary, can be a significant contributor to ambient noise levels. Cities can exercise more control over these sources than mobile sources such as trains and aircraft. This control is typically exercised through zoning and through the enforcement of local ordinances regulating noise and business activities.

Many uses in San Leandro's industrial areas generate noise through their regular operations. Generators, fans, chillers, boilers, compressors, pumps, mechanical equipment, and air conditioning systems may run 24 hours a day in some locations. Other sources, such as horns, buzzers, and merchandise off-loading, may be more intermittent. Industrial noise sources are of greatest concern when they are close to sensitive receptors such as housing. This is the case in some West San Leandro neighborhoods

and on the perimeter of the Washington Avenue industrial area. Monitors indicate that noise levels exceed 60 dB Ldn in many of the City's industrial areas and may exceed 70 dB Ldn where other significant noise sources (such as railroad tracks or freeways) are also present.

Levels in the Built Environment

In commercial areas, noise from restaurants, bars, car washes, and other businesses may create conflicts with adjacent residential uses. Commercial uses can generate noise from heating, ventilation, and air conditioning systems, loading docks, trash compactors, and mechanical equipment. Related vehicle and truck traffic can also be a source, and certain activities such as outdoor dining or live music can be objectionable to neighbors.

The City presently uses development review and zoning—specifically, the conditional use permit process—to limit the hours of operation for noise-producing activities and to identify noise muffling and buffering requirements. Shielding equipment may be required for industrial operations and measurable noise limits may be set for air conditioners, compressors, and other exterior noise sources. Similarly, the City requires noise mitigation by residential developers when homes are placed near freeways, industrial uses, and other noise sources. This may include sound walls, double-paned windows, and other measures that protect future residents while helping nearby industrial and commercial uses remain viable.

Construction and demolition noise may occur anywhere in the city. Although it is temporary and intermittent, such noise can be particularly

intrusive because of its very high output and repetitive nature. At a distance of 50 feet, a pile driver and jackhammer may generate noise levels exceeding 100 dBA and 88 dBA respectively (see Chart 7-1). Construction scheduling requirements are typically established to ensure that such noise is limited in duration and occurs only during daytime hours. Contractors may also be required to use equipment with mufflers, silencers, and low noise emission features to avoid potential problems.

Most domestic noise sources are associated with home appliances, yard maintenance and home construction equipment, air conditioners, power tools, hot tubs, and other household activities. Loud music, yelling, and barking dogs are also the source of frequent complaints. The City treats such complaints as a police matter and relies on the Municipal Code to address them.

Chapter 4-1 of the San Leandro Municipal Code restricts the hours of operation of sound amplifying equipment and states that noise is considered a nuisance if it disturbs a person with "normal sensitivity." The Municipal Code includes specific provisions related to loud music in parks, operation of loud equipment, and construction activities. It does not specify allowable decibel levels at the source or at residential property lines. The Code identifies the criteria to identify violations, including sound levels, time, duration, recurrent vs intermittent, proximity to residential uses, population density, and the nature of the noise itself.

Transportation Noise

The heavy volume of traffic in and around San Leandro results in high noise levels in many parts of the City. The Nimitz Freeway (I-880) was

built before effective noise standards were in place and has residential

uses along 60 percent of its San Leandro frontage. Portions of the roadway are elevated, and the freeway is a major interstate truck route. Sound walls have been constructed along all segments abutted by residential uses within San Leandro.The MacArthur Freeway (I-580) has historically been less of a problem, in part due to its design, but also because of the low volume of truck traffic and relatively low night-time traffic volumes. The abutting uses are almost entirely residential and are very sensitive to noise impacts due to the varying topography. Sound walls have been constructed along several segments of I-580.

Arterial roads such as Davis Street, Washington Avenue, Marina Boulevard, and East 14th Street all carry high traffic volumes. Ambient noise levels along these streets usually exceeds 60 dB CNEL, requiring noise mitigation measures in new construction.

The three Union Pacific Railroad corridors that cross San Leandro also affect adjacent uses, although the Oakland Subdivision (the line furthest east) is inactive. Data from the federal Railroad Administration indicates that more than 50 trains a day pass through the City. Passing trains are among the loudest noise sources in the city, exceeding 95 dBA at 100 feet. Train horns may be even louder, approaching 110 dBA. Brakes, coupling impacts, and crossing guard warnings are also common sources of noise along the railroads.

In some parts of central San Leandro, the impacts are amplified because the rail lines run parallel to and relatively close to the elevated BART tracks. BART carries 203 northbound trains and 203 southbound trains through the City each weekday. Trains also run on weekends, but in reduced numbers. The cumulative effect of these sources makes it imperative that noise mitigation measures be incorporated for any development in that corridor.

The most common approach to reducing transportation noise in San Leandro in the past has been to construct sound walls. Although such walls are usually welcomed by immediately adjoining property owners, they are almost always controversial. The aesthetic impacts of a sound wall can be significant and there are often concerns about the displacement of sound to other locations.

A balanced approach to mitigating transportation noise is recommended in this General Plan, with sound walls used in some locations and other measures used where feasible. These measures might include the use of rubberized asphalt or other changes to streets and highway pavement, the use of quieter BART trains and AC Transit buses, and restrictions on train

horns and the scheduling of train switching operations. Improved technology for the muffling of sound from automobiles, trucks, and motorcycles (including the increased use of electric cars) may result in reduced noise levels in the future. It is also important to ensure that aesthetic and maintenance considerations are fully considered when sound walls are built. Dense plantings of shrubs and trees, for example, can soften the visual effects of a wall while also absorbing additional sound waves.

Additional noise problems can be avoided by ensuring that new development along freeways, arterials, and railroads is designed to minimize exposure to transportation noise. For example, the design of housing adjacent to the BART line should place the more noise-sensitive rooms such as bedrooms away from the tracks, while less sensitive rooms such as garages, closets, and utility areas may be closer to the tracks. The use of solid walls and reduced window openings facing the noise source also can cut down noise levels. Courtyards may be incorporated to create quieter spaces in buildings with otherwise noisy exterior settings. Balconies should be avoided where they would overhang noisy streets or face train tracks.

Airport Noise

Airport noise has been a persistent issue in San Leandro since the 1950s and became a greater concern during Oakland International Airport's growth during the 1980s and 90s. Between 1990 and 2000, passenger volumes increased from 5.5 million to 10.6 million. In 2015, the airport handled 11.2 million passengers, which is down from the 2007 peak of 14.2 million passengers. The airport also handles a considerable amount of air cargo and general aviation traffic. Much of this traffic uses runways that are located less than a mile from the San Leandro city limits. The City is also affected by noise from planes landing and taking off at Hayward Executive Airport, which is four miles to the south, and to a lesser extent at San Francisco International, which is 12 miles to the west.

Oakland International Airport is subdivided into North and South airfields. The North Field contains three runways (10L/28R, 10R/28L, and 15/33), as well as general aviation, maintenance, and some cargo facilities. The South Field includes the commercial passenger runways (12/30) and most cargo facilities. The flight path impacting San Leandro most directly is associated with landing aircraft on Runway 28R at the North Field. Most

descending aircraft pass over Marina Square, the Timothy Drive/Davis West area, and the Adams Street industrial area before touching down.

Helicopters also use this corridor.

The City is also impacted by commercial flights using Runway 12/30. Although planes taking off and landing on this runway do not pass directly over San Leandro, the area between the runway and the San Leandro shoreline is open water, providing few opportunities for sound to be absorbed. Consequently, the San Leandro Shoreline and adjacent waterfront neighborhoods may experience high noise levels. Residential areas also may be impacted by high levels of airport noise when flight patterns are shifted due to inclement weather.

