## 10.0 PUBLIC HEALTH AND SAFETY ELEMENT

The Public Health and Safety Element contains provisions that relate to the protection of life, health, and property from natural hazards and man-created hazards. Government Code Section 65302(g) requires the adoption of a Safety Element to protect the public from unreasonable risks associated with natural and man-made hazards. The Element is designed to identify areas where private and public decisions on land use need to be sensitive to hazardous conditions caused by slope instability, seismic activity, flood, fire, noise, and/or wind. It also considers a man-made threat to the community's well being, the airport influence area. It further serves to inform individuals, firms, and public agencies of the City's policies on the type of land use permitted, how and where to build public facilities, and which type of public services should be provided.

The Public Health and Safety Element is divided in six major sections as follows:

- Geotechnical Hazards;
- Flooding Hazards;
- Slope Failure Hazards;
- Fire Hazards;
- Hazardous Waste and Materials; and
- Emergency Preparedness.

## 10.1 GEOTECHNICAL HAZARDS

The northern portion of the Planning Area is located within the San Bernardino Valley, which is essentially a sediment-filled basin bounded by the San Andreas Fault on the northeast, the San Jacinto Fault on the southwest, and a series of northeast-trending faults on the southeast. The southern portion of the Planning Area is characterized by hills that have been uplifted and are currently dissected by active drainage, creating the badlands topography from which this terrain received its name.

Soils in the area range from gravelly loam to sandy loam. The soils on the alluvial valley floors and fans are well drained and very deep. The soils in the southern foothills are moderately deep to deep and overlay sandstone and shale on the hills.

Earthquakes in Southern California occur as a result of movement between the Pacific and North American plates. Faults of the San Andreas *system* are used to mark the boundary between the plates, but the deformation, faulting and associated earthquakes occur in a broadly distributed zone that stretches from offshore California to Nevada.

The faults considered most significant, though not necessarily located within the limits of the Planning Area, are detailed in Table 10.A. Other faults exist in the area, but due to their distance from the Planning Area and lower probability of producing a large earthquake, they are considered to present a less significant risk to the City.

**Table 10.A: Major Active Faults Affecting the Planning Area**

| Fault | Distance (Miles) | Direction From Planning Area | Maximum Credible Earthquake (Richter) | Maximum Probable Magnitude (Richter) |
|---|---|---|---|---|
| San Jacinto | 0 | --- | 7.5 | 6.5 – 7.5 |
| San Andreas | 5 | NE | 8.25 | 6.8 – 8.0 |
| Cucamonga | 13 | NW | 6.5 | 6.0 – 7.0 |
| Elsinore | 22 | SW | 7.5 | 6.5 – 7.5 |
| Newport-Inglewood | 48 | SW | 7.0 | 6.0 – 7.4 |

Source: Southern California Earthquake Data Center.

Four faults are located within the limits of the Planning Area. They include the San Jacinto Fault, the Loma Linda Fault, the Banning Fault and the Reche Canyon Fault. The San Jacinto Fault zone crosses the southwest portion of the Planning Area and has been the most historically active fault zone in Southern California. There are numerous offset gullies, linear ridges, and other fault-related features that indicate active faulting along the Claremont branch of the San Jacinto Fault. The Loma Linda Fault has been mapped as crossing the northern portion of the Planning Area. This fault was originally identified from groundwater data and lacks topographic evidence. No evidence of active faulting has been identified. The Live Oak Canyon Fault is a trace of the San Andreas Fault, extending westward from the San Gorgonio Pass. This fault is not generally thought to be active within the Planning Area. The Banning Fault extends through the north eastern quadrant of the Planning Area and also is generally thought to be inactive. The Reche Canyon fault traverses the southwest corner of the Planning Area and is considered a potentially active fault.

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo) was passed in 1972 to mitigate the hazard of surface faulting to structures built for human occupancy. The Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. This law required the State Geologist to establish regulatory zones (Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps, which are then distributed to affected Cities, Counties, and State agencies for use in planning and/or regulating new or renewed construction in such zones. No habitable structure is permitted across the known trace of any active fault. Setback zones (generally 50 feet on either side of the fault trace) are established for habitable structures. The width and location of any required setback is dependent on the geology a particular site, the characteristics of the fault, and the degree of certainty on the fault's location. The Seismic

Hazards Mapping Act of 1990 became law in 1991. The purpose of this Act is to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failures, or other hazards caused by earthquakes. The 1990 Act is a companion and complement to the Alquist-Priolo. Areas within the Planning Area susceptible to fault rupture hazards are illustrated in Figure 10.1.

The San Jacinto Fault, considered to be active, has been mapped in the southern portion of the Planning Area. An earthquake hazard zone has been established along the trace of this fault. Investigations of the San Jacinto Fault have recommended building setbacks varying from 50 to 100 feet.

The strength of seismic ground shaking at any given site is a function of many factors. Of primary importance is the size of the earthquake, its distance, the paths the waves take as they travel through the earth, the rock or soils underlying the site, and topography (particularly whether a site sits in a valley, or atop a hill). The amount of damage also depends on the size, shape, age, and engineering characteristics of the affected structures. Of the earthquake faults in the Planning Area, only the San Jacinto Fault is considered active and, due to this designation, an earthquake hazard zone has been established along the trace of this fault. The largest earthquake expected in an area under the current tectonic environment is termed to be the maximum credible earthquake (MCE). Using the Richter scale, the MCE for the San Jacinto Fault is 7.5.

Liquefaction occurs primarily in saturated, loose, fine-to-medium-grained soils in areas where the groundwater table is within 50 feet of the surface. Shaking suddenly increases pore water pressure, causing the soils to lose strength and behave as liquid. Three groundwater basins underlie portions of the Planning Area and include in the northern (Bunker Hill), southwest (Reche Canyon Basin), and eastern (San Timoteo Basin). Local faults form the boundaries of these underground water reservoirs. There is a moderate to moderately high susceptibility for liquefaction hazards in the northwest portion of the Planning Area and the southern reaches of Reche Canyon. The north-central portion of the Planning Area and a canyon extending into the western portion of the Planning Area from Reche Canyon are moderately susceptible to liquefaction hazards.

### 10.1.1 Identified Technical Hazard Issues

Geologic and seismic hazards are constraints to development as they place limitations on where structures can be built and how structures should be constructed. Should a large earthquake hit Loma Linda, the primary geologic affects will be surface-ground rupture along the causative fault and intense ground shaking thus causing damage to structure and lifelines with potential wide spread fires and release of toxic substances. Loma Linda, like much of Southern California, is likely to experience a powerful earthquake. Given that one active fault and one potentially active fault run through and adjacent to the City, standards for development need to be carefully regulated to minimize structural damage and loss of life.

### 10.1.2 Guiding Policy

Minimize the risks of property damage and personal injury resulting from seismic and geologic hazards.

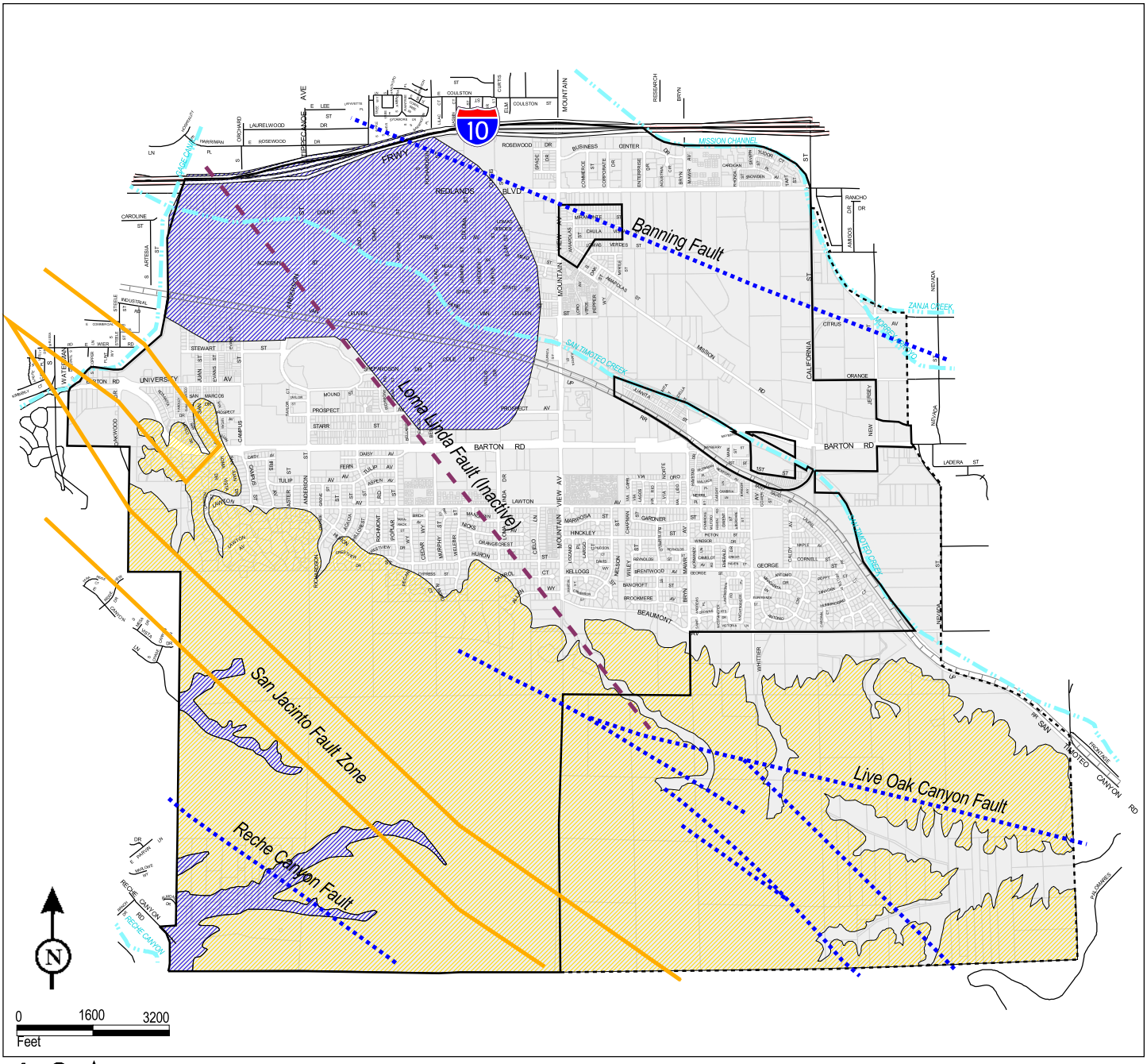


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Figure 10.1

**GEOLOGIC HAZARDS**

- FAULT LINES*
- LOMA LINDA FAULT (INACTIVE)
- SAN JACINTO AP ZONE
- LIQUEFACTION ZONES
- AREAS OF STEEP SLOPES AND SLOPE INSTABILITY

**JURISDICTIONAL AND INFRASTRUCTURE**

- CITY BOUNDARY
- WATER WAYS
- CITY SPHERE OF INFLUENCE
- RAILROAD

*City of Loma Linda General Plan*

**GEOLOGIC HAZARDS**

SOURCE: LOMA LINDA FAULT DATA PER THE SAFETY ELEMENT OF THE APRIL 1, 1991 GENERAL PLAN, RICK ENGINEERING COMPANY.
*BRANCH FAULT LINES ARE NOT ALL NAMED PER THE USGS GEOLOGIC MAPS 2003.

r:\lld130\gis\planmaps\lld130-prj-gplu.apr Geologic Hazard (06/07/06)

**Implementing Policies**

a. Limit development to low density in areas near geologic hazards such as the San Jacinto Fault that would create adverse conditions to those inhabiting the area and to the overall community.

b. Enforce the provisions of the Alquist-Priolo Earthquake Fault Zoning Act.

c. Require geologic and soils reports to be prepared for proposed development sites, and incorporate the findings and recommendations of these studies into project development requirements.

d. Provide information and establish incentives such as free inspections or possibly reduced fees for property owners to rehabilitate existing buildings using construction techniques to protect against seismic hazards particularly in buildings with high occupancy such as churches and other places of assembly.

e. Identify and publicize the geologic and seismic hazards within Loma Linda and advise residents and property owners of appropriate protection measures to reduce or eliminate structural damage.

f. Encourage continued investigation by State agencies of geologic conditions within the Inland Empire to update knowledge of seismic hazards and promote public awareness.

g. Require that engineered slopes be designed to resist seismically induced failure.

h. Require that structures overlying both cut and fill areas within a grading operation be over-excavated to mitigate the potential for seismically induced differential settlement.

i. Require specialized soils reports in areas suspected of having problems with potential liquefaction and areas depicted as liquefaction zones as shown on figure 10.1 (Geologic Hazards), bearing strength, expansion, settlement, or subsidence, including implementation of the recommendations of these reports into the project development.

j. Work with Southern California Edison, the Southern California Gas Company, pipeline companies, and industrial companies to implement measures to safeguard the public from seismic hazards associated with high voltage transmission lines, caustic and toxic gas and fuel lines, and flammable storage facilities.

## 10.2 FLOODING HAZARDS

Flooding represents a potential hazard to citizens and property within the Planning Area. Flooding hazards may be considered in two categories: natural flooding and reservoir or water tank failure. While the majority of the area potentially subject to flood hazards is located in the northern portion of the Planning Area, local topography and the presence of a number of large aboveground water storage tanks, increase the potential for flood events in other portions of the Planning Area.

***A flooding hazard controlled through a channel***

The principal types of flood hazards in the Planning Area include stream flooding, bridge scour, dam inundation and earthquake-induced flooding (seiches). The Planning Area is potentially vulnerable to flooding associated with San Timoteo Creek, Mission Channel, and the Santa Ana River, as well as small-scale floods originating

on hillsides in the southern portion of the City. While not likely to occur in the City, bridge foundations are vulnerable to scouring during a flood. Major roadways that cross over watercourses/channels in the City include Anderson Street and Barton Road (San Timoteo Creek), and Redlands Boulevard (Mission Channel), and Beaumont Avenue (San Timoteo Creek). The northern portion of the Planning Area is within the inundation area of the Seven Oaks Dam, the failure of which while not likely, would impact the City and its Sphere of Influence. The Seven Oaks Dam is a dry dam that serves to decrease peak water flows during spring runoff and rainstorm events. Upon filling, the dam water is "metered out" through a culvert located at the base of the dam. Additionally, canals, levees, and flood control channels may be vulnerable to the earthquake-induced effects of liquefaction, lateral spreading and primary fault rupture. In Loma Linda, an earthquake may cause local flooding by creating seiches (reverberating waves) by damaging water storage facilities or detention basins which are located generally in the southern foothills as shown in Figure 10.2.

The most widely distributed flood map product is the Flood Insurance Rate Map (FIRM). The Federal Emergency Management Agency (FEMA) is mandated by the Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 to evaluate flood hazards and provide FIRMs for local and regional planners to further promote sound land use and floodplain development. Flood risk data presented on FIRMs are based on historic, meteorologic, hydrologic, and hydraulic data, as well as open space conditions, flood control works, and development. To prepare a FIRM that illustrates the extent of flood hazards in a flood-prone community, FEMA conducts an engineering study referred to as Flood Insurance Study (FIS). Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas (SFHAs) on FIRMs. SFHAs are those areas subject to inundation by a flood that has a one percent or greater chance of being equaled or exceeded during any given year.

The City of Loma Linda participates in the National Flood Insurance Program (NFIP). Consequently, FIRM maps prepared by FEMA to show potential flood zones are available for areas within the City limits. Flood hazard areas and flood control facilities in the City are shown on Figure 10.2. As depicted on FIRM maps, flood hazard areas in the City of Loma Linda are identified in the following manner:

**Zone AE.** This is one of the seven classifications of areas of special flood hazard areas inundated by the 100-year flood. Within the City of Loma Linda, the AE zone is generally located in the San Timoteo Creek Channel. Base flood elevations have not been determined for this area as it is undergoing channelization.

**Zone AO**. Areas with this designation have average flood depths of one to three feet. The flooding is usually due to sheet flows on sloping terrain. The area with this designation is located in the sphere of influence around the Mission Channel south of Redlands Boulevard.

**Zone A99.** Areas so designated are those where the partial completion of a flood control project (e.g., the San Timoteo channelization project) has reduced but not yet eliminated the possibility of flooding in the area. The A99 designation adjacent to the San Timoteo Channel became effective June 27, 2001. In the City of Loma Linda, the A99 zone is generally located between I-10 to the north and the UPRR line to the south, and it extends from California Street on the east to the western boundary of the City. Remapping of this area for flood hazards will occur after the completion of the channelization project.

**Zone X (shaded).** Identified as the areas of the 500-year flood; areas of the 100-year flood with an average depth of less than one foot or with drainage areas of less than one square mile; and areas protected by levies from the 100-year flood. Within the City, the X zone is primarily restricted to areas at the extreme southern and northern limits of the AE zone. Two areas: one north of Redlands

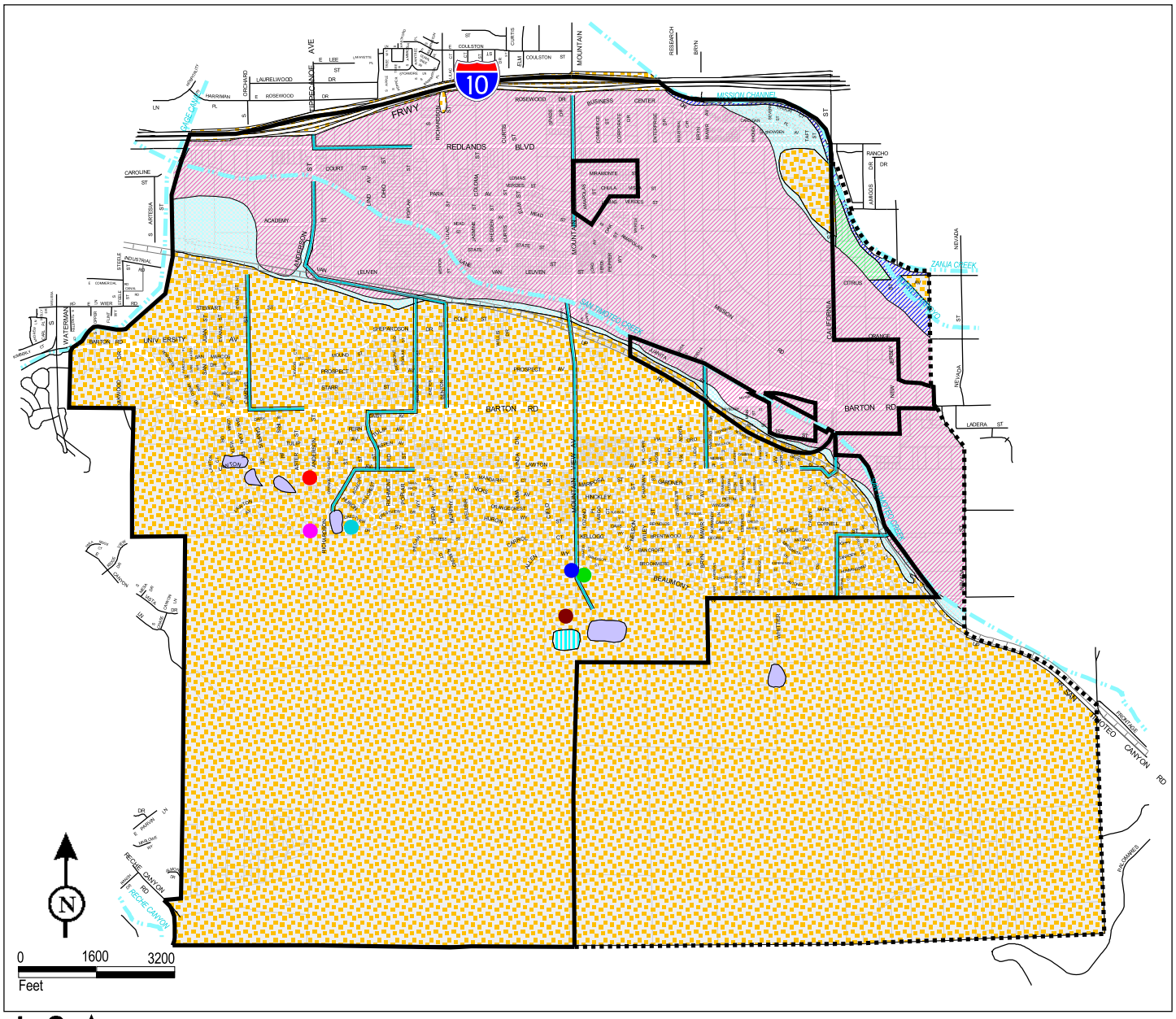


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Figure 10.2

**FLOOD ZONES***

- A99 - INTERIM ZONE
  *Areas still partially subject flooding.*
- ZONE A
  *No base flood elevations determined, contained within channel.*
- ZONE A0 - *Flood Depths of 1-3 feet.*
- ZONE X - 100 to 500 yr
  *Areas of 500 year flood; areas of 100 year flood with average depths of less than 1 foot.*
- ZONE X - 500yr or GREATER
  *Areas determined to be outside 500 year floodplain.*
- EXISTING DETENTION BASINS
- PROPOSED DETENTION BASIN
- MAJOR STORM DRAINS

WATER TANKS

- WATER TANK - 3.2MG
- WATER TANK - 8.0MG
- WATER TANK - 2.0MG
- WATER TANK - 0.6MG
- WATER TANK - 1.0MG
- WATER TANK - 0.1MG

**JURISDICTIONAL AND INFRASTRUCTURE**

- CITY BOUNDARY
- CITY SPHERE OF INFLUENCE
- RAILROAD
- WATER WAYS

*City of Loma Linda General Plan*

**FLOOD HAZARD AREAS AND FLOOD CONTROL FACILITIES**

**Flood Zone AE is located within the confines of the San Timoteo Creek Channel.*

r:\lld130\gis\planmaps\lld130-prj-gplu.apr Flood Hazard (06/21/04)

Boulevard between California Street and Rhonda Street, and the other, north of the UPRR line at the western City boundary are also located within this zone.

**Zone X (unshaded).** Areas determined to be outside the 500-year floodplain. All areas of the City not identified within Zones AE or X (unshaded) are included under this designation.

### 10.2.1 Flood Control Features

The San Bernardino County Flood Control District covers the entire County (including the incorporated cities), and provides planning, design, construction, and operation. Maintenance on the regional storm drain facilities within the County. Storm drain systems have been constructed throughout the City to accommodate both the increased runoff resulting from development and to protect developed areas within the City from potential localized flooding. Because County drainage facilities receive upstream drainage from the City's drainage system, the City storm drain system must be consistent with the County's Master Plan. The City of Loma Linda (along with the City of Redlands) is located within the area addressed in San Bernardino County Comprehensive Storm Drain Master Plan No. 4. Future improvements to the City's storm drain system will follow the improvements outlined in Master Plan No. 4.

### 10.2.2 Identified Flooding Hazard Issues

Many storm drains and open channels drain into the San Timoteo Creek channel, which is a County facility. Until the Federally funded flood control projects are completed along this channel, the areas north of this channel within the City will remain within the interim flood zone.

The Mission Channel, which flows in an open channel from California Street to the I-10 freeway, is susceptible to flooding in a 100-500 year storm. Improvements to this channel system are necessary to reduce flooding hazards in the area.

### 10.2.3 Guiding Policy

Protect the community from risks to lives and property created by flooding and stormwater runoff.

**Implementing Policies**

a. Through the San Bernardino County Flood Control District Citizen's Advisory Committee, continue to make recommendations to the County Board of Supervisors for improvements to the flood control facilities in the City of Loma Linda to reduce the potential of 100 – 500 year floods within the City.

b. In areas where local and sub-regional drainage facilities are not currently provided, require new development to prepare hydrologic studies to assess storm runoff on the local and subregional storm drainage systems and/or creek corridors and incorporate appropriate mitigation in project development.

c. Require new development to provide for the perpetual maintenance of detention basins, if necessary to support the new development.

d. Require new development to incorporate features into drainage plans that would reduce impermeable surface area, increase surface water infiltration, and minimize surface water runoff during storms.

e. Cooperate with the State and Federal agencies to encourage that streams and creeks in the south hills area be left in their natural state in order to preserve their value as percolation and recharge areas, natural habitat, scenic resources, and recreation corridors, if technically and financially feasible. If not, then the loss or modification of a creek stream should be appropriately mitigated.

f. Cooperate with San Bernardino County Flood Control District to reduce hazards caused by local flooding through maintenance and improvements to the area's storm drain system such as the jointly maintained Loma Linda storm drain.

g. Maintain current flood hazard data, and coordinate with the Federal Emergency Management Agency, San Bernardino Flood Control District, U.S. Army Corps of Engineers, and other responsible agencies to coordinate flood hazard analysis and management activities.

## 10.3 SLOPE FAILURE HAZARDS

"Slope" is defined as the vertical change in elevation over a given horizontal distance. A 10 percent slope is one that rises 10 feet over a horizontal distance of 100 feet. Hillsides, generally speaking, can be unstable platforms for development. Unless a landslide is already occurring, a steep slope can generally be thought of as existing in a state of equilibrium. When this equilibrium is disturbed, the likelihood of slope failure, soil erosion, silting of lower slopes, and downstream flooding increases.

Slope stability is dependent on rock type, pore water pressure, and slope steepness due to natural or man-made undercutting. Every slope has an angle of repose and slopes less than this angle can resist the pull of gravity and will be at rest. Slopes steeper than this angle will eventually fail. On average, the angle of repose is 35 degrees from horizontal, but varies widely. The looseness or consolidation of the material, planes of weakness and vegetative cover all affect angles of repose.

The southern portion of the City (the Badlands and South Hills) has steep natural slopes, which are susceptible to instability. The general area where slope instability may impact development is in the southern hillside area of the City (see Figure 10.1). The type of instability anticipated in this area includes deep-seated landslides, surficial soil slips, wet debris flows, and surficial creep. Most of these mapped landslides appear to be relatively recent (less than 11,000 years). Other deep-seated landslides, smaller in size and not as geomorphically pronounced, are suspected to exist in the steep terrain of the southern portion of the City.

### 10.3.1 Identified Slope Failure Hazard Issues

As the City grows, potential development will seek to locate in the southern hillsides. As noted, these hillsides are susceptible to instability and careful siting, grading, and building considerations will need to be established to avoid deep-seated landslide areas and to avoid soil erosion, silting of lower slopes, and downstream flooding.

### 10.3.2 Guiding Policy

Reduce the potential for property damage and personal injury from slope failure hazards and erosion.

**Implementing Policies**

a. Limit cut and fill slopes to 3:1 (33% slope) throughout the City to maintain slope stability unless an engineering geologist can establish to the City's satisfaction that a steeper slope would not pose undue risk to people and property.

b. Blend cut-and fill slopes with existing contours to avoid high cut slopes and steep embankments which could lead to silting of lower slopes and soil erosion.

c. Require geologic and soils reports as part of the development review process and/or building permit process for development in the affected areas to minimize slope failure.

d. Require erosion-control measures in areas of steep slopes or areas with high erosion problems on all grading plans to reduce soil erosion from wind, grading and construction operations, and stormwater runoff.

## 10.4 FIRE HAZARDS

***Wildland fire hazard area***

Wildfires are a potential hazard to development located in forest and brush areas. Due to a combination of topography, weather, fuel and exacerbated by possible high winds and limited access, portions of the Planning Area are highly susceptible to wildland fire hazards. The City has specified a boundary, signifying the areas at risk of wildland fires which is called the Urban Wildland Interface division line. This division line is identified in Figure 10.3. The greatest fire hazard can be expected to come from the adjacent hills and canyons in the southern portion of the city. This area of high fire hazard is the northern terminus of the Badlands locally referred to as the South Hills. In recent years, the South Hills has experienced the following wildfires: 2001, one wildfire; 2000, one wildfire; 1999, two wildfires; and 1998, seven wildfires.

Development of residential structures on steep slopes, brush-covered hillsides, or along ridges in the southern portion of the City is an additional source of hazard. The risk of fire damage to structures can be minimized with appropriate spacing of structures, brush clearance, fuel modification zones, building materials, built-in fire protection systems, water availability, access, and adherence to State and local fire codes.

### 10.4.1 Identified Fire Hazard Issues

The presence of human activities in or near a wildland area dramatically increases the risk of a major fire due to careless smokers, illegal campfires, off-road vehicles, and other related risks. Present wildfire-fighting techniques are designed to control wildland fire where the optimum place, response time, and equipment/resources for control can be chosen. Residential development intrusion into the lower foothills to the south and southwest creates additional problems in controlling a wildland fires due to limited firefighting facilities and lack of direct access to the areas, which lengthens response times.

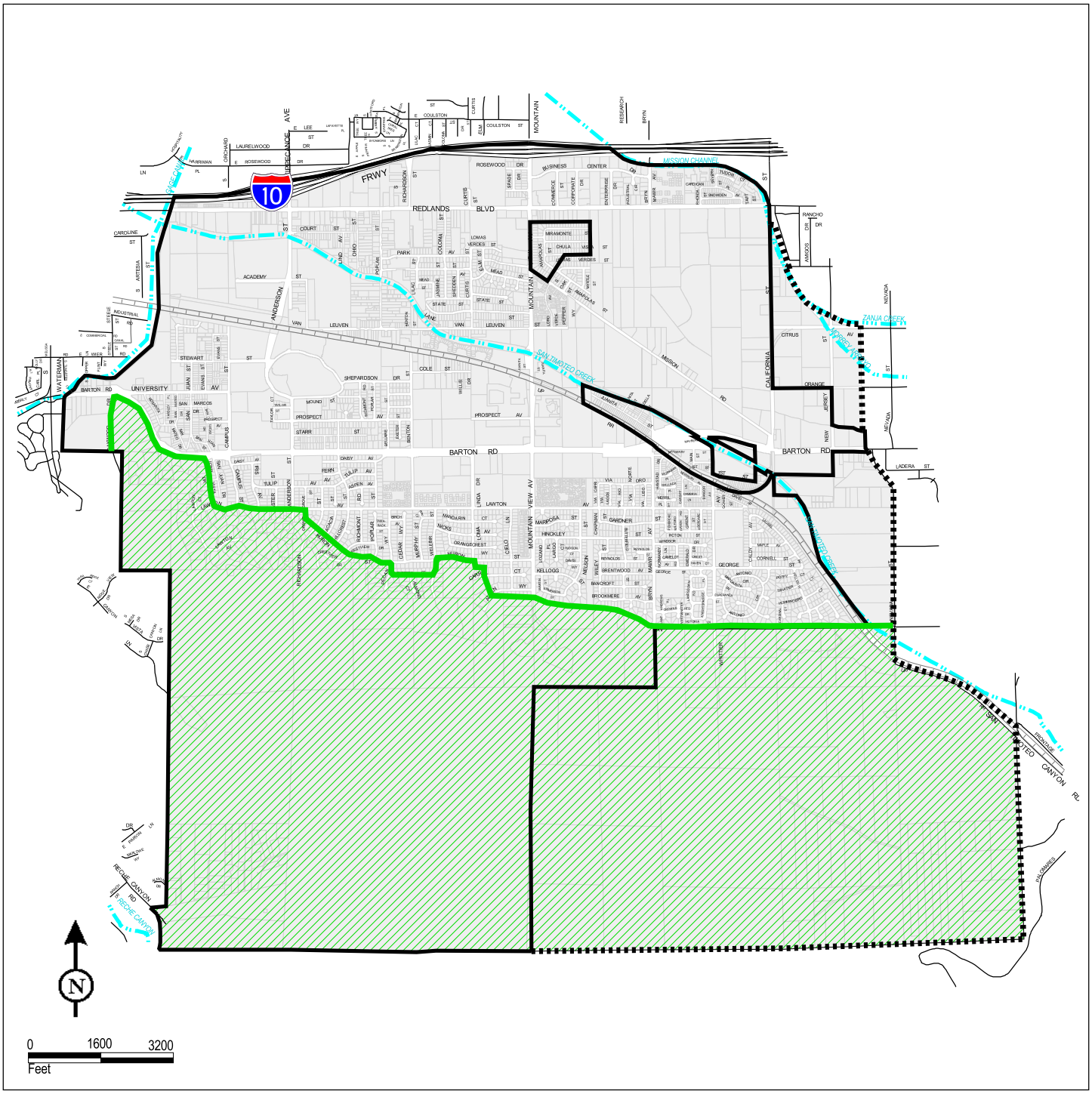


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Figure 10.3

URBAN WILDLAND INTERFACE DIVISION LINE

HAZARDOUS FIRE AREA

JURISDICTIONAL AND INFRASTRUCTURE

CITY BOUNDARY

WATER WAYS

CITY SPHERE OF INFLUENCE

RAILROAD

*City of Loma Linda General Plan*

**URBAN WILDLAND INTERFACE DIVISION LINE/HAZARDOUS FIRE AREA**

r:\lld130\gis\planmaps\lld130-prj-gplu.apr Hazardous Fire Area (06/21/04)

### 10.4.2 Guiding Policy

Minimize the threat to persons, property, and the environment resulting from wildfires.

**Implementing Policies**

a. Require fire protection agency review of all development in high fire risk areas and minimize risks accordingly.

b. Require new development in areas of high wildfire hazard to utilize fire-resistant building materials. As appropriate, require on-site fire suppression systems, including, automatic sprinklers, buffers and fuel breaks, and fire retardant landscaping.

c. Require detailed fire prevention and control measures, including, community firebreaks, for development projects in high fire hazard zones.

d. Require fire sprinklers in all structures greater than 200 square feet.

e. Prohibit single-access neighborhoods in high fire hazard areas. Provide adequate access for fire and other emergency response personnel and vegetation management programs.

## 10.5 HAZARDOUS WASTE AND MATERIALS

Hazardous materials are commonly used by all segments of our society including manufacturing and service industries, commercial enterprises, agriculture, military bases, hospitals, schools, and households. If improperly handled, stored, or disposed of, these materials can have substantial health and environmental consequences. The term “hazardous materials includes a full spectrum of substances from pre-product materials to waste. Pre-product materials are considered to have value, and are used in, or represent the purpose of the manufacturing process. These materials solvents, paints, acids and other chemicals, which, because they have value, are subject to proper transportation, storage, and use procedures. “Hazardous waste” refers to the valueless by-products of manufacturing processes and other use of materials. Hazardous waste requires proper disposal.

The City of Loma Linda has adopted the County of San Bernardino’s Area Plan for its Hazardous Materials Emergency Response Plan. Individuals within the City’s Fire and Rescue Division are trained to administer the County of San Bernardino Area Plan for a hazardous material emergency response.

***Properly identified hazardous material***

Based on discussions with the Loma Linda Fire and Rescue Division Hazardous Materials Coordinator, the most common hazardous materials and hazardous waste problems and concerns within the City and its surrounding Sphere of Influence are related to medical waste, transportation accidents, illegal dumping, underground storage tank (UST) leaks, leaking natural gas pipelines, commercial/industrial wastes, agricultural pesticides, and illegal drug laboratories. Proper identification of potential problems associated with the handling, storage, and disposal of hazardous materials will play an increasingly

important role in the anticipated residential, commercial, and economic growth of Loma Linda and its Sphere of Influence in the coming years.

### 10.5.1 Identified Hazardous Waste and Materials Issues

Hazardous materials include a wide range of potentially injurious substance including pesticides, herbicides, toxic metals and chemicals, gases and liquefied gases, explosives and volatile chemicals, biological compounds and organisms, and radioactive substances. The most common hazardous materials incidents in the City of Loma Linda involve gasoline and oil spills resulting from traffic collisions. The potential for uncontrolled release of hazardous materials from vehicular accidents is increased by the location of the I-10 adjacent to the City. Vehicles using this major transportation artery carry a wide variety of hazardous materials.

Illegal dumping of hazardous waste is a region-wide problem that is by no means unique to the City of Loma Linda. As the City of Loma Linda continues to develop, the amount of unimproved land will decrease and therefore less dumping will occur. However, the overall number of hazardous waste sites requiring cleanup as a result of illegal dumping is expected to increase due to the increasing costs of legal disposal and the phased closure of many existing hazardous waste landfills.

Many types of retail stores in Loma Linda also store hazardous materials on their shelves. If an upset such as an earthquake or fire occurs, these materials may be subject to uncontrolled release. Currently there is very little industrial development within the City of Loma Linda. As industrial development occurs in the future, the potential for new sources of hazardous materials exist.

### 10.5.2 Guiding Policy

Minimize the negative impacts associated with the storage, use, generation, transport, and disposal of hazardous materials.

**Implementing Policies**

a. Promote the reduction, recycling, and safe disposal of household hazardous wastes through public education and collection programs.

b. Support and implement policies contained in the San Bernardino County Hazardous Waste Management Plan that encourages and assist the reduction of hazardous waste from businesses and homes in Loma Linda.

c. Continue a program of regular inspections and monitoring to ensure compliance with local, State, and Federal regulations, in order to reduce the risks associated with the use and handling of hazardous materials and wastes.

d. Carefully review and require appropriate mitigation for pipelines and other channels for hazardous materials.

e. Where applicable, identify and regulate appropriate regional and local routes for transportation of hazardous material and hazardous waste by maintaining formally designated hazardous materials routes away from populated and other sensitive areas and restricting all processors and new large generators to access only along established material carrier routes.

f. Ensure adequate provisions are made for emergency responses to all crises involving hazardous materials by requiring emergency response plans for all hazardous waste processors and large generators be submitted as part of use permit application.

g. Provide educational and technical assistance to all hazardous materials users and waste generators to aid in their source reduction efforts (e.g., substitution of less hazardous products and modification of operation procedures in cooperation with the County).

h. Maintain a “Hazardous Materials” ordinance to define siting criteria to be used for various types of facilities, requirements for application submittal, and required finds for approval.

i. Locate hazardous materials facilities at a sufficient distance from populated areas to reduce potential health and safety impacts by requiring risk assessment studies to determine potential health impacts for all proposed hazardous waste processors and large generators as part of permit application submittals.

## 10.6 EMERGENCY PREPAREDNESS

The purpose of Emergency Preparedness is to protect the health, safety and welfare of the general public during and after natural, man-made (technological), or attack-related emergencies. Such emergencies include flooding, high winds, earthquakes, other geologic hazards, hazardous material and attack-related incidents, and wildfire. To handle such events effectively requires the coordination of a number of public and private agencies as well as the public safety agencies such as sheriff, fire, public works, ambulance, and health services.

The City of Loma Linda recognizes the importance of emergency preparedness through the design and implementation of the Loma Linda Emergency Operations Plan. This plan is based on the functions and principles of the Standard Emergency Management System (SEMS), which follows the FIRESCOPE Incident Command System (ICS) identifying how the City fits into the overall SEMS structure.

The California Emergency Services Act requires the City to manage and coordinate the overall emergency and recovery activities within its jurisdictional boundaries. Under SEMS, the City is responsible at two levels, the field response and local government levels. At the field response level, the City and all other agencies use ICS to aid in a standardized emergency response. At the local government level, a designated Emergency Operations Center (EOC) is used as the central location for gathering and disