

8

HEALTH AND SAFETY

Like most of the Bay Area communities, South San Francisco is located in a seismically active region. Environmental, seismic and topographic conditions, and the patterns of urban and industrial development in South San Francisco pose risks to human health and property. The purpose of this element is to acknowledge and mitigate the risk posed by hazards. These include seismic and geologic, flooding, hazardous materials and waste, and fire.

8.1 GEOLOGIC AND SEISMIC HAZARDS

Seismic and geologic hazards are significant concerns in South San Francisco. Not only do these hazards pose risks to life and property, but also they represent constraints on development.

GEOLOGIC HAZARDS

South San Francisco is comprised of three distinct topographic zones, each with its own soil compositions and hazards to development (see Figure 8-1: Slope).

Lowland Zone

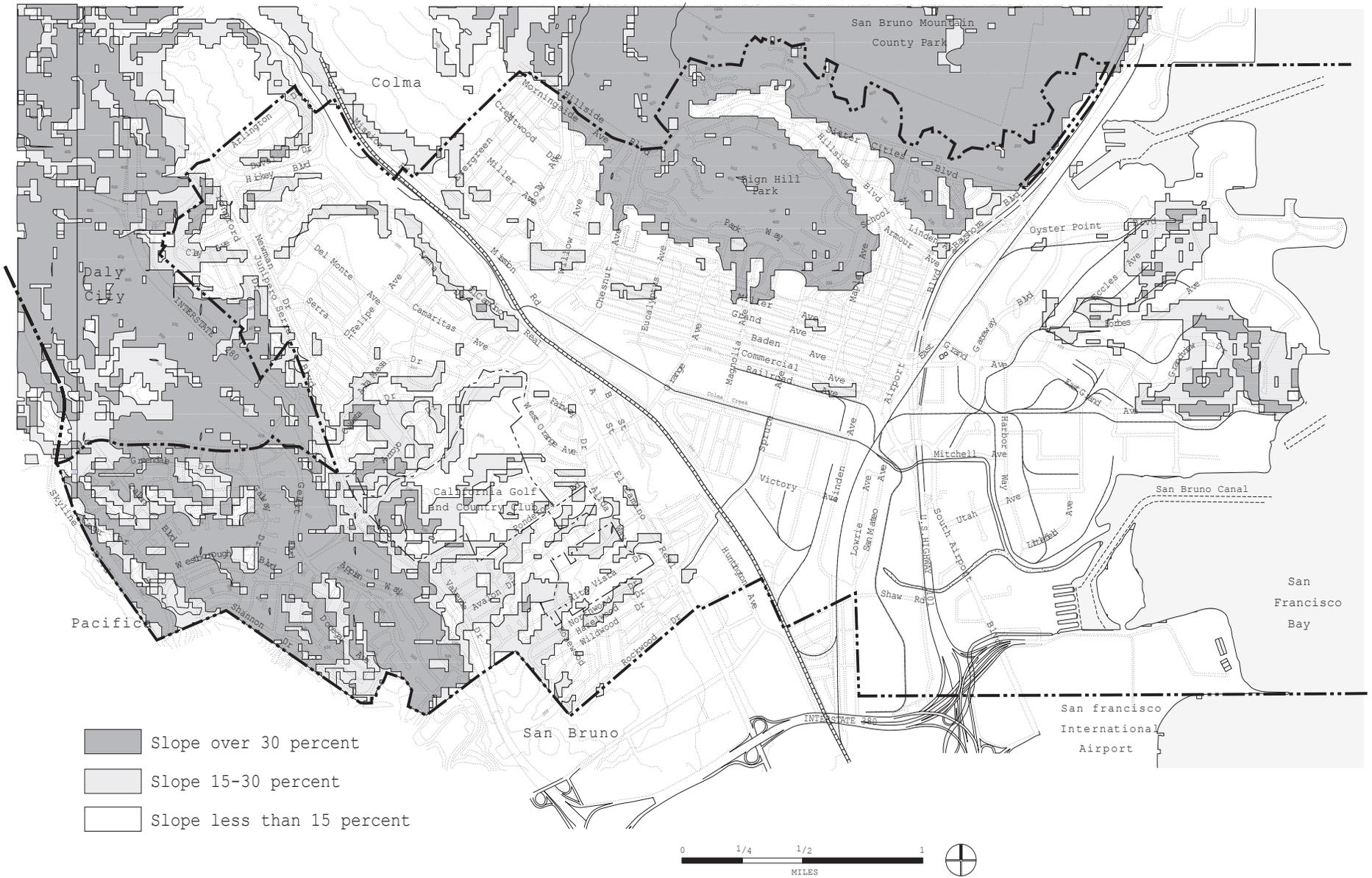
A large portion of the city, primarily east of U.S. 101, is underlain by deposits of Bay mud up to 80 feet deep in some places. Associated development hazards include shrink-swell, settlement, and corrosivity. Seismic hazards include earthquake wave amplification and liquefaction. Development in the lowland zone often requires engineering solutions to address soil constraints and the increased risk of geologic and seismic hazard in this area.

Upland Zone

Soils in this zone are mostly developed, covered by urban land and cut-and-fill. The cut-and-fill in some areas has superimposed the alluvial soils of the Colma Creek floodplain. The difficulty in this zone is the varying nature of the fill, which was laid with varying attention to engineering practices. There is a moderate potential for shrink-swell and/or erosion hazard here.

Hillside Zone

The Hillside Zone includes some slopes of over 30 percent. The native soils of this zone are characterized as various sandy and gravelly loams with generally high to very high erosion potential, low strength and stability, and shallow depth. These areas are susceptible to soil creep and small landslides.



