

## 5 PUBLIC SAFETY ELEMENT

*The Public Safety Element provides information about risks in Hillsborough due to natural and man-made hazards and contains policies designed to protect the community as much as possible from seismic, flood, geologic and wildfire hazards.*

As required by State law, the Public Safety Element addresses the protection of the community from any unreasonable risks associated with the impacts of:

- ◆ Wildland and urban fires.
- ◆ Geologic hazards, including earthquakes, ground failure and subsidence and slope instability.
- ◆ Flooding, dam failure, tsunami and seiche.
- ◆ Hazardous materials, criminal activity and air pollution.
- ◆ General emergency preparedness.

The Element is divided into two sections:

- ◆ **Background Information.** Contains information on current risks due to natural and man-made hazards.
- ◆ **Goals, Policies and Actions.** Provides policy guidance for addressing change as it occurs in the Town, and action items to be pursued during the lifetime of the General Plan.

### A. *Background Information*

The following sections outline the existing conditions in Hillsborough as they relate to natural and man-made hazards.

#### 1. **Fire Hazards**

The Town of Hillsborough is faced with risk associated with wildfires and urban fires, as described in detail below. Both types of fire risks are magnified by the design of the Town's street system. While the street layout meets the original goals of minimizing through traffic and creating a more rural charac-

ter for the community, the often narrow and curvilinear patterns and hilly topography can make it difficult for emergency vehicles to travel from one side of the community to the other and access certain areas. The only way to overcome this issue is to have high-quality equipment and provide continuous training and accurate maps for the fire fighters and ensure they know the community well. In this vein, the Fire Department is currently investigating the installation of global positioning system (GPS) systems on all of the Department's vehicles.

a. Wildland Fire Hazards

The Town of Hillsborough is fortunate to have undeveloped land within its limits, such as rural canyons and open space preserves. However, the proximity of housing and other development to these areas carries a high risk of wildland fires, and is a concern. As shown in Figure PS-1, much of Hillsborough's development is subject to the risk of wildland fires. The data in this map was gathered in 2003 by the California Department of Forestry and Fire Protection as a way to describe the relative risk to populated areas from the threat of wildfire; however, the map does not represent the Very High Fire Severity Zones (VHFSZ) identified through the Bates Bill, as described below.

In response to the Oakland Hills fire in 1991 and the passage of the AB 337 Bates Bill (Government Code Sections 51175 to 51189), the State mapped areas considered Very High Fire Severity Zones. Hillsborough did not adopt the State's identified VHFSZ. Adoption of VHFSZs allows for more stringent enforcement by jurisdictions that have less stringent existing codes, but adoption can also negatively affect residents' insurance rates. The Town already has a stringent fire enforcement program and building standards, so adoption of the VHFSZ may not provide for more stringent fire protection regulations, but may affect insurance rates. Even without the VHFSZ designation, the vegetation management program and the ordinances associated with a wildland urban interface consistent with a VHFSZ are applied by the Town and Fire Department.

Figure PS-1  
Wildfire Hazard Areas

The Town is proactive in addressing wildland fire risks by clearing vegetation and maintaining access pathways to areas with the highest fire risks. The Town maintains at least a 30-foot vegetation fire break between Town-owned open space areas and private property. In addition, the Town requires new construction and substantial reconstruction to include design features to reduce the risk of fire, such as Class A roofs and siding, and automatic interior sprinklers. To minimize the threat of fires caused by residential uses, the Town also requires that spark arrestors are installed.

The Central County Fire Department also distributes information to home owners regarding appropriate vegetation management for surrounding outdoor areas and ensures compliance with State codes for vegetation management on private property. The majority of private property in Hillsborough is landscaped with irrigated vegetation. In addition, the Department also maintains active participation in wildland fire fighting training.

The Central County Fire Department cooperates with regional fire protection activities to reduce the overall risk of wildfires within the County. While there are no adopted countywide fire plans or standards that apply to Hillsborough, the Central County Fire Department is participating in the Fire Safe San Mateo County group, which includes members from various stakeholders involved in fire protection within the County or responsible for the management of open space areas. A subcommittee of this group is working on creating a single county standard for adoption of the International Code Council Urban Interface Code.

The Urban Interface Code will ensure that new construction will require fire safe construction standards, defensible space and provide access and water supplies. The Central County Fire Department is working with the Town and the Fire Safe San Mateo County to ensure appropriate adoption of this Code.

b. Urban Fires

In addition to the risk of wildland fires, the Town is subject to fire hazards related to structural fires. The Town addresses this hazard by supporting and funding the Central County Fire Department and by requiring the construction features outlined above.

**2. Steep Slopes and Landslides**

As reflected in its name, Hillsborough is hilly, with areas of steep slopes, especially along its creeks and canyons. The steeper slopes have the potential for erosion and slippage. Figure PS-2 depicts areas within the community that have a history of landslides. Highlighted on the map are several historical landslide areas that the Town continually monitors, one to the north in an open space preserve, and the others in the southern portion of Town.

As shown in Figure PS-3, the majority of the Town is underlain by disturbed soil, identified as urban land or orthents.<sup>1</sup> The rest is comprised of Fagan Loam, Los Gatos Loam, Maymen Gravelly Loam and Obispo Clay, all of which are on slopes of 15 percent or more. The Barnabe-Rock Outcrop Complex, Fagan Loam, Los Gatos Loam and Maymen Gravelly Loam have a high to very high potential for erosion, however, many of the areas with these soils types are protected within open space areas. The Obispo Clay has a lower potential for erosion.

Because of the excess of steep terrain, the Town currently allows limited new development to occur on some of the steeper slopes. To address the concern of potential slope failure, the Town requires development to meet current engineering standards. Also, the Town has an ordinance requiring any new subdivisions on slopes over 10 percent to provide larger lots, thereby reducing the concentration of homes on steeper slopes. Figure PS-4 shows the land

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<sup>1</sup> Orthents are soils which have been mechanically modified as a result of grading and fill associated with development, or other urban activities, such as landscaping.

Figure PS-2: Landslide Hazards

Figure PS-3: Soils

Figure PS-4: Steep Slopes



within Hillsborough that has slopes of 10 percent or greater. As discussed in more detail under the following section, the Town also requires new development to meet current building codes and complete geotechnical studies.

### 3. Seismic Activity

Hillsborough is located within the seismically active San Francisco Bay region, one of the most seismically active zones in the United States. The faults in the region are capable of generating earthquakes of at least 8.0 in magnitude on the Richter Scale, producing very strong ground shaking in Hillsborough. The closest fault line to Hillsborough is the San Andreas Fault, which runs along the western boundary of the Town. Figure PS-5 depicts the regional fault lines in the Hillsborough area. There are no fault lines identified within the Town limits and the Town is not within an Alquist-Priolo designated zone, so the risk of seismically induced ground rupture is low.

Similar to the Alquist-Priolo Act, which identifies Alquist-Priolo zones, the Seismic Hazards Mapping Act directs the State Geologist to identify and map areas prone to the earthquake hazards of liquefaction, earthquake-induced landslides and amplified ground shaking. The Act requires that site-specific geotechnical reports be conducted identifying the hazards(s) and formulating mitigation measures prior to permitting most developments designed for human occupancy within the Zones of Required Investigation. While a Seismic Hazard Map implementing the Act has not been released for Hillsborough, the State plans to do so in the future. At that time, the Town will comply with the Act's requirement, as appropriate.

Earthquake hazards in Hillsborough also include secondary effects, such as earthquake induced land sliding, subsidence, liquefaction, tsunami and seiche. Areas subject to landslides are discussed in the previous section. Soil liquefaction is a phenomenon primarily associated with saturated, cohesionless soil layers located close to the ground surface. During liquefaction, soils lose strength and ground failure may occur. Figure PS-6 shows those areas within

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Figure PS-5: Regional Faults

Figure PS-6: Liquefaction Hazard Areas

Hillsborough that have the highest potential for liquefaction. Due to the Town's inland location, there is a low potential for tsunamis to affect the community.

Hillsborough could be at risk for seiches, which are waves generated in a bay or lake that can be compared to the back-and-forth sloshing of water in a tub. Seiches can be caused by winds, changes in atmospheric pressure, underwater earthquakes or landslides into the water. Bodies of water including reservoirs, ponds and swimming pools are likely to experience seiche waves up to several feet in height during a strong earthquake. Areas in Hillsborough with the most potential for seiche include Crocker and Spencer Lakes, water towers and, to a lesser extent, private pools.

The Town requires new construction to be built using the most recent building codes to minimize potential damage to structures as a result of an earthquake. Development or substantial renovations in Hillsborough must comply with the Uniform Building Code (UBC), which outlines standards for seismic design, foundations and drainage and requires that geotechnical engineering studies be undertaken for all major new buildings or earth works.

#### **4. Flooding**

The Federal Emergency Management Agency (FEMA) maps areas subject to 100-year floods as part of its National Flood Insurance Program. For Hillsborough, the only area that FEMA has identified as being within the 100-year flood plain<sup>2</sup> is along the San Mateo Creek, in the southern portion of the Town. Figure PS-7 depicts the area that is within the 100-year flood plain.