Although all of San Leandro's residential areas fall outside of the "Noise Impact Boundary" defined by the Federal Aviation Administration (FAA) and the Port of Oakland, many San Leandro residents are still concerned with high noise levels. These concerns include late night/early morning arrivals and departures, low-flying aircraft, engine run-ups, and the frequency of overflights. While the 24-hour ambient noise levels are within levels deemed acceptable by the FAA, some areas experience short-duration incidents where noise levels exceed 70 dBA.

The Port of Oakland has been implementing a Noise Compatibility Program (NCP) for Oakland Airport since the 1970s. The current NCP includes a variety of components for both the North and South Fields to reduce off-site impacts. For instance, certain types of aircraft are prohibited from departing or arriving on the North Field, and aircraft must follow particular flight tracks when landing and taking off. Educational training and program information is used to advise pilots of the preferred procedures. A permanent noise monitoring system also has been installed.

The last 20 years have seen significant improvements to the airport-related noise environment in San Leandro. In 1994, there were 28 residences within Oakland International Airport's 65 dB CNEL contour and 554 residences within the Airport's 60 dB CNEL contour. Today, there are no homes in airport-related noise contours exceeding 60 dB, largely as a result of quieter aircraft. Noise mitigation programs were specified in a Settlement Agreement reached between the City of San Leandro and the Port of Oakland in November 2000 and amended through 2017. The Agreement prohibits the Airport from allowing large or heavy commercial passenger aircraft on the North Field, except during emergencies and periods when the main runway is closed for maintenance or repair. Most of the terms of the Settlement Agreement have already been met, including the offer to insulate additional homes to reduce interior noise levels. A Community Noise Management Forum has been created to regularly address community noise concerns; San Leandro is a regular participant in this process.

The City will continue to maintain a dialogue with the Port of Oakland on further noise abatement procedures, particularly in residential areas impacted by overflights and in areas between the 55 and 65 dB CNEL contours. The City will continue to be an active participant in discussions about the airport's future and will ensure that future development decisions consider the potential for exposure to airport noise. Through its participation in the Community Noise Management Forum, San Leandro will work to reduce noise impacts associated with implementation of new flight pattern protocols at Bay Area airports. In 2016, several East Bay cities were experiencing impacts from the Metroplex air traffic control

system, which has resulted in more concentrated air traffic patterns. San Leandro will work with Congressional representatives and others to bring FAA oversight and regulations up to date to address and to resolve increased noise impacts on the community.

GOALS, POLICIES, AND ACTIONS

MITIGATION OF NATURAL HAZARDS

GOAL EH-1 Reduce the potential for injury, property damage, and loss of life resulting from earthquakes, landslides, floods, and other natural disasters.

Policy EH-1. **Risk Management.** Minimize risks from geologic, seismic, flood, and climate change-related hazards by ensuring the appropriate location, site planning, and design of new development. The City's development review process, and its engineering and building standards, should ensure that new construction is designed to minimize the potential for damage.

Action EH-1.1.A: Soils and Geologic Reports
Require soils and/or geologic reports for development in areas where potentially serious geologic risks exist. These reports should address the degree of hazard, design parameters for the project based on the hazard, and appropriate mitigation measures.

Policy EH-1.2 **Earthquake Retrofits.** Strongly encourage the retrofitting of existing structures to withstand earthquake ground shaking, and require retrofitting when such structures are substantially rehabilitated or remodeled.

Action EH-1.2.A: Residential Retrofit Program
Undertake programs to assist homeowners with earthquake retrofitting. As funding allows, such programs could include home inspections, do-it-yourself classes, tool lending libraries, the Brace and Bolt Program, and other measures that reduce the risk of damage and injury in an earthquake.

Action EH-1.2.B: Change of Occupancy Upgrades
Continue requirements that structures at high risk of earthquake damage be retrofitted when there is a change of occupancy or a major building remodel.

Action EH-1.2.C: Soft-Story Buildings

Develop an implementation strategy to reduce the hazards posed by soft-story buildings (multi-story structures with little or no first floor bracing).

See the Housing Element Action 2.4 for additional guidance on soft-story buildings.

Policy EH-1.3 **Off-Site Impacts of Hillside Development.** Ensure that development within landslide-prone or geologically hazardous areas does not contribute to higher hazard levels on adjacent or nearby properties. Require drainage and erosion control provisions in such areas to avoid slope failure and to mitigate potential hazards to other properties.

Policy EH-1.4: **Code Revisions.** Revise and update construction codes and regulations to incorporate the latest available information and technology related to earthquake and flood hazards.

Policy EH-1.5 **Public Awareness.** Promote greater public awareness of earthquake hazards, along with incentives and assistance to help property owners make their homes and businesses more earthquake-safe.

Action EH-1.5.A: Educational Materials
Provide links from the City's website to hazard maps, including maps showing fault line locations, ground shaking levels for earthquakes of different magnitudes, and liquefaction hazards.

Policy EH-1.6 **Construction in the Flood Plain.** Implement federal requirements relating to new construction in flood plain areas to ensure that future flood risks to life and property are minimized.

Action EH-1.6.A: FIRM Amendments
Continue to work with FEMA to amend and update Federal Insurance Rate Maps (FIRMs) so that they correctly depict flood hazards in the City.

Action EH-1.6.B: Critical Facility Limitations
Avoid planning new critical facilities within flood plains to mitigate potential impacts to emergency services and adaptive capacity.

Policy EH-1.7 **Reducing Flood Hazards.** Work collaboratively with County, State, and federal agencies to develop short- and long-term programs that reduce flood hazards in the City. At the local level, the City will regularly maintain its storm drainage system and ensure that those portions of San Leandro Creek under its jurisdiction remain clear of obstructions.

Action EH-1.7.A: Coordination With ACFCWCD
Improve coordination with the Alameda County Flood Control and Water Conservation District to ensure that flood channels are regularly cleaned and maintained. This should include coordination of tree removal projects on ACFCWD land.

Action EH-1.7.B: Increase Flood Channel Capacity
Work with Alameda County, State and federal agencies, and elected officials to improve flood control channel Line A Zone 2 (the Estudillo Canal) to reduce flood hazards, including reconstruction of golf course bridges to improve channel capacity. As appropriate and necessary, pursue measures to increase the capacity of other flood control facilities to reduce the number of adjacent San Leandro properties subject to flooding.

Policy EH-1.8 **Sea Level Rise.** Consider the effects of projected sea level rise in the design and planning of all development, recreational improvements, and infrastructure along the San Leandro shoreline.

Action EH-1.8.A: Adaptation Plans and Funding Strategies.
In partnership with regional agencies, develop long-term adaptation plans and funding strategies which minimize the potential for coastal flooding on public and private properties near the San Leandro shoreline. Periodically evaluate the risk to homes, businesses, parks, and other features and take steps to protect or fortify these areas to reduce damage potential.

Action EH-1.8.B: Increase Resilience to Sea Level Rise and Groundwater Inundation. *Require all future planning within projected inundation zones to factor in and include adaptive measures to address impacts from sea level rise, storm surges, and groundwater related inundation.*

Action EH-1.8.C: Natural and Grey Infrastructure to Mitigate Sea Level Rise. *Protect and expand uses of natural infrastructure such as wetlands that mitigate the effects of sea level rise. Develop levees and seawalls to protect the community and critical facilities along the San Leandro shoreline to further mitigate inundation.*

Policy EH-1.9 Improve community resilience to Sea Level Rise, Bayshore Flooding, and Groundwater Inundation through Plans and Programs. Create climate adaptation programs and resources for the community facing sea level rise, the increased risk of coastal flooding and rising groundwater levels. Include outreach to vulnerable populations in multiple languages creating widespread access to programs.

Action EH-1.9.A: Protect Critical Assets Within Projected Flood Zones. *Identify and develop potential financing options and programs to protect and/or retrofit critical public infrastructure and facilities from sea level rise, bayshore flooding, and groundwater inundation.*
See Open Space Element Policy OSC-3.1 for additional guidance on Oyster Bay Regional Shoreline.

Action EH-1.9.B: Assess Sea level rise vulnerability and develop adaptation strategies. *Update the sea level rise vulnerability assessment and adaptation plan as needed. Prioritize implementation of adaptation strategies to address impacts to vulnerable areas.*

***Action EH-1.9.C**: **Shoreline Protection Plan**. In collaboration with the Bay Conservation and Development Commission, the City of Oakland, Alameda County, and the City of Hayward, expand and restore wetland habitat and create a more resilient and living shoreline through development of a shoreline protection plan in line with the CAP.*

***Action EH-1.9.D: San Francisco Bay Shoreline Adaptation Atlas Collaboration**. Partner with cities and counties across the Bay Area to incorporate the San Francisco Estuary Institute's SF Bay Area Adaptation Atlas. Including commitments to nature-based measures, grey infrastructure, policy and regulatory measures, and financial measures to implement adaptive solutions to sea level rise. Incorporate the same commitments into the shoreline master plan.*

WILDFIRE HAZARDS

GOAL EH-2 Minimize urban wildfire hazards, both within the city and throughout the East Bay Hills.

Policy EH-2.1 **Fire Codes.** Adopt and enforce building and fire prevention codes that require property owners to reduce wildfire hazards on their properties.

Action EH-2.1.A: Vegetation Management
Work with Code Enforcement staff to ensure effective vegetation management by property owners in designated "Local Responsibility Area (LRA) Very High Fire Hazard Severity" zones.

Action EH-2.1.B: Refinement of Fire Hazard Severity Maps
Work with CalFire to improve the accuracy of the maps indicating Very High Fire Severity Areas in and adjacent to San Leandro.

Action EH-2.1.D: Fuel Management New Development
In conjunction with the approval of new subdivisions in wildfire-prone areas, require preparation and implementation of a fire fuel management plan including provisions for ongoing fuel maintenance throughout the life of the project. The plans should be reviewed and approved by CalFire, as applicable. The plan should include provisions for completing fuel reduction activities within common areas and any perimeter fuel reductions areas prior to filing a final map. The plan should address the necessity for recording fire fuel management easements on parcels to ensure sufficient area is provided between housing units to permit adequate defensible space. Developers should be encouraged to have projects become recognized as FireWise Communities.

Policy EH-2.2 **Fire Prevention By Design.** Ensure that the planning and design of development in very high fire hazard areas minimizes the risks of wildfire and includes adequate provisions for vegetation management, emergency access, and firefighting.

Action EH-2.2.A: Design Principles

Site and configure new development to reduce the potential for wildfire in areas deemed to have Very High Fire Hazard severity ratings. Principles to be followed in such areas include:

(a) Clustering development to reduce the need for multiple response teams in the event of a wildfire;

(b) Requiring defensible space around structures;

(c) Requiring fire-resistant materials as appropriate;

(d) Requiring residential fire sprinkler systems and other fire suppression, detection, and alarm equipment where appropriate;

(e) Engaging the Fire Department and EBMUD in the review of development to ensure that adequate provisions are made for fire flow and emergency vehicle access

(f) Requiring new essential public facilities to be located outside high fire risk areas;

(g) Requiring fire protection plans for new development in Very High Fire Hazard Severity Zones;

(h) Requiring adequate ingress and egress to new development.

(i) Non-conforming development

In addition, as recommended by the Community Services and Facilities Element of the General Plan, the City will maintain service standards, and continue to plan for the facilities, equipment, personnel, and communication systems needed to address future fire hazards.

Action EH-2.2.B: State Responsibility Areas Fire Safe Regulation

Require development to adhere to standards that meet or exceed Title 14, CCR, Division 1.5, Chapter 7, Subchapter 2, Articles 1-5 (commencing with Section 1270) (State Responsibility Area Fire Safe Regulations) and Title 14, CCR, Division 1.5, Chapter 7, Subchapter 3, Article 3 (commencing with Section 1299.01) (Fire Hazard Reduction Around Buildings and Structures Regulations) for State Responsibility Areas and/or Very High Fire Hazard Severity Zones.

Action EH-2.2.C: Implementation of Building Codes

To reduce vulnerability of structures to ember ignition and wildfire impacts, continue to implement all applicable building code standards and other applicable statutes, regulations, requirements, and guidelines regarding construction, and specifically the use and maintenance of non-flammable materials (both residential and commercial). Enforce

implementation of visible home and street addressing and signage.

Action EH-2.2.D: Post-Fire Re-Development
In the event of a large fire, evaluate re-development within the impacted fire zone to conform to best practice wildfire mitigation.

Action EH-2.2.E: Non-Conforming Development
Increase the resilience of existing development in Very High Fire Hazard Severity Zones built prior to modern fire safety codes or wildfire hazard mitigation guidance in compliance with the Board of Forestry and Fire Protection Fire Safe Regulations, California Building Standards Code including minimum standards for evacuation of residential areas.

Action EH-2.2.F: New Subdivisions *New subdivisions shall provide adequate evacuation and emergency vehicle access to and from the subdivision on streets or street systems that are evaluated for their traffic access or flow limitations, including but not limited to weight or vertical clearance limitations, dead-end, one-way, or single lane conditions.*

Action EH-2.2.G: Building Retrofits in Very High Fire Hazard Severity Zones *Support the retrofitting of existing structures in Very High Fire Hazard Severity Zones to meet current safety regulations, such as the building and fire code, to help reduce the risk of structural and human loss due to wildfire.*

Policy EH-2.3 **Mutual Aid.** Work collaboratively with other jurisdictions and agencies to reduce wildfire hazards in and around San Leandro, with an emphasis on effective vegetation management and mutual aid agreements.

Action EH-2.3.A: Task Force Participation
Continue to participate in multi-jurisdictional task forces and programs that address wildfire hazards in the East Bay Hills, including measures to reduce hazards in designated Very High Fire Hazard Severity Zones, consistent with SB 1241.

Action EH-2.3.B: Proximal Fuel Reduction
Collaborate with the Alameda County Fire Department and state agencies to coordinate and implement wildfire mitigation measures and fuel load modifications reduction zones, including load clearing, prescribed burns, fire breaks, livestock grazing, and public and private road clearance and other

mitigation activities for areas within San Leandro and east of the City as identified in Figure 7-3. Establish cooperative management agreements with entities that have jurisdiction over lands located to the east of the city limits. Include activities to clear and maintain public and private roads within and outside of city limits.

Policy EH-2.4 Community Preparedness. Promote public outreach and access to needed resources for new and existing developments to be prepared for wildfires in multiple languages to be accessible across the entire community.

Action EH-2.4.A: Community Education
Make available educational materials regarding environmental regulations, guidelines, and protection measures that property owners should be aware of and are responsible for when planning and undertaking fuels management activities including defensible space. These educational materials shall be available to members of the public in multiple languages. Target outreach to vulnerable populations including the elderly, linguistically isolated households, individuals with chronic illnesses, and individuals with disabilities.

Action EH-2.4.B: Open Space
Support efforts to incorporate systematic fire protection improvements for open space, including the facilitation of safe fire suppression tactics, standards for adequate access for firefighting, fire mitigation planning with landowners and other stakeholders, and water sources for fire suppression.

Policy EH-2.5 Fire Mitigation Capacity. Improve the fire resistance of community structures and homes in very high fire hazard severity zones.

Action EH-2.5.A: Fire Flow Adequacy - *The City shall require all public water providers to maintain adequate water supply systems and flows to meet fire suppression needs throughout the city including new and existing development. Water supply locations to be publicized through the city website.*

See Community Services and Facilities Action CSF-1.1.B for additional guidance on water service improvements.

Action EH-2.5.B: Fire Resistant Construction
Encourage retrofits, additions, and rebuilds in key interface neighborhoods (along the edge of the East Bay Regional Park

lands where neighboring Very High Fire Hazard Severity Zones are located and in the Very High Fire Hazard Severity Zones within city limits) to have hardened homes and defensible space implemented. Require new, remodeled, and/or rehabilitated developments to be constructed using fire resistant materials, particularly roofing, and state-of-the-art fire prevention techniques. Identify resources that can provide financial support for home retrofit and home hardening projects.

Action EH-2.5.C: Fire Protection Plans *Require Fire Protection Plans for new residential subdivisions in Very High Fire Hazard Severity Zones that minimize and mitigate potential loss from wildfire exposure, and reduce impact on the community's fire protection delivery system.*

Action EH-2.5.D Assembly Uses *Prohibit new and intensification of existing general assembly uses in Very High Fire Hazard Severity Zones unless it is determined that there is sufficient secondary egress and that adjoining major highways and street networks are sufficient for evacuation, as well as safe access for emergency responders under a range of emergency scenarios.*

AIR QUALITY

GOAL EH-3 Promote and participate in efforts to improve the region's air quality.

Policy EH-3.1 **Clean Air Plan Implementation.** Cooperate with the appropriate regional, state, and federal agencies to implement the regional Clean Air Plan and enforce air quality standards.

Policy EH-3.2 **Transportation Control Measures.** Promote strategies that help improve air quality and reduce greenhouse gas emissions by reducing the necessity of driving. These strategies include more reliable public transportation, carpooling and vanpooling programs, employer transportation demand management (TDM) programs, better provisions for bicyclists and pedestrians, and encouraging mixed use and higher density development around transit stations.

Policy EH-3.3 **Land Use Compatibility.** Discourage new uses with potential adverse air quality impacts, including the emission of toxic air contaminants and fine particulates, near residential neighborhoods, schools, hospitals, nursing homes, and other locations where public health could potentially be affected.

Policy EH-3.4 **Design, Construction, and Operation.** Require new development to be designed and constructed in a way that reduces the potential for future air quality problems, such as odors and the emission of any and all air pollutants. This should be done by:

(a) Requiring construction and grading practices that minimize airborne dust and particulate matter;

(b) Ensuring that best available control technology is used for operations that could generate air pollutants;

(c) Encouraging energy conservation and low-polluting energy sources;

(d) Promoting landscaping and tree planting to absorb carbon monoxide and other pollutants; and

(e) Implementing the complementary strategies to reduce greenhouse gases identified in the Climate Action Plan.

See the Open Space Element Policy OSC-8.4 for additional guidance on local energy resources.

Action EH-3.4.A: Development Review
Work with the BAAQMD in the review and monitoring of businesses and activities with the potential for air quality impacts.

Action EH-3.4.B: Health Risk Assessments
Implement Bay Area Air Quality Management District Guidelines and State Office of Environmental Health Hazard Assessment policies and procedures requiring health risk assessments for residential development and other sensitive land use projects within 1,000 feet of major sources of toxic air contaminants, including freeways and roadways with over 10,000 vehicles per day. As appropriate, identify mitigation measures (such as air filtration systems) to reduce the potential exposure to particulate matter, carbon monoxide, diesel fumes, and other potential health hazards. Measures identified in the HRA shall be included in the environmental document and/or incorporated into the site development plan as a component of the proposed project/

See the Hazardous Materials Goal for additional relevant policies.

Policy EH-3.5 **Odors.** Ensure prompt response to complaints about odor problems and other potential air quality nuisances and hazards reported by residents and businesses.

Action EH-3.5.A: Odor Reporting and Inspection Program
Establish links from the City's website to the BAAQMD website, in order to direct residents to BAAQMD's odor reporting and inspection program, data on odor complaints in the city, and additional information on air quality programs.

Policy EH-3.6: **"Spare the Air" Education.** Promote public education on air quality hazards and the steps that residents can take to help maintain clean air and reduce greenhouse gas emissions. Continue to participate in the BAAQMD "Spare the Air" program and other programs that increase public awareness of air quality issues.

Policy EH-3.7 **Aircraft Emissions.** Advocate for greater local and regional control over air pollution caused by aircraft,

including ground operations and flyovers from Oakland International Airport.

Action EH-3.7.A: Aviation-Related Air Pollution
Advocate for additional monitoring of air quality levels by the BAAQMD around Oakland International Airport.

Policy EH-3.8 **Regulatory Changes.** Stay apprised of changes in state and federal air quality regulations and implement programs as required to ensure local compliance.

Policy EH-3.9 **Alternative Fuel Vehicles.** Promote the development of infrastructure which supports the use of alternative fuel (i.e., electric) vehicles, including electric charging stations and preferential parking for electric vehicles.

Action EH-3.9.A: Replacement of City Vehicle Fleet
Pursue the gradual replacement of the City's passenger vehicle fleet with vehicles using cleaner-burning fuels, such as natural gas and electricity.

Policy EH-3.10 **Downwind Impacts.** Consider the direction of prevailing winds in the siting of facilities likely to generate smoke, dust, and odors. Ensure that such facilities are sited to minimize the impacts on downwind residential areas and other sensitive uses.

WATER QUALITY

GOAL EH-4 Maintain and improve water quality in San Leandro's creeks, wetlands, and offshore waters.

Policy EH-4.1 **Urban Runoff Control.** Continue to implement water pollution control measures aimed at reducing pollution from urban runoff. These measures should emphasize best management practices by residents, businesses, contractors, and public agencies to ensure that surface water quality is maintained at levels that meet state and federal standards.

Action EH-4.1.A: Trash Capture Devices
Develop a funding plan for the installation and maintenance of trash capture devices on City storm drains, in order to comply with the unfunded State mandate for 100 percent trash capture in local storm drain systems.

Action EH-4.1.B: Municipal Regional Permit Implementation
As required by Section C3 of the Stormwater Municipal Regional Permit (also known as "C3" requirements), ensure that the City's development review procedures continue to include water quality protection measures. These include measures related to water supply, flood control, habitat protection, groundwater recharge, Bay-friendly landscaping, and sustainable development. In addition, the City will continue to require Stormwater Pollution Prevention Plans for qualifying projects and will ensure that such projects include appropriate measures to minimize the potential for water pollution.

Policy EH-4.2 **Clean Water Education.** Promote the public information and participation provisions of the Alameda Countywide Clean Water Program.

Action EH-4.2.A: Clean Water Program Educational Components
Continue to implement programs in coordination with the Alameda County Clean Water Program to better educate the public on urban runoff hazards. Examples of these programs include storm drain stenciling, exhibits at farmers markets and local street fairs, website information, and television and

newspaper advertising. Use these programs to increase awareness of clean water laws and the penalties associated with illicit discharges. Anticipate potential water quality degradation resulting from increased storm intensity.

Policy EH-4.3 **Interagency Coordination.** Coordinate water quality planning, regulation, and monitoring with other public agencies that are involved in water resource management. Establish partnerships and task forces with these agencies and with nearby cities as needed to develop programs addressing issues that cross jurisdictional lines.

Action EH-4.3.A: Municipal Regional Permit Revisions
Remain an active participant in discussions of possible revisions to state and federal clean water legislation, including revisions to the Municipal Regional Permit for stormwater.

Policy EH-4.4 **Water Quality Monitoring.** Continue to support water quality monitoring in San Leandro waterways to evaluate the progress of local clean water programs and identify the necessary steps for improvement.

Policy EH-4.5 **Public Works Maintenance.** Continue, and if feasible expand, City Public Works maintenance activities, including scheduled street sweeping and cleaning of storm drains and culverts, to minimize pollution from surface runoff.

Action EH-4.5.A: Community Clean-Ups
Coordinate with community groups to develop clean-up programs for the shoreline, creeks, and flood control channels to remove debris and litter and minimize the potential for surface water pollution.

Action EH-4.5.B: Street Sweeping Improvements
Improve the effectiveness of the City's street sweeping program through measures such as:
(a) ticketing or towing of illegally parked cars;
(b) increased public education about the program and the water quality benefits it provides; and
(c) notification to property owners via information-sharing websites and social media.

Policy EH-4.6: **Illicit Discharges.** Control illicit discharges into the City's stormwater system through inspections,

compliance evaluations, enforcement programs, and tracking activities.

Policy EH-4.7 **Pre-Treatment Requirements.** Maintain and enforce pre-treatment requirements for industries as needed to minimize the discharge of potentially toxic materials into the City's sanitary sewer system.

Policy EH-4.8 **Hazardous Spill Response.** Maintain and update hazardous spill response and clean-up programs that minimize potential impacts on water quality.

Policy EH-4.9 **Nearshore Waters.** Ensure the continued improvement of nearshore waters through the regulation of water pollution sources along the San Leandro shoreline, including boating and other water-oriented activities.

Policy EH-4.10 **Groundwater Protection.** Protect San Leandro's groundwater from the potentially adverse effects of urban uses. Future land uses should be managed to reduce public exposure to groundwater hazards and minimize the risk of future hazards.

Action EH-4.10.A: Groundwater Monitoring

Encourage continued monitoring of local groundwater by State regulatory agencies and the private sector and take steps to prevent further contamination.

Action EH-4.10.B: EBMUD Injection Wells

Work with EBMUD on groundwater management and safety, including plans for injection wells and aquifer storage of groundwater.

Policy EH-4.11 **Green Infrastructure.** Consistent with the Municipal Regional Stormwater Permit for the San Francisco Bay Area, promote the increased use of green infrastructure as a means of improving stormwater quality. This shall include the incorporation of low impact development (LID) drainage design in public and private streets, parking lots, roofs, and other facilities. This also includes the use of best management practices to reduce impervious surfaces, including strategies using vegetation, soils, and natural processes to manage water and create a healthier urban environment. Green infrastructure can strengthen the City's resilient to urban heat island effect as well.

Action EH-4.11.A: Green Infrastructure Plan
Develop and implement a Green Infrastructure Plan, as required by the Regional Water Quality Control Board. The Plan should include a mechanism to prioritize and map areas for planned and potential projects, projections for impervious surface reductions, a process for tracking and mapping completed projects, design guidelines and details for green infrastructure projects, an implementation program, and an evaluation of funding options to cover construction and ongoing maintenance.

Action EH-4.11.B: Green Infrastructure Capital Projects
Annually review planned capital projects to identify opportunities to incorporate green infrastructure.

Action EG-4.11.C: Green Infrastructure Outreach
Conduct outreach and education to gain support for green infrastructure plans and demonstrate the benefits of such plans, such as water quality improvement, flood control, greenhouse gas reduction, and safer pedestrian and bike access.

HAZARDOUS MATERIALS

GOAL EH-5 Protect local residents and workers from the risks associated with hazardous materials.

Policy EH-5.1 Regulatory Compliance. Work with the appropriate county, regional, state, and federal agencies to develop and implement programs for hazardous waste reduction, hazardous material facility siting, hazardous waste handling and disposal, public education, and regulatory compliance.

Action EH-5.1.A: CUPA Programs
Continue to implement State programs as required by the City's Certified Unified Program Agency (CUPA) designation.

Action EH-5.1.B: Implementation of County Hazardous Waste Management Plan
Work with Alameda County on the implementation and coordination of local hazardous materials waste programs.

Action EH-5.1.C: Pipeline Safety
Coordinate with appropriate regulatory agencies to ensure the safety of all fuel pipelines that cross San Leandro, and to ensure that record-keeping, maintenance, and operating conditions are fully compliant with state and federal safety regulations.

Policy EH-5.2 Clean-Up of Contaminated Sites. Ensure that the necessary steps are taken to clean up residual hazardous wastes on any contaminated sites proposed for redevelopment or reuse. Require soil evaluations as needed to ensure that risks are assessed and appropriate remediation is provided.

Policy EH-5.3 Design of Storage and Handling Areas. Require that all hazardous material storage and handling areas are designed to minimize the possibility of environmental contamination and adverse off-site impacts. Enforce and implement relevant state and federal codes regarding spill containment facilities around storage tanks.

Action EH-5.3.A: Implement Codes and Regulations
Ensure enforcement of, and compliance with, all adopted hazardous materials regulations.

Policy EH-5.4 **Separation from Sensitive Uses.** Provide adequate and safe separation between areas where hazardous materials are present and sensitive uses such as schools, residences, and public facilities. Zoning and other development regulations should include performance standards to avoid safety hazards and achieve compatibility between uses.

Policy EH-5.5 **Incident Response.** Maintain the capacity to respond immediately and effectively to hazardous materials incidents. Provide ongoing training for hazardous materials enforcement and response personnel.

Policy EH-5.6 **Household Hazardous Wastes.** Promote public education about the safe disposal of household hazardous waste, such as motor oil and batteries, including the locations of designated household hazardous waste disposal sites.

Action EH-5.6.A: Publicity of Household Hazardous Waste Information
Work with Alameda County and Alameda County Industries (ACI) to provide each household with information on the location and operating hours of household hazardous waste collection facilities and the protocol for the disposal of such wastes.

Policy EH-5.7 **Hazardous Building Materials.** Ensure the safe and proper handling of hazardous building materials, such as friable asbestos and lead based paint. If such materials are disturbed during building renovation or demolition, they should be handled and disposed of in a manner that protects human health and the environment.

Policy EH-5.8 **Public Awareness.** Increase public awareness of hazardous material use and storage in the City, the relative degree of potential health hazards, and the appropriate channels for reporting odor problems and other nuisances.

Action EH-5.8.A: Disclosure to Property Owners
Pursuant to the California Health and Safety Code, enforce community disclosure laws (e.g., Right-to-Know laws) that inform property owners of the presence of hazardous materials nearby.

Action EH-5.8.B: ***Rail Transport of Hazardous Materials***
Monitor proposals for the transport of potentially hazardous or explosive materials by rail through San Leandro, and take appropriate actions to ensure the safety of local residents and businesses.

Policy EH-5.9 **Community Preparedness.** Ensure that the City's Emergency Preparedness programs include provisions for hazardous materials incidents, as well as measures to quickly alert the community and ensure the safety of residents and employees following an incident.

EMERGENCY PREPAREDNESS

GOAL EH-6 **Attain—and sustain—comprehensive and highly effective emergency preparedness and recovery programs.**

Policy EH-6.1 **Preparedness as a Top Priority.** Establish emergency preparedness as a top City priority. Staffing and funding levels for local preparedness programs should be sufficient to keep all residents and business well informed and prepared in the event of a major earthquake or similar disaster.

Action EH-6.1.A: Essential Service Facility Upgrades
Periodically evaluate the ability of City facilities to function after a major disaster such as an earthquake. Take steps to address any deficiencies, and to ensure that emergency services and communication can be provided following a disaster.

Policy EH-6.2 **SEMS Planning.** Use the Standard Emergency Management System (SEMS) as the basis for the City's Emergency Preparedness programs. The City should maintain and periodically update a SEMS-based emergency preparedness plan that provides direction and identifies responsibilities following a disaster.

Action EH-6.2.A: Emergency Operations Plan Update
Expand the City's Emergency Operations Plan to improve evacuation coordination and assistance as well as post-disaster recovery. Additionally, explore new evaluation guidance options such as:

- *Stay-at-home requests for unaffected communities*
- *Early evacuations under high-risk conditions*
- *Implement access restrictions during evacuations or along evacuation routes*

Action EH-6.2.B: Local Hazard Mitigation Plan
Maintain a Local Hazard Mitigation Plan (LHMP) which assesses the vulnerability of areas in the city to different types of natural hazards (such as earthquakes, wildfires, and floods) and includes measures to reduce the potential for damage.

Action EH-6.2.C: Update Evacuation Plans. Review and *update as necessary all existing plans and policies to account*

for and adapt processes to match the scope of Bayshore Flooding scenarios outlined in the Climate Vulnerability Assessment. Include evacuation strategies for vulnerable populations that may be physically or linguistically isolated and in need of additional evacuation support.

Policy EH-6.3 **Public Education and Awareness.** Continue to promote public education and awareness on all aspects of emergency preparedness, including the type and extent of hazards in the community, measures to reduce the likelihood of damage and injury, provisions for emergency supplies, steps to take immediately after a disaster, and the locations of shelters and medical facilities. Include education on climate change in multiple languages as it relates to health and emergency preparedness.

Action EH-6.3.A: Educational Materials
Provide web-based material and links from the City's website to internet websites to improve emergency preparedness. Ensure the availability of materials in multiple languages whenever feasible.

Action EH-6.3.B: Staffing Levels
Maintain dedicated City staff position(s) for emergency preparedness program administration, including outreach to schools, the business community, neighborhood groups, residents, and City staff, as well as well as the implementation of programs before, during, and after an emergency.

Policy EH-6.4 **Drills.** Conduct periodic emergency response exercises to test the effectiveness of local preparedness procedures. Maintain SEMS training programs to ensure that City personnel are sufficiently prepared to respond to an emergency and staff an Emergency Operations Center. ***Action EH-6.4.A: Radio 1610***
Maintain and upgrade Radio 1610 AM, and continue to use local cable television and Nixle 360 (or an equivalent successor) to provide important news bulletins to San Leandro residents.

Action EH-6.4.B: Siren Testing

Consider reactivation of the City's emergency warning sirens, along with education about the procedures to follow in the event the sirens are sounded.

Policy EH-6.5 **Training Programs.** Maintain community-based emergency preparedness training programs targeted to neighborhoods and businesses groups. Ensure that such programs respond directly to local needs; include provisions for vulnerable populations such as non-English speaking, disabled, and sight/hearing-impaired residents; and are well publicized throughout the community.

Policy EH-6.6 **Emergency Shelters.** Identify essential emergency facilities in the City, including shelters, and take the necessary actions to ensure that they will remain operational following a disaster.

Action EH-6.6.A: Disaster Response Equipment
Continue to improve communication systems and utilize technology to improve disaster preparedness and post-disaster response through methods such as critical infrastructure backup power.

Policy EH-6.7 **Schools and Hospitals.** Coordinate local emergency preparedness efforts with the San Leandro and San Lorenzo Unified School Districts, and with local hospitals. Work with both School Districts to implement disaster preparedness curricula targeted to students.

Policy EH-6.8 **Businesses and Social Service Agencies.** Coordinate emergency planning efforts with other jurisdictions, the business community, and social service agencies, including agencies serving special needs groups such as seniors and persons with disabilities.

Policy EH-6.9 **Multi-Lingual Information.** Ensure that emergency preparedness information, including printed material, radio broadcasts, video, websites, and other media, is available in non-English languages (e.g., Spanish, Chinese), in addition to English.

Policy EH-6.10 **Funding Sources.** Pursue a variety of funding sources, such as grants, low-interest loans, and tax credits, to

retrofit community facilities and assist residents and businesses with seismic and fire hazard upgrades.

Action EH-6.10.A: Brace and Bolt Program
Pursue additional allocations from the State Residential Mitigation Program to continue the Brace and Bolt program.

Policy EH-6.11 Evacuation Route Connectivity. Prepare to effectively support evacuation events through effective mobilization of City staff and the use of communications systems.
See Land Use Element Policy LU-7.6 for additional guidance on circulation and land use improvements.

Action EH-6.11.A: Zone Based Evacuation
Coordinate with the Fire Department, Sheriff, Public Works, Caltrans, Fire Safe Council, Fire Wise Communities, neighborhoods, and homeowner associations to employ localized "zone based" evacuation plans to be used during an emergency situation, and to assess and plan for required evacuation route capacities. Include education of the community on defined neighborhood evacuation zones and procedures with the help of wildfire prevention stakeholders in multiple languages.

Action EH-6.11.B: Road Capacity
Where roads systems are antiquated and do not provide for proper evacuation or allow two-way traffic flow, prioritize removal of obstructions. or upgrade to minimum two lane road system over time. Ensure all identified single-access roads are accessible by emergency vehicles and have sufficient defensible space.

Policy EH-6.12 Vulnerable Communities. Adopt communication tools to reach at risk communities and coordinate with local service providers to assist vulnerable populations such as the unhoused, elderly, and young children with evacuations.

Policy EH-6.13 Structural Improvements. Include potential to improve emergency and evacuation access as a metric for prioritizing Capital Improvement Program (CIP) funds.

Action EH-6. 13.A: Lane Control Equipment
Procure equipment to support lane control for evacuations Conduct periodic evacuation management exercises to prepare staff for lane management operations.

Action EH-6.13.B: Key Route Improvements
Implement enhancements such as shoulder/clear zone improvements for key evacuation routes prioritizing Interstates 580 and 880.

Action EH-6.13.C: Traffic Control Improvements
Increase the ability of the City to manage traffic through structural improvements including:

- *Management controls for signal coordination to allow uninterrupted flow (green wave).*
- *Traffic control plans to increase intersection capacity.*
- *Ability to manage movements at key intersections to increase throughput.*
- *Backup power and other preparation for signal operation during power outages.*
- *Ability to communicate through changeable message signs.*
- ~~—~~

~~**Policy EH-6.11 Climate Change.** Prepare for the weather-related impacts of climate change, such as more frequent extreme weather events, temperature extremes, and prolonged drought. Street rights-of-way, parks, and other public spaces, including such features as street trees and landscaping, should be designed to be more resilient to such events.~~

~~*See the Open Space, Parks, and Conservation Element for additional policies on climate change.*~~

CLIMATE CHANGE

GOAL EH-7 **Community resilience to climate change is increased through better adapted infrastructure, services, parks, and open spaces.**

See Climate Action Plan for additional adaptation strategies and guidance on implementation and the Climate Change Vulnerability Assessment for additional information on climate change hazards, sensitivities, impacts, and adaptive capacity.

Policy EH-7.1 **Vulnerable Populations.** Focus adaptation efforts and engagement for the most vulnerable populations within San Leandro as identified in the Environmental Justice Element and minimize the anticipated health impacts of climate change.

Action EH-7.1.A: Develop and support a network of physical resilience hubs. *Implement the Climate Action Plan actions that ensure resilience hubs, such as the Main Library and Marina Community Center, are available during extreme heat events, poor air quality, severe weather events, and other highly hazardous conditions for use by the community.*

Action EH-7.1.B: Develop and support ~~virtual~~ resilience hub services. *Provide the following essential resources in the resilience hub(s): health programming and resources, food, refrigeration, charging stations, basic medical supplies, other emergency supplies, and language-appropriate outreach, education and communication capabilities.*

Action EH-7.1.C: Heat and Air Quality-related Illness Mitigation*. Work with Alameda County Department of Health and community organizations to establish extreme heat and air quality monitoring as well as accessible resources involving community education to prepare the community for increased heat and air pollution.*

Action EH-7.1.D: Social Support Network. *Collaborate with Alameda County Social Services to develop an inventory of locations with vulnerable populations, including isolated seniors and people with disabilities, and support evacuation processes.*

Action EH-7.1.E: Community Housing Resilience Resources. *Provide community resources of education, programs, and funding to accessibly retrofit homes for increased resiliency.*

Action EH-7.1.F: Community Housing Resilience Partnerships. *Partner with developers and landlords to increase rental property resiliency through weatherization and energy improvements. Identify and communicate resource options to homes in need of resiliency retrofits and target communications to help identified homes.*

Action EH-7.1.G: Water Alternative Education Resources. *Provide education and resources to promote the use of alternative sources of water, such as greywater, rainwater, air conditioning condensation, and foundation drainage.*

Action EH-7.1.H: Back-Up Power Options for Vulnerable Populations. *Coordinate with East Bay Community Energy, PG&E, and emergency management services to establish backup power and emergency grid shutdown protocols that protect the most vulnerable populations in line with the City's Climate Action Plan. Ensure that developed strategies address population specific needs across vulnerable populations including linguistically isolated, physically isolated. Consider grid resilience improvements including microgrids, heat pumps, and renewable energy such as solar with backup generators.*

Policy EH-7.2 **Adapted Infrastructure and Services.** Support greater resilience, redundancy, and reliability of local and regional infrastructure and services through collaboration, coordination, and implementation.

Action EH-7.2.A: Retrofit Existing Critical Buildings and Related Infrastructure*. Assess critical facilities, including those for first responders and critical service providers to determine retrofits needed for long-term resilience to climate change-affected hazards including sea-level rise related flooding and erosion, increased wind/storm events, an increase in high heat days, and/or wildfire.*

Action EH-7.2.B: Transportation Corridor Resilience. *Retrofit critical and high use transportation corridors to*

include shading, drinking water, and permeable paving with prioritization of vulnerable and potentially mobility limited populations.

Action EH-7.2.C: Coordination with EBCE and EBMUD to Improve Utility Resilience*. Ensure continuity of power and water through coordination with EBCE and EBMUD as well as retrofits to power and water distribution infrastructure. Encourage utilities to create financial relief programs for solar/storage retrofits and water price rises in response to drought. Focus resilience efforts on vulnerable populations. Earmark CIP funding to implement retrofits.*

Policy EH-7.3 Expand the adaptive capacity of parks and open spaces. Expand on policies and actions within the open space element to include adaptation benefits as well as general preservation policies.
See Open Space Element Policies OSC-2.1 through OSC-2.7 for additional guidance on park expansion.

Action EH-7.3.A: Protect the continued health of San Leandro Parks and Open Spaces. *Update plans including San Leandro Parks Master Plan to consider the potential impacts of climate change and adaptation opportunities.*
See Open Space Element for additional policies.

Action EH-7.3.B: Increase Funding for Climate Adaptation in Parks and Open Spaces*.* Include design, permitting, and implementation of adaptation-related projects and strategies as eligible activities and a metric for prioritizing parks and open space Capital Improvement Program (CIP) funds
See Open Space Element Policies OSC-2.1 through OSC-2.7 for adaptation related activities.

NOISE COMPATIBILITY

GOAL EH-8 **Ensure that noise associated with the day-to-day activities of San Leandro residents and businesses does not impede the peace and quiet of the community.**

Policy EH-8.1 **Noise Compatibility Table.** Ensure that potential noise impacts are considered when new development is proposed. Projects that could significantly increase noise levels should incorporate mitigation measures to reduce such impacts. Apply the standards shown in Chart 7-2 when evaluating applications for future development. Chart 7-2 specifies the maximum noise levels that are normally acceptable, conditionally acceptable, and normally unacceptable for new development.

Action EH-7.1.A: Review of Future Development Proposals
On an on-going basis, review future development proposals for compliance with the General Plan Noise and Land Use Compatibility standards in Chart 7-2. Require acoustical studies for projects that are likely to be exposed to noise levels that exceed the "normally acceptable" standard and for projects that are likely to generate noise in excess of these standards. Impose mitigation measures based on the findings. Noise studies should consider the effects of significant short-term noise sources (such as passing trains or planes) as well as the average noise levels that may be experienced over a 24-hour period.

Policy EH-8.2 **Residential Interior Noise Standard.** As required by the State of California, ensure that interior noise levels in new residential construction do not exceed 45 dB Ldn. For non-residential construction, the acceptable interior noise levels should be determined on a case-by-case basis, depending on the type of activity proposed.

Action EH-7.2.A: Insulation Standards
Continue to enforce Title 24 insulation standards for all new residential construction, including the interior noise level standard of 45 dBA Ldn in all habitable rooms for dwelling units.

Policy EH-8.3 **Residential Exterior Noise Standard.** Strive to maintain an exterior noise level of no more than 60 dB Ldn in residential areas. Recognizing that some San Leandro neighborhoods already exceed this noise level, encourage a variety of noise abatement measures that benefit these areas.

Policy EH-8.4 **Degradation of Ambient Noise Levels.** If a neighborhood is well within acceptable noise standards, do not automatically allow noise levels to degrade to the maximum tolerable levels shown in Chart 7-2. A project's noise impacts should be evaluated based on the potential for adverse community response, as well as its conformance to the adopted standards. For CEQA purposes, an increase of 3 dB Ldn should generally be considered a significant adverse impact.

Policy EH-8.5: **Noise-Sensitive Uses.** Discourage noise-sensitive uses such as hospitals, schools, and rest homes from locating in areas with very high noise levels unless sufficient noise mitigation and buffering can be provided. Conversely, discourage new uses likely to produce high levels of noise from locating in areas where noise-sensitive uses would be adversely impacted.

Action EH-7.5.A: Conditions of Approval
When approving development or issuing conditional use permits, establish conditions of approval (including construction hours and operating hours) that minimize the potential for noise impacts on nearby properties.

Policy EH-8.6: **Minimizing Noise in New Housing Areas.** In the event that new housing is constructed in areas that exceed normally acceptable noise levels, require project design and construction measures that minimize noise intrusion.

Policy EH-8.7 **Noise Reduction Measures.** Encourage local businesses to reduce noise impacts on the community by replacing excessively noisy equipment and machinery, applying noise-reduction technology, and following operating procedures that limit the potential for conflicts.

Policy EH-8.8 **Responding to Noise Problems.** Continue to respond promptly and effectively to local noise complaints and noise problems, enforcing City codes and ordinances as

necessary to ensure that a peaceful environment is maintained.

Policy EH-8.9 **Vibration Impacts.** Limit the potential for vibration impacts from construction and ongoing operations to disturb sensitive uses such as housing and schools.

Action EH-8.9.A: Vibration Impacts.
Adopt Standard Conditions of Approval or Construction Development Standards to reduce the potential for vibration-related construction impacts for development projects near sensitive uses. Vibration impacts shall be considered as part of the project-level environmental evaluation and approval process for individual development proposals. [2]

[2] *The City intends to adopt a Standard Condition of Approval for new non-residential land uses that are subject to CEQA and require the use of large construction equipment (e.g., vibratory roller, pile drivers) within 50 feet of sensitive receptors (e.g., residential dwelling, classroom): The Condition would stipulate that future proposed projects shall use the best available technology for construction equipment and permanent operations so that vibrations are reduced to a level consistent with FTA guidelines for annoyance and architectural damage. Methods to reduce construction-related vibration include the use of smaller and well-maintained equipment, use of static rollers instead of vibratory of rollers, drilling of piles as opposed to pile driving, limitations on construction hours, and guidelines for the positioning of vibration-generating equipment.*

TRANSPORTATION NOISE

GOAL EH-9 **Reduce the effects of surface transportation noise, including vehicular noise and noise associated with railroad and BART traffic.**

Policy EH-9.1 **Transit Vehicle Noise.** Encourage BART and AC Transit to develop and apply noise-reduction technologies that reduce the noise impacts associated with BART trains and bus traffic.

Action EH-9.1.A: Lobbying for Quieter Public Transit Systems
Maintain regular contact with local representatives on the AC Transit and BART Boards to lobby for measures that reduce noise generated by transit vehicles. Strongly urge AC Transit and BART to apply state-of-the art technology to achieve quieter operations.

Policy EH-9.2 **Street and Highway Noise.** Where feasible and appropriate, develop and implement noise reduction measures when undertaking improvements, extensions, or design changes to San Leandro streets.

Action EH-9.2.A: California Vehicle Code Enforcement
Enforce the applicable sections of the California Vehicle Code pertaining to noise emissions, and enforce applicable traffic laws pertaining to speeding, racing, and screeching cars.

Action EH-9.2.B: Overnight Truck Parking
Enforce restrictions on overnight truck parking to minimize noise problems associated with idling trucks near residential areas.

Policy EH-9.3 **Site Planning and Building Design.** Require new development or redevelopment near freeways, arterials, BART, and major bus routes to incorporate site planning and architectural design measures that reduce the exposure of future building occupants to traffic noise.

Policy EH-9.4 **State and Federal Legislation.** Support state and federal legislation aimed at reducing transportation noise.

Policy EH-9.5 **Train Noise.** Work with the appropriate parties and agencies to reduce or mitigate the noise and vibration from trains traveling through San Leandro.

Action EH-9.5.A: Train Horns
Continue to work with federal and state agencies and authorities from the Union Pacific Railroad to pursue effective relief from freight train noise, including train horns and noise from the trains themselves.

Policy EH-9.6 **Freeway Noise.** Work with local transportation agencies, including Caltrans and the Alameda County Transportation Commission, to mitigate noise from Interstates 880, 580, and 238. Encourage these agencies to pursue a variety of measures, such as landscaping, berms, pavement changes, and sound walls to reduce the noise impacts of local freeways.

Action EH-9.6.A: I-580 Sound Walls
Maintain processes through which neighborhoods may petition for sound walls to reduce noise impacts from adjacent transportation facilities. Pending proposals include eastbound Interstate 580 between 108th Street and MacArthur/Dutton.

Policy EH-9.7 **Sound Wall Design.** Where sound walls are used, encourage aesthetically pleasing and innovative designs and require citizen input in the siting and design process. Require future sound wall engineering and acoustical design studies to address and mitigate the potential for displacement of sound from impacted properties to other properties further away from the noise source. .

AIRPORT IMPACTS

Goal EH-10 **Minimize the local impacts and hazards created by air traffic, ground operations, and all other aviation activities, particularly those associated with Oakland International Airport.**

Policy EH-10.1 **Monitoring of Airport Plans.** Actively participate in forums and discussions regarding operations and expansion plans for Oakland International Airport. Seek local representation on task forces, commissions, and advisory boards established to guide airport policies and programs.

Action EH-10.1.A: Participation in Airport Community Noise Management Forum
Supplement the City's participation in the Airport-Community Noise Management Forum through local Airport task forces and other airport-based advisory groups. The mission of such groups should be to monitor Airport plans and programs and advocate on behalf of residents and businesses impacted by Airport operations and expansion plans. Noise Management Forum activities should include discussions with the FAA to address and resolve air traffic impacts associated with implementation of the Metroplex air traffic system.

Policy EH-10.2 **Mitigation of Airport Noise.** Pursue mitigation of airport noise impacts to the fullest extent possible. Support and advocate for operational practices, changes to aircraft, new technologies, and physical improvements that would reduce the number of properties in San Leandro that are impacted by noise.

Action EH-10.2.A: Settlement Agreement Implementation
Continue implementation of the 2000 Settlement Agreement between the City of San Leandro and the Port of Oakland, as amended through 2017, to support noise insulation for additional San Leandro residences.

Policy EH-10.3 Changes to Airport Operations. Ensure that any changes to airport operations that would potentially result in higher noise levels in San Leandro incorporate comprehensive noise mitigation measures, even when the impacts will be of limited duration. To the greatest extent feasible, any changes in airport activity should avoid impacts to noise sensitive uses such as residential areas and schools.

Policy EH-10.4 Comprehensive Noise Abatement. Advocate for noise abatement and mitigation programs that are based not only on the airport's noise contour maps, but that consider other factors such as the frequency of overflights, the altitude of aircraft, and the hours of operation.

Policy EH-10.5 Use of North Field. Strongly discourage any long-range plans that would extend the runways at the North Field (27 L/R and 9 L/R), or increase the use of the North Field for cargo jets or commercial passenger airlines, except as required for emergencies and periodic maintenance procedures.

Policy EH-10.6 Airport Safety Zones. Regulate land uses within designated airport safety zones, height referral areas, and noise compatibility zones to minimize the possibility of future noise conflicts and accident hazards.

Policy EH-10.7 Legislative Changes to Improve Mitigation. Pursue legislative changes that provide San Leandro and other cities with greater leverage regarding the mitigation of noise impacts, air pollution impacts, and other off-site impacts resulting from aviation.

Action EH-10.7.A: Local Representation on Airport Issues
Lobby for regional representation or other forms of municipal input on the Port of Oakland Commission so that the impacts of Port operations on adjacent cities can be more comprehensively addressed.

Action EH-10.7.B: Relocation of the Noise Impact Boundary

Support federal legislation that would relocate the Noise Impact Boundary from the 65 dB to the 55 dB CNEL contour. In the event this change is made, evaluate the need for additional measures that would reduce noise impacts to homes located in the 55 dB CNEL or louder range.

Policy EH-10.8 **Monitoring Programs.** Promote ongoing monitoring of noise levels associated with airport operations and support expanded monitoring of other off-site impacts, such as air quality. Advocate for additional study of the health effects of airport noise and emissions, and use the findings of such research in defining the City's position on airport-related issues.

Action EH-10.8.A: Expansion of the Noise Compatibility Program

Continue to work with the Port of Oakland on implementing the Noise Compatibility Program for the airport, including advocating for quieter aircraft, mitigating night-time engine run-up activities, and the monitoring of noise levels at additional locations in and around San Leandro.

Policy EH-10.9 **Aviation Accidents.** Maintain a high degree of readiness to respond to aircraft accidents. Continue to participate in preparedness drills and mutual aid activities with the City of Oakland to ensure quick and effective response to emergencies.

Action EH-10.9.A: Water Rescue Operations

Work collaboratively with the Port of Oakland and the Alameda County Fire Department to identify and maintain an appropriate location for emergency response to water rescue operations, in the event the San Leandro Shoreline can no longer serve this function.