Source: USGS Digital Elevation Model, San Francisco South

Figure 8-1 Slope

SEISMICITY

South San Francisco is located in one of the most seismically active regions in the United States. There are approximately 30 known faults in the Bay Area that are considered capable of generating earthquakes; eleven of these are within 40 miles of the city. The Peninsula segment of the San Andreas Fault, the predominant fault system in California, passes through the westernmost corner of South San Francisco, commonly referred to as the Westborough area. This area was developed after Interstate 280 was built in the 1970s and contains a large concentration of townhomes. It also contains one of the city's main concentrations of local-serving commercial. Although there is some vacant land in the area, steep slopes and the nearby San Andreas fault are obstacles to development.

The San Andreas Fault is considered a source of high earthquake hazard to the entire city, creating potential for ground rupture and high levels of ground shaking. It has generated some of the largest, most destructive earthquakes in the Bay Area, including the 1906 San Francisco earthquake (magnitude 8.3) and the 1989 Loma Prieta earthquake (magnitude 7.1). Most of the city would experience an intensity level of VII (Nonstructural Damage) or VIII (Moderate) from a rupture of the Peninsula Segment of the San Andreas Fault during an earthquake with a 7.1 magnitude. Portions of the city with unstable soil conditions, particularly the fill areas in the east, would experience particularly strong ground shaking. Other faults in the region may also generate earthquakes that affect South San Francisco.

While most of South San Francisco is comprised of flat to gently sloping areas, steep hillsides surround the northern and western portions of the city.

Seismic and other structural hazards are related to two geologic conditions found in South San Francisco:

- Soils in the flat lowland areas, comprised largely of Bay mud overlain with fill in the eastern portions of the city, have high shrink-swell potential, high water table, and low strength. These soil conditions amplify earthquake waves and groundshaking, and are subject to liquefaction.

- Steeply-sloping hillside areas have soils with shrink-swell hazards, high erosion hazard, and low strength. Some of these soils have severe limitations for bearing dwellings without basements and for local roads. In addition, substantial portions of the south flank of San Bruno Mountain are classified as a high landslide risk area.

SEISMIC RISKS TO DEVELOPMENT

Within South San Francisco, earthquake damage to structures can be caused by ground rupture, near-field effects, liquefaction, landsliding, ground shaking, and possibly inundation from seiche or tsunami. The level of damage in the city resulting from an earthquake will depend upon the magnitude of the event, the epicenter distance from the city, the response of geologic materials, and the strength and construction quality of structures.

Buildings constructed prior to the 1970s in most cases would not meet current design provisions in the Uniform Building Code for earthquake forces. The most severe hazards are presented by unreinforced masonry buildings constructed of brick or concrete block. Under strong intensity ground shaking, many of these structures may be expected to collapse or require demolition. The City has developed a list of unreinforced masonry buildings to assess their potential to meet Uniform Code for Building Conservation (UCBC) requirements through retrofit. Other types of buildings that may also be severely damaged are older buildings of steel and concrete framing that were not designed to resist earthquake vibrations and older reinforced brick and masonry structures.

Ground Shaking

The distribution of earthquake wave amplification as related to geologic materials has been mapped by the Association of Bay Area Governments (ABAG) with input from the U.S. Geological Survey. Areas subject to extremely high or very high levels of wave amplification include the hills west of Callan Boulevard, adjacent to the San Andreas Fault zone, and the alluvial lowlands surrounding Colma

Creek, between Orange and South Linden Avenues. ABAG has also mapped the intensities created by a rupture of the Peninsula Segment of the San Andreas Fault registering 7.1 on the modified mercalli intensity scale in the South San Francisco area. Only the southeastern and eastern portions of the city, including much of the area east of U.S. 101, would experience an intensity level VIII (Moderate); damage is expected to be nonstructural in other areas.

Liquefaction

Liquefaction is the rapid transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake ground shaking. Most of the lowland areas of South San Francisco potentially have liquefaction hazards, with moderate liquefaction potential in the alluvial fan of Colma Creek and in a narrow strip of land south of Sister Cities Boulevard. Lateral spreading (lurching) also may be present where open banks and unsupported cut slopes provide a free face, or where artificial fill overlies Bay mud. Ground shaking, especially when inducing liquefaction, may induce lateral spreading toward unsupported slopes.

Landsliding

The strong ground motions that occur during earthquakes are capable of inducing landslides, generally where unstable soil conditions already exist. The parts of the San Francisco Bay region having the greatest susceptibility to landsliding are hilly areas underlain by weak bedrock units of slope greater than 15 percent. In South San Francisco this hazard is primarily located on the southern flank of San Bruno Mountain in the Terrabay development and near Skyline Boulevard.

Inundation

Earthquakes can cause tsunami ('tidal waves') and seiches (oscillating waves in enclosed water bodies) in the Bay. As portions of the city are located adjacent San Francisco Bay, and are low-lying, tsunami or seiche inundation is a possibility. Wave run-up is estimated at approximately 4.3 feet (msl) for tsunami with a 100-

year recurrence and 6.0 feet (msl) for a 500-year tsunami.

Earthquake damage inflicted on structures and infrastructure within the city is not only a function of the seismic risks outlined above, but also of the form, structural design, materials, construction quality, and location of the structure. Since the 1970s, the Uniform Building Code (UBC) in California has incorporated minimum strength standards to which a building must be designed. New construction in South San Francisco is required to meet the requirements of the 1994 UBC, and buildings of special occupancy are required by the State to meet more stringent design requirements.

GUIDING POLICY: GEOLOGIC AND SEISMIC HAZARDS

8.1-G-1 Minimize the risk to life and property from seismic activity and geologic hazards in South San Francisco.

IMPLEMENTING POLICIES: GEOLOGIC AND SEISMIC HAZARDS

8.1-I-1 Do not permit special occupancy buildings, such as hospitals, schools, and other structures that are important to protecting health and safety in the community, in areas identified in Figure 8-2.

Although the State requires special occupancy buildings to meet more stringent seismic strength requirements than the 1994 Uniform Code for Building Conservation (UCBC), these facilities should not be located in areas that are seismically sensitive. Since the city already contains adequate hospitals, schools, fire stations, and public buildings, very few, if any, special occupancy buildings will be sited in the city. Existing special occupancy buildings located in seismically sensitive areas should be monitored and reviewed to ensure structural compliance with seismic safety standards.

8.1-I-2 Steep hillside areas in excess of 30 percent grade should be retained in their natural state. Development of hillside sites should follow existing

contours to the greatest extent possible. Grading should be kept to a minimum.

8.1-I-3 Explore programs that would build incentives to retrofit unreinforced masonry buildings.

These buildings are particularly vulnerable to earthquakes and pose a high risk to human safety as they can collapse in earthquakes. Programs to encourage retrofit include additional transfer taxes on property sales which can be used by the owner to pay for seismic retrofit work, reduced permit fees, grants to offset retrofit costs, or loan programs. In addition, information should be disseminated to the public on ways to reinforce buildings to reduce damage from earthquakes.



Source: Environmental Science Associates

Figure 8
General Plan Polic:
Seismically Sensitiv



Channelized portion of Colma Creek near Orange Park. Improvements were recently completed under the Colma Creek Flood Control Improvement Project.

8.2 FLOODING

Periodic flooding occurs in South San Francisco, but is confined to certain areas along Colma Creek. Colma Creek handles much of the urban runoff generated in the city; since South San Francisco is highly urbanized, runoff levels are high and there is increased potential for flood conditions during periods of heavy rainfall. The principal flooding problem in the city is an inadequate culvert and channel system where Colma Creek runs under the Southern Pacific Railroad (SPRR) line. Peak flood flows in Colma Creek back up and pond east of the tracks, and water moves away from the creek along city streets.

Flood depth during a 100-year storm is two to three feet in the ponding area at the tracks. Many homes in South San Francisco may be exposed to this hazard as they were constructed with insufficient elevation to remain above even shallow floodwaters. New development west of the SPRR right-of-way may be constrained by potential flooding, but careful design could minimize flooding hazards and damage.

FLOOD CONTROL

The San Mateo County Flood Control District (SMCFCD) is responsible for flood control and stream channel maintenance in South San Francisco. The SMCFCD has developed a Colma Creek Flood Control Improvement Project. Improvements have already been completed in the vicinity of Orange Memorial Park and Mitchell Avenue. In addition, reaches of the creek in the vicinity of Hickey Boulevard, Kaiser Permanente, and between Spruce Avenue and the creek mouth, will be improved and/or realigned to reduce flooding and to complement the County's existing tide gate at North Access Road.

These projects, to be completed by 2002, will reduce flood hazard to a 50-year storm recurrence interval plus two feet of freeboard. As a result, the area constrained by flood hazard will be greatly reduced, and may be eliminated, once these improvements are made. Once complete, the Federal Emergency Management Agency (FEMA) will remap the 100-year floodplain for the purposes of the South San Francisco Flood Insurance Rate Map (FIRM).

GUIDING POLICY: FLOODING

8.2-G-1 *Minimize the risk to life and property from flooding in South San Francisco.*

IMPLEMENTING POLICIES: FLOODING

8.2-I-1 *Continue working with the Regional Water Quality Control Board (RWQCB) in the implementation of the San Mateo Countywide Stormwater Pollution Prevention Program (STOPP).*

The City should comply with the Performance Standards for Control of Stormwater Pollutants from Development and Construction Activities that were part of the RWQCB's Staff Recommendations for New and Redevelopment Controls for Stormwater Programs. These Recommendations incorporate the mandates of EPA's stormwater regulations as well as the Coastal Zone Act Reauthorization Amendments.

Policy 7.2-I-2 in Section 7.2: Water Quality directs the City to review and update the Best Management Practices adopted by the City and in STOPP as needed. The BMPs were last updated for STOPP in 1991 when the program was established. Additional City BMPs may be updated if necessary. The BMPs for the design and installation of the stormwater drainage systems could include use of a 25-year storm criteria for design of stormwater drainage systems to prevent increased flooding potential in the redevelopment subareas. All stormwater drainage system designs should incorporate the Department of Public Works stormwater design standards for urban areas.

Additional measures to reduce the risk of localized and downstream flooding could include:

- The City of South San Francisco should recommend as guidance the use of high infiltration measures within the Planning Area to reduce stormwater discharge into the regional storm drain sys-



Unchannelized portion of Colma Creek dividing North and South Canal streets in Lindenville.

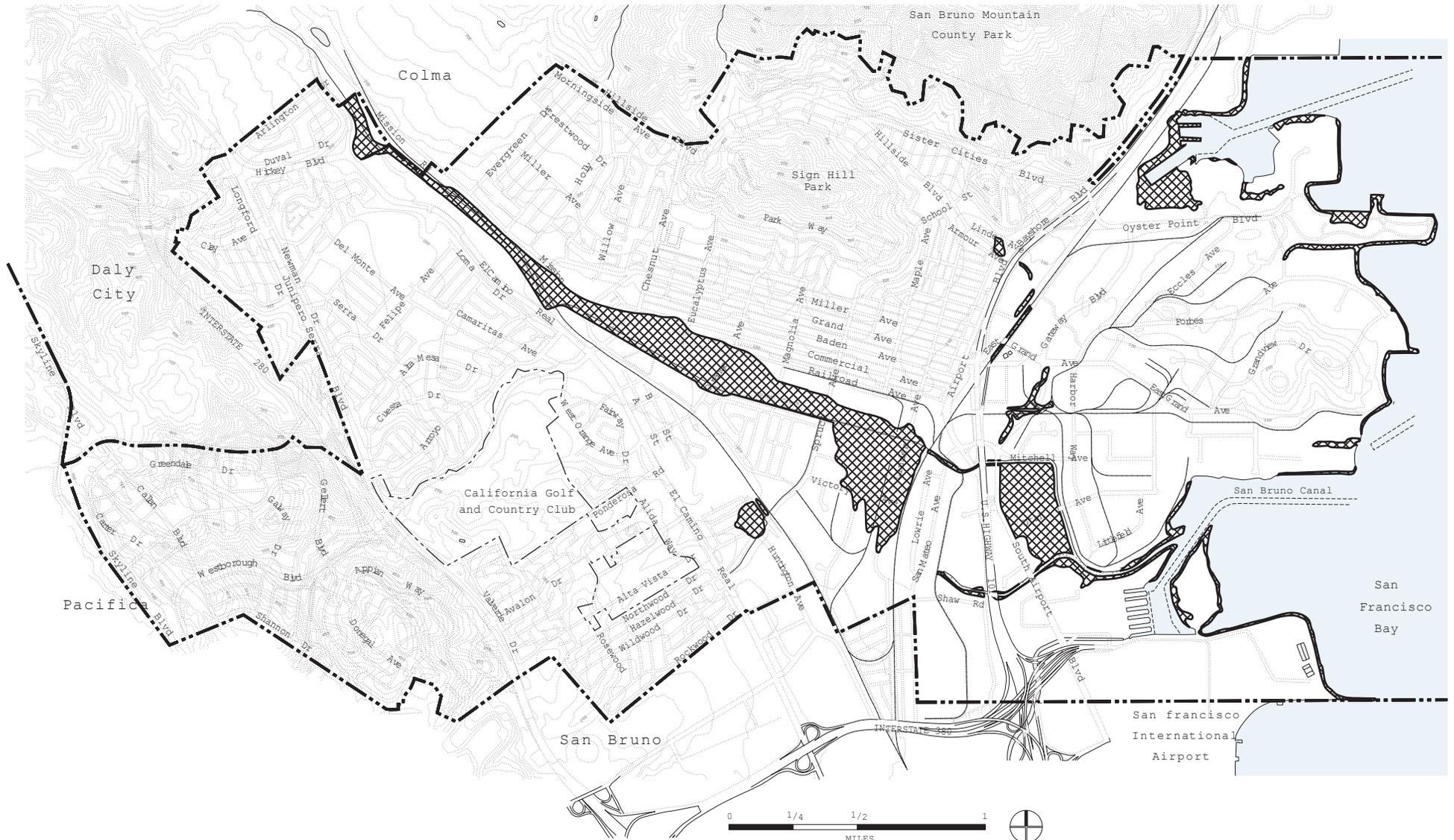
tem. These measures could include ponds built into landscapes, unlined runoff channels and dispersion points into landscaped areas. In addition, the amount of permeable landscape should be maximized. Landscaping in parking lots and around building perimeters can reduce the initial generation of stormwater runoff.

- The City of South San Francisco should strongly recommend that dispersed stormwater be directed into landscape, or natural vegetation where feasible. Surface runoff should be diverted into open areas that have high infiltration capabilities. Where possible and technically feasible, roof tops and paved areas should drain into underground dispersal pipes or vegetated percolation beds. By increasing the amount of permeable surfaces around impervious structures, rainfall infiltration rates would increase and thus decrease concentrated runoff.

8.2-I-2 Use the City's development review process to ensure that proposed development subject to the 100-year flood provides adequate protection from flood hazards, in areas identified in Figure 8-3.

8.2-I-3 Encourage FEMA to update the 100-year floodplain boundaries to reflect the new limits of flood hazard constraint to be determined by the completion of the Colma Creek Flood Control Improvement Project.

Completion of the Colma Creek Flood Control Improvement Project will significantly reduce the area constrained by flood hazard in South San Francisco. Remapping will be undertaken by FEMA for the purposes of updating the Flood Insurance Rate Map for the city. Once completed, the City should update the Zoning Ordinance to reflect the new boundary.



 100-year flood - Policies 8.2-I-1 & 8.2-I-2

Source: Leighton & Associates Geotechnical Engineers,
 Geotechnical Hazards Synthesis Map for San Mateo County, 1976
 Environmental Science Associates

Figure
 General Plan Po
 for Flood Prot

8.3 WASTE MANAGEMENT AND RECYCLING

San Mateo County's Integrated Waste Management Plan was recently approved by the county and is under review by the state. This Plan complies with the California Integrated Waste Management Act of 1989 (AB 939) requiring local agencies to implement source reduction, recycling, and composting activities to reduce solid waste generation by 50 percent by the year 2000.

State law requires that each city and county is required to prepare a Source Reduction and Recycling Element (SRRE), Household Hazardous Waste Element (HHWE), and Non-disposal Facilities Element. Together, these three elements comprise the City's IWMP. Household hazardous wastes within San Mateo County are addressed in the San Mateo County Hazardous Waste Management Plan, rather than a HHWE. The IWMP for each city in the County, the County's IWMP, and the countywide siting element will comprise the countywide Integrated Waste Management Plan.

SOLID WASTE

Collection and Recycling

Solid waste is collected from South San Francisco homes and businesses and then processes at the Scavenger Company's materials recovery facility and transfer station (MRF/TS). Materials that cannot be recycled or composted are transferred to the Ox Mountain Sanitary Landfill, near Half Moon Bay. Browning-Ferris Industries, owner of the Ox Mountain Landfill, has a permit for forward expansion of the Corinda Los Trancos Canyon at Ox Mountain. When the permit expires in 2016, either Corinda Los Trancos Canyon will be expanded further or Apanolio canyon will be opened for fill.

The new Scavenger MRF/TS, which was approved in April 1999, will be permitted to receive a daily maximum of 1,250 tones per day of wastes and recyclable materials. This facility will give the Scavenger Company increased capability to recover valuable materials from wastes, reducing the amount of waste being sent to the landfill. South San Francisco recycles both household and industrial solid waste and sewage sludge. The Blue Line Transfer Station has a recycling center for news-

paper, cardboard, glass, mattresses, and waste oil. The City of South San Francisco coordinates recycling of newspaper, aluminum, glass, and waste oil. There are also certified recycling centers at South San Francisco's two Safeways, Bell Market, and Reynolds Aluminum.¹

Sewage sludge produced at the South San Francisco/San Bruno Sewage Treatment Plant is composted by combining the dry sludge with sawdust and rice hulls, producing a commercial soil conditioner.

Household Hazardous Waste

Hazardous waste is generated in homes and businesses alike, and includes products ranging from used motor oil to infectious compounds to dioxins. Management of hazardous waste in San Mateo County occurs under the 1991 Hazardous Waste Plan.

Although most hazardous waste is generated by larger commercial and industrial enterprises, wastes generated by households and small businesses are of particular concern, since these wastes are more likely to be handled improperly and disposed of in a landfill or sewer. Although the amount of household and small business hazardous waste is relatively small, these wastes are of particular concern because they are more likely to be handled improperly, such as disposed of in a landfill or sewer. The County operates a household hazardous waste education program and established a household hazardous waste transfer station for county residents in 1989.

General Plan Buildout

With an expected buildout population of 67,400 residents in South San Francisco, the city will generate approximately 38,000 tons of solid waste each year, based on the assumed generation rates used by the County (Table 8.3-1).

HAZARDOUS MATERIALS AND WASTE MANAGEMENT

Numerous industrial and commercial operations, both past and present, have manufactured, handled, stored and disposed of hazardous materials in South San

**Table 8.3-1:
Per Capita Solid Waste Generation**

<i>Year</i>	<i>Per Day</i>	<i>Per</i>
Pounds	3.1	
1,130		
Gallons	2.5	
913		
Cubic Feet	0.3	120

Source: 1989 Solid Waste Management Plan, San Mateo County
Depending upon the success of current source reduction and recycling programs, this amount could be much lower.

¹ Solid Waste Management Plan, p. VIII-5-6

Francisco. Hazardous material sites include manufacturing operations, active and abandoned landfills, facilities with leaking underground storage tanks (USTs), permitted dischargers, and generators of hazardous waste.

The presence of hazardous materials or hazardous waste in soil or groundwater in the city's commercial and industrial areas could constrain development of certain areas due to the actual or perceived threat to human health and the costs associated with site cleanup. The actual health threat at a given site depends upon a number of factors such as the quantity and toxicity of contaminants, exposure, and the available pathways for contaminants to affect human health. Cleanup of hazardous waste sites is mandated by law and enforced by the appropriate regulatory agencies in order to protect human health, resources, and the environment. Cleanup is usually expensive and can be a significant factor in the viability of land development.

Generation

Many hazardous waste sites are identified on the Cal/EPA Hazardous Waste and Substances Site List (Cortese List). The Cortese list includes 114 known sites in South San Francisco with leaking USTs (as of December 1994). These sites are concentrated in the industrial area East of 101 area.

The East of 101 Area Plan EIR identified 67 permitted generators of hazardous waste in the project area. In addition there are ten companies east of 101 that are permitted to emit toxic pollutants. In addition, four sites in the East of 101 area have major hazardous materials concentrations, including the Koll, Gateway, Shearwater, and Wildberg Brothers sites. These sites are in various stages of study, remediation, and redevelopment. The East of 101 and Lindenville areas are known to have a high water table, increasing the risk that on-site contamination will leach into groundwater and spread to other properties or to the Bay.

Storage and Disposal

San Mateo County is responsible for issuing hazardous material storage permits, and a Throughout San Mateo County, Hazardous Materials Management Plans must be prepared for the County by businesses that use or store hazardous materials. The County provides copies of Business Plans to the local fire department.

The San Mateo County Health Services Department (HSD) issues permits for installation of USTs. The County HSD and the South San Francisco Fire Department regulate the removal of USTs. Before a tank may be removed, the applicant must prepare a closure plan and submit it to the County HSD. Upon approval of the plan, the County HSD issues a permit for tank removal. While USTs are primarily associated with service stations, they may also be found in connection with hospitals, companies with a backup power supply, and older industries.

Transport

Transport of hazardous waste and hazardous materials is regulated by federal and state agencies, primarily the California Highway Patrol and the California Department of Transportation. South San Francisco has no ordinances that address the transport of hazardous materials in the city. Kaiser Permanente Medical Center is known to receive shipments of radioactive substances on a regular basis. The County is responsible for issuing hazardous material storage permits.

GUIDING POLICIES: WASTE MANAGEMENT AND RECYCLING

- 8.3-G-1 *Reduce the generation of solid waste, including hazardous waste, and recycle those materials that are used, to slow the filling of local and regional landfills, in accord with the California Integrated Waste Management Act of 1989.*
- 8.3-G-2 *Minimize the risk to life and property from the generation, storage, and transportation of hazardous materials and waste in South San Francisco. Comply with all applicable regulations and provisions for the storage, use and handling of hazardous substances as established by federal (EPA), State (DTSC, RWQCB, Cal OSHA, Cal EPA), and local (County of San Mateo, City of South San Francisco) regulations.*

IMPLEMENTING POLICIES: WASTE MANAGEMENT AND RECYCLING

8.3-I-1 Continue to work toward reducing solid waste, increasing recycling, and complying with the San Mateo County Integrated Waste Management Plan.

South San Francisco has a responsibility to meet regional source reduction and recycling initiatives in order to achieve State-mandated waste reduction targets and extend the useful life of existing landfill facilities. Builders should be encouraged to incorporate interior and exterior storage areas for recyclables into new or remodeled buildings (both residential and commercial) to make recycling activities more convenient for those who use the buildings. The City should explore the feasibility of installing recycling receptacles for plastic and glass beverage containers and papers in parks, Downtown, and other public areas. Furthermore, commercial and business parks should be encouraged to install recycling receptacles on their premises. The City should explore incentives for businesses to establish recycling programs.

8.3-I-2 Continue to maintain hazardous waste regulations in the City's Zoning Ordinance.

The existing Zoning Ordinance and General Plan prohibits intensive industrial facilities and industries producing substantial amounts of hazardous waste; prohibits industrial uses involving the permanent storage of hazardous materials; and, limits lighter industrial uses that produce hazardous waste, such as auto repair and auto painting businesses, to the Light Industrial land use classification.

8.3-I-3 Prepare a Geographic Information Systems (GIS) coverage for the sites included in the Cortese List of Hazardous Waste and Substances Sites.

The establishment of a GIS system is addressed in Policy 3.4-I-3. The GIS would be used to assist in the development approval process. The

City should use an address matching program to identify the sites on the Cortese list. A database including detailed site information should be linked to the digital map. Redevelopment of these sites must comply with myriad regulations at both the federal and State levels. However, the identification of contaminated sites will allow the City to better identify opportunities for redevelopment and funding. As most contaminated and affected sites are situated in the city's key redevelopment areas (East of 101 area and Lindenville), it is important for the City to quantify the levels of constraint and opportunity, and prepare an areawide remediation plan. This program should explore programs or incentives to remediate hazardous waste contamination on private lands. Sites with contamination that is known to be spreading to other properties or affecting groundwater quality should be prioritized.

8.3-I-4 Establish an ordinance specifying routes for transporting hazardous materials.

These routes should not pass through residential areas or other sensitive areas. Specific time periods for transport should be established to reduce the impact and accident risk during peak travel periods.

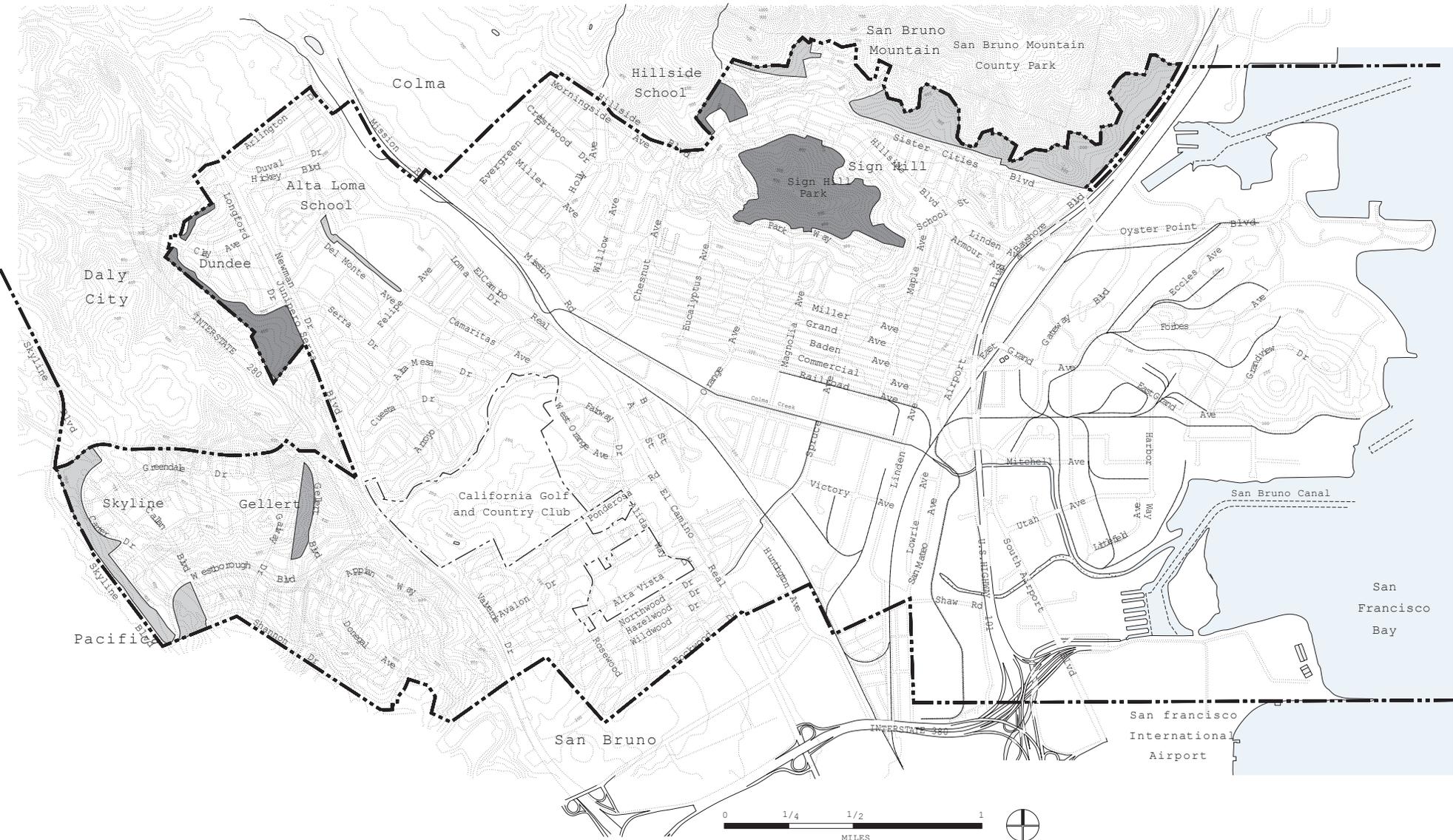
8.4 FIRE HAZARDS

Many areas of open space within the city pose a substantial risk of fire hazard to surrounding resources. Beyond the topographic, climatic, and land use conditions that create fire hazard, two factors contribute to fire risk in individual locations:

1. **Vegetation.** Accumulations of vegetation serve as fuel for wildland fires; large concentrations of fuel, particularly where fires can spread from ground level to the tops of trees, can create conditions where wildland fires spread rapidly. Vegetation on both public- and privately-owned land in South San Francisco is generally poorly maintained and overgrown. Nonnative vegetation in and near open spaces such as French broom, eucalyptus, Monterey pine, and Monterey cypress, currently pose the greatest threat of wildland fire. Defensible fire breaks around structures and residential properties in particular are generally poor or nonexistent.
2. **Infrastructure.** Public infrastructure, particularly site access and water supply, affect the City's ability to respond to fire. Poor access and inadequate local water supply can increase the loss of life and property in a fire. While most of the areas near open spaces have good access and water supply, access is poor near Sign Hill and along Dundee Drive. The Sign Hill area also has limited water supply.

Eight fire hazard management units are identified in areas that need vegetation management or other measures to reduce wildland fire risk and increase the potential for successful fire suppression. Each management unit is designated as high, medium or low priority in recognition of the relative need for risk management. Sign Hill, the Hillside School area, and the area along Dundee Drive have the highest priority due to the combination of fuel characteristics, infrastructure and adjacent uses. Management approaches are recommended for each unit.

Access for fire and other safety personnel is good in areas other than the Sign Hill and Dundee management units, with the exception of the currently undeveloped Koll property on Sierra Point. This site can presently only be reached by passing through the portion of Sierra Point that is within Brisbane. It is expected that development on the Koll property will require access improvements.



- High Priority Management Units
- Medium Priority Management Units
- Low Priority Management Units

Source: Environmental Science Associates, 1997

Figure 8
Fire Hazard Management

**Table 8.4-1:
Summary Of Fire Hazard Reduction Recommendations**

Management Unit	Recommendations
Sign Hill	Combination of hand and mechanical to clear a 100-foot buffer around residences. Hand applied and targeted use of herbicides may be considered. Where possible, all French broom should be removed. Eucalyptus and other trees should be regularly maintained and pruned. Young saplings should be removed or controlled. Maintain and expand existing road system. Implement a comprehensive public education and facilitation program. These actions are consistent with the Sign Hill Habitat Conservation Plan.
Hillside School	Prune trees of low hanging material and clear debris and leaf litter.
Dundee	Combination of hand and mechanical labor to clear a 100-foot buffer around residences. Hand-applied and targeted use of herbicides may be considered. Eucalyptus and other trees should be regularly maintained and pruned. Maintain and expand existing road system. Implement a comprehensive public education and facilitation program. Broadcast burn during the winter or spring, or hand removal of debris and low hanging branches
Gallen	Combination of hand and mechanical labor to control shrubby material. Hand-applied and targeted use of herbicides may be considered. Buffer strip between vegetation and residential structures.
San Bruno Mountain	No treatment recommended.
Alta Loma School	Continue regular pruning and maintenance of eucalyptus and other trees.
Skyline	Regularly prune trees and woody plants.
Westborough	Combination of hand and mechanical labor to clear a 100-foot buffer around residences.

GUIDING POLICIES: FIRE HAZARDS

- 8.4-G-1 *Minimize the risk to life and property from fire hazards in South San Francisco.*
- 8.4-G-2 *Provide fire protection that is responsive to citizens’ needs.*

IMPLEMENTING POLICIES: FIRE HAZARDS

- 8.4-1-1 *Institute a comprehensive fire hazard management program to reduce fire hazards on public lands in those management units identified in Figure 8-4 and Table 8.4-1.*

City efforts to reduce fire hazards in these areas should include regularly scheduled pruning of overgrown grass, shrub, and canopy vegetation and the removal of debris and leaf litter. Fuel modification techniques may include mechanical removal, hand removal, prescribed burning, or chemical treatment.

- 8.4-1-2 *Explore incentives or programs as part of the comprehensive fire hazard management program to encourage private landowners to reduce fire hazards on their property.*

Programs may include free property risk assessments, educational workshops, and literature, etc. In particular, owners of property abutting management units should be encouraged to reduce the fire hazard.

- 8.4-1-3 *Consider future access and water supply infrastructure improvements in the Dundee and Sign Hill areas to reduce fire hazard risk.*

Improvements necessary to reduce fire hazard risk in the Dundee and Sign Hill areas—both of which are identified as High Priority Management Units—are expensive, longterm capital projects. The City should consider establishing these improvements as part of its Capital Improvement Program.

- 8.4-1-3 *Require site design features, fire retardant building materials, and adequate access as conditions for approval of development or improvements to reduce the risk of fire within the City.*

New construction is required to meet the requirements of the 1994 Uniform Building Code. Fire potential of buildings could be further reduced through the addition of defensible buffers, the use of type “A” roofing materials, and residential fire protection devices.

8.5 LAW ENFORCEMENT

The South San Francisco Police Department's jurisdictional area includes the entire city. Two unincorporated pockets, including the California Golf and Country Club, are under the jurisdiction of the San Mateo County Sheriff's office.

As of 1999, the Department had a total of 122 employees, with 80 sworn officers and 37 police units. The current ratio of officers is 1.4 per 1,000 residents. The Police, Fire, and Parks and Recreation departments share facilities within the City's Municipal Building. The Police Department also has one station, located in the Municipal Building at 33 Arroyo Drive.

The Department is generally able to respond to high priority calls within two to three minutes. These times are within the department's response time goals. The entire city is patrolled except for the undeveloped Sierra Point area.

The Department typically works a four-beat system, but the watch supervisor has the discretion to deploy his personnel as he sees fit to accomplish daily goals and objectives. Each beat is typically staffed by a one-officer unit with between six and nine other officers consisting of traffic, K-9, training, float, and supervisory units available for backup and overlap.

GUIDING POLICIES: LAW ENFORCEMENT

8.5-G-1 Provide police services that are responsive to citizen's needs to ensure a safe and secure environment for people and property in the community.

Although the police can not be solely responsible for controlling and limiting crime and interpersonal conflicts, they will continue to be the primary agency capable of immediate response and crisis intervention.

8.5-G-2 Assist in crime prevention through physical planning and community design.

IMPLEMENTING POLICIES: LAW ENFORCEMENT

8.5-I-1 Ensure adequate police staff to provide rapid and timely response to all emergencies and maintain the capability to have minimum average response times.

Actions that could be taken to ensure rapid and timely response to all emergencies include:

- Maintain a law enforcement standard of 1.5 police officers per 1,000 residents;
- Analyze and monitor factors affecting response time (population growth, police staffing, community policing programs) and average response times as guidelines based on past experience;
- Maintain, train, and equip special response teams for extraordinary or extremely hazardous emergency incidents; and
- Develop and/or use the City's Geographic Information System (GIS) for analysis of issues including crime location trends and response routes (see policy 2-I-14).

8.5-I-2 Control and/or intervene in conduct recognized as threatening to life and property.

Actions the Police Department maintains on an on-going basis to implement this policy include:

- Providing on-scene services to restore the peace and prevent further injury to life or property;
- Maintaining a "Directed Patrol" approach, when appropriate, to focus on prevention; and
- Identifying evolving crime patterns, particularly those involving

career criminals, and study methods to further enhance community-oriented policing.

8.5-I-3 Reduce crime by strengthening the police/community partnership.

The underlying socioeconomic conditions conducive to crime and disorder can be affected by City actions directed at preserving and enhancing a strong sense of community. Actions the Police Department could take to strengthen relationships with the community include:

- Continue and enhance neighborhood-based crime prevention activities (Neighborhood Watch) and programs designed to reinforce positive juvenile behavior, prevent juvenile delinquency and encourage citizen involvement;
- Continue and enhance loss prevention programs in the commercial and industrial sectors;
- Continue and enhance programs designed to prevent and reduce drug and alcohol abuse, including joint education programs with City schools; and
- Identify geographical areas or population groups experiencing noticeable crime victimization in order to improve effectiveness of crime prevention efforts and commit resources, as appropriate, to these areas to help them.

8.5-I-4 Assess community needs and expectations on an ongoing basis and report periodically to the City Council on citizen complaints and citizen commendations received.

As part of the comprehensive update of the City's Zoning Ordinance, ensure that design standards and guidelines reflect the principles of Crime Prevention Through Environmental Design (CPTED).

8.5-I-5 Continue to coordinate law enforcement planning with local, regional, State and federal plans.

Actions that could be taken to improve coordination with other public agencies include: establishing and maintaining liaison relationships and, as appropriate, agreements for mutual aid; participating in major disaster preparedness planning at all levels of government; and establishing and maintaining agreements for private security use.

8.6 EMERGENCY MANAGEMENT

In 1995, the City prepared an Emergency Response Plan, integrated with the San Mateo Area/ County Multi-Hazard Functional Plan. Consistent with state law requiring updates at four-year intervals, the County is currently revising this plan. The City's plan is in compliance with existing law. The objectives of the plan are to reduce life, injury, and property losses through effective management of emergency forces. The City's plan:

- Establishes and defines the duties of the Operations, Planning, Logistics and Finance Units, and defines the roles of the South San Francisco Emergency Operations Center and other emergency services organizations; and
- Describes the operations and procedures that should occur during the pre-emergency, emergency, and recovery periods; and establishes rules affecting registration and use of volunteer disaster service workers.

GUIDING POLICIES: EMERGENCY MANAGEMENT

8.6-G-1 Use the City's Emergency Response Plan as the guide for emergency management in South San Francisco.

IMPLEMENTING POLICIES: EMERGENCY MANAGEMENT

8.6-I-1 Maintain and update the City's Emergency Response Plan, as required by State law, to minimize the risk to life and property of seismic and geologic hazards, flooding, hazardous materials and waste, and fire.

8.6-I-2 Prepare and disseminate information, including as a page on the City's web-site, about emergency preparedness.

This information should include pre-fire and earthquake plans identifying how emergency response will be coordinated and how evacuation of residents will proceed.

- 8.6-I-3 *Coordinate regular emergency drills with emergency organizations, including City and County Fire, Police, Emergency Medical Services, and Public Works; San Francisco International Airport; and California Environmental Protection Agency.*
- 8.6-I-4 *Ensure that special occupancy buildings, and other structures that are important to protecting health and safety in the community, remain operative during emergencies. Insure that all hospitals, schools and other public building have been adequately retrofitted for seismic shaking in accordance with State regulations.*

8.7 AIRCRAFT SAFETY

The land surrounding the San Francisco International Airport (SFO) and under the landing and departure flight paths is almost entirely developed with urban uses. Portions of the City of South San Francisco are subject to frequent overflight from aircraft departures on Runway 28 and less frequent overflight from arrivals on Runway 10. Thus aircraft accidents pose a significant risk to persons and property in South San Francisco as well as the occupants of an aircraft involved in an accident that occurs beyond the runway environment.

Aircraft accidents may be caused by land use conditions that pose hazards to flight. Protection against such conditions is essential to airport/land use safety compatibility. The Airport Land Use Commission (C/CAG) recognizes and discourages approval of specific land uses that would pose a potential hazard to aircraft in flight.

The Land Use and Sub Area elements of the General Plan include policies restricting building heights in the vicinity of SFO in accordance with Federal Aviation Regulations Part 77 height limits.

GUIDING POLICIES: AIRCRAFT SAFETY

8.7-G-1 Minimize the risk of life and property from aircraft accidents in South San Francisco.

IMPLEMENTING POLICIES: AIRCRAFT SAFETY

8.7-I-1 Do not permit land uses that pose potential hazards to air navigation in the vicinity of SFO. These land uses include the following:

- Any use that would direct a steady or flashing light of white, red, green or amber color towards an aircraft engaged in an initial straight climb following takeoff or toward a landing, other than FAA-approved navigational lights;
- Any use that would cause sunlight to be reflected toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing;
- Any use that would generate smoke or rising columns of air;
- Any use that would attract large concentrations of birds within approach and climbout areas; and
- Any use that would engage electrical interference that may interfere with aircraft communications or aircraft instrumentation.