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<sup>2</sup> A 100-year floodplain is the area that has a one percent chance of being inundated during any particular 12-month period. The risk of this area being flooded in any century is one percent but statistically the risk is almost 40 percent in any 50-year period.

Figure PS-7: 100-Year Floodplain

Another source of potential flooding is related to dam inundation from the Lower Crystal Springs Dam on San Mateo Creek, and to a smaller extent from the dams that were built to create Crocker and Spencer Lakes. Flooding would only occur in the unlikely event that the dams failed, and would affect those areas downstream from the dams as shown in Figure PS-8.

The Lower Crystal Springs dam poses the largest threat to the community since the reservoir holds a greater amount of water compared to Crocker and Spencer Lakes. While the dam is located only 400 feet west of the San Andres fault, the San Francisco Public Utilities Commission has studied the dam and found that the dam meets all current earthquake standards. In addition, the San Francisco Public Utilities Commission reported that no damage was found to the dam after the 1906 and 1989 earthquakes. The Hillsborough Public Works Department maintains the dams at Crocker and Spencer Lakes.

## **5. Human Created Hazards**

The residents of Hillsborough are also at risk of man-made hazards, such as criminal activity, improper disposal of and exposure to hazardous materials, and air pollution.

### **a. Criminal Activities**

Hillsborough currently has the lowest crime rate in the Bay Area. The Hillsborough Police Department prides itself on its proactive approach, which includes the latest technology and crime prevention strategies and public outreach. Police-related concerns in Hillsborough typically involve traffic accidents and noise violations from construction or teenage parties. Criminal activity in Hillsborough is a minor concern and consists mainly of domestic disagreements, petty theft and vandalism, and a recent rise in identity theft.

### **b. Hazardous Materials**

As a primarily residential community, Hillsborough does not contain large amounts of hazardous materials, nor does it experience higher than normal transportation of hazardous materials on its circulation system since there are

Figure PS-8: Dam Inundation Area

not good cross-town routes. Personal use of household hazardous materials, such as pesticides and fertilizer, is the most common occurrence of hazardous materials within the community. The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) is authorized by the United States Environmental Protection Agency (EPA) to enforce and implement federal hazardous materials laws and regulations, including disposal and transportation of hazardous materials. State laws are equally stringent or more stringent than federal regulations.

There is one identified underground storage tank (UST) within the community that is used for fuel storage, as well as several above-ground storage tanks. All of the storage tanks have been constructed or retrofitted to meet safety regulations. There is one UST in the Burlingame County Club maintenance area, one above-ground fuel container at the Corporation Yard and two diesel above-ground tanks at fire stations. The potential for an additional storage tank at the Police Department is under study. The County is responsible for the regulation of USTs.

In addition to the known storage tanks, old, unused heating oil storage tanks are still occasionally found on residential property. These tanks are typically found when a property is being renovated and do not pose a health risk to the community.

c. Air Quality

The following section provides a general discussion of regional air quality conditions and a description of the pollutants that are of the most concern to Hillsborough.

i. *Air Quality Climatology*

Hillsborough is located in northern San Mateo County, which is part of the nine-county San Francisco Bay Air Basin. The Town is located in the coastal hills on the west side of San Francisco Bay. This part of the San Francisco Peninsula experiences persistent ocean breezes off the Pacific Ocean, but Hillsborough is somewhat sheltered by higher terrain. The major wind gaps



in the Peninsula are the San Bruno Gap, located north of Hillsborough and the Crystal Springs Gap, located south of Hillsborough. Generally, Hillsborough only experiences moderate air pollution as a result of its regular ocean breezes, but during stagnant air conditions, the entire Bay Area has degraded air quality.

The Bay Area Air Quality Management District (BAAQMD) monitors air quality at numerous sites within the nine-county District, although not within Hillsborough. The closest air monitoring stations are in San Francisco to the north and Redwood City to the south. In general, the federal ambient air quality standards are met at these sites, but the more stringent State standards are exceeded for two pollutants: ozone and particulate matter. Toxic Air Contaminants are another type of air pollutant that is of concern in the Bay Area.

## **6. Emergency Response**

As required by law, Hillsborough has established emergency preparedness procedures to respond to a variety of natural and man-made disasters that could occur within the area. The Town is included in the San Mateo County Operational Area Emergency Operations Plan (EOC) and the Town has a representative on the EOC Steering Committee. These procedures are outlined in the EOC Guidebook and Section Checklist, adopted in June 2004. The Emergency Plan establishes the Standardized Emergency Management System (SEMS) as required by state law, and includes information on mutual aid agreements, hierarchies of command and different levels of response in emergency situations.

The Town also has an emergency plan based on SEMS, which provides an effective flow of information and tracking of resources. The Town has designated a location for centralized management of coordinated emergency response by the Town's staff. The primary EOC location is Town Hall. The EOC may be activated upon the direction of the City Manager or, in his absence, his designee. The magnitude of the emergency or unusual occurrence

will dictate the Town's response. Town employees participate in an annual drill to prepare and train for responding to an emergency.

In the event of an emergency, Hillsborough employees, including Fire, Police and Public Works staff, will assess the situation and the damage and respond according to the emergency plan, coordinating with other agencies as necessary. In the event they are needed, the schools are designated as emergency shelters. The centers would be designated and set up by Town staff, which would coordinate with the American Red Cross, and the centers would provide housing, medical care and act as distribution sites for food and water.

It is recommended that each Hillsborough family has an emergency plan and sufficient supplies for 72 hours. There are tips and helpful links on the Fire Department's Emergency Preparedness page on the Town's website, [www.hillsborough.net](http://www.hillsborough.net). In the event of flooding as a result of storms, an emergency supply of sandbags is available to residents at the Town's Fire Stations and at Town Hall.

*B. Goals, Policies and Actions*

<b>Goal PS-1</b>	<b>Prevent and reduce risks to property and protect residents from urban and wildfire hazards.</b>
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Policy PS-1.1: Maintain safe building practices and require fire-safe building materials in all new development and substantial redevelopments.

Policy PS-1.2: Support fire prevention, public education, early detection programs and property inspections to identify and avoid fire hazards.

- Policy PS-1.3: Encourage the maintenance of ground cover and fire breaks on all open space lands.
- Policy PS-1.4: Support excellent fire service through the maintenance of fire equipment and the training of fire personnel.
- Action PS-1.1: The Central County Fire Department will review plans for all new buildings and major additions and make recommendations for modifications to reduce fire hazard.
- Action PS-1.2: When property owners are not correctly maintaining their property, the Town will implement fire control maintenance measures as needed on undeveloped private property, provide the necessary fire prevention improvements on properties that pose a significant public safety threat, and pass along incurred costs to property owners.
- Action PS-1.3: The Town will work with the Central County Fire Department to review and update, if necessary, the Town's and Department's regulations and approach regarding fire protection within Hillsborough to ensure adequate fire protection. Since the Town is mainly residential, the focus of this review will be on reducing the risk of fire to and resulting from individual residential properties. This review and update process will include the following:
- ◆ Review adopted and proposed federal and State regulations and ensure that Hillsborough complies as appropriate. This will include reviewing the proposed International Code Council Urban Interface Code and amendments to Government Code 51182 to identify necessary revisions to Town and Department policies and regulations.
  - ◆ Determine whether the Town will benefit from increased fire protection from adopting the State identified Wildfire

Hazard Areas pursuant to Government Code Section 51179. Based on this analysis, the Town will either adopt the State identified VHFSZs, adopt locally designated VHFSZs, or make a determination that the Town is exempt from adopting VHFSZs since adopted regulation has the same or more stringent controls as would be applied with the designation of a VHFSZ.

- ◆ Develop wildfire suppression contingency plans for periods when funding or fire fighting resources for wildfire suppression are reduced due to homeland safety events that may redirect federal and State funding away from local wildfire suppression activities.

Action PS-1.4: The Town will continue to work with the Central County Fire Department to ensure that regional approaches to fire protection and suppression generated by the County, California Department of Forestry (CDF) and Fire Safe San Mateo County are implemented in Hillsborough.

<b>Goal PS-2</b>	<b>Reduce risk of landslide and slope failure during and after heavy rains and earthquakes, and protect the community from hazards associated with soil erosion, weak and expansive soils and slope instability.</b>
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Policy PS-2.1: Minimize development in areas of natural hazards, such as landslides and floodplains, which have the potential to jeopardize the public health and safety.

Policy PS-2.2: Reduce the risk of impacts from geologic and seismic hazards by applying proper development engineering, building construction and retrofitting requirements.

Policy PS-2.3: Review new building plans for proper foundation and supports in areas with slope gradients greater than 10 percent. Require property owners to provide minimal slope stabilization in properties high at risk to earthquake-induced slope failure.

Policy PS-2.4: Properties in hazardous slope areas where slope improvements have been made should be inspected periodically.

Policy PS-2.5: Review drainage plans for new development to determine areas susceptible to poor drainage and compare with areas susceptible to slope failure.

Policy PS-2.6: Reduce risk to drivers from landslides onto public roads.

Action PS-2.1: The Town will continue to implement its Hillside Lot Size Ordinance that limits the density of development on slopes over 10 percent to reduce the risk of slope failure and to reduce runoff and erosion. Implementation of the Ordinance also helps to protect open space features and riparian habitat by minimizing development along streambeds.

Action PS-2.2: The Town will continue to require construction plans for all new houses be reviewed by a State of California-registered professional engineer (PE).

<b>Goal PS-3</b>	<b>Reduce the risk of injury and structure damage from exposure to seismic activity.</b>
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Policy PS-3.1: Ensure new building plans in high risk areas meet current seismic building codes and use methods of construction to withstand stress caused by an earthquake.

- Action PS-3.1: The Town will review all new building plans or substantial renovations for compliance with the UBC and any additional State or federal seismic safety regulations prior to permit approval.
- Action PS-3.2: The Town will continue to inspect all required seismic upgrades or new construction to ensure adequate compliance.
- Action PS-3.3: The Town will distribute information to residents on emergency procedures in case of an earthquake.

<b>Goal PS-4</b>	<b>Reduce hazards related to natural flooding and potential inundation from failure of the Lower Crystal Springs Dam and the Crocker and Spencer Lake dams.</b>
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- Policy PS-4.1: Limit development within the floodplain to minimize risks to life and property and satisfy the flood insurance and other requirements of the Federal Emergency Management Act.
- Policy PS-4.2: Continue to monitor and maintain the dams at Crocker and Spencer Lakes to minimize the risk of dam failure, and support the San Francisco Public Utilities Commission's monitoring and maintenance of the Lower Crystal Springs Dam.
- Action PS-4.1: The Town will continue to participate in the National Flood Insurance Program.
- Action PS-4.2: The Town will continue to enforce existing ordinances for floodplain regulations, drainage requirements and development standards.

<b>Goal PS-5</b>	<b>Protect the community from human-caused hazards, such as criminal activity, air pollution and hazardous materials.</b>
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Policy PS-5.1: Continue to support the Hillsborough Police Department to maintain a low occurrence of criminal activity within the community and provide public education programs.

Policy PS-5.2: Cooperate and participate in regional air quality management planning, programs and enforcement measures.

Policy PS-5.3: Cooperate with responsible federal, State and County agencies to minimize the risk to the community from the use and transportation of hazardous materials through and adjacent to Hillsborough.

Policy PS-5.4: Reduce the per capita production of household hazardous waste in Hillsborough in concert with the County of San Mateo programs for reducing hazardous waste.

Action PS-5.1: The Police Department will continue to provide information on crime prevention and community outreach such as, in-home Crime Prevention and Community Awareness Programs; private home inspections for proper locks, alarm and lighting; home alarm monitoring; and lending engraving pens to residents to mark their valuables.

Action PS-5.2: The Town will continue to support the Bay Area Air Quality Management District in monitoring air pollutants of concern on a continuous basis, as well as the implementation of the regional Clean Air Plan.

Action PS-5.3: The Town will continue to promote energy conservation by the public and private sectors. New development and re-

modeling will be encouraged to incorporate features that minimize energy use, such as planting trees along the south and west-facing sides of buildings; using solar heating; installing energy efficient lighting and heating/cooling systems, as well as increased insulation; and replacing older appliances with energy efficient models. The Town will also incorporate energy saving design features and devices in Town property, when appropriate.

Action PS-5.4: The Town will work with the County to offer a periodic drop-off program for household hazardous waste and distribute information on alternative non-toxic landscaping treatments, especially to the County Club and schools.

<b>Goal PS-6</b>	<b>Ensure the Town’s ability to respond effectively to natural and human-caused emergencies.</b>
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Policy PS-6.1: Support the preparation, implementation and regular update of local preparedness and evacuation plans and multi-jurisdictional cooperation and communication for emergency situations.

Policy PS-6.2: Continue to participate in regional emergency planning efforts.

Policy PS-6.3: Educate residents regarding appropriate actions to safeguard life and property during and immediately after various types of emergencies.

Action PS-6.1: The Town will develop a local emergency preparedness plan that identifies a City chain of command, outlines an action checklist and coordinates with the San Mateo County Emergency Operations Plan.



- Action PS-6.2: The Town will provide community awareness and education programs for citizens describing procedures and evacuation routes to be followed in the event of a disaster.
- Action PS-6.3: The Town will conduct periodic drills using emergency response systems to test the effectiveness of the Town's procedures.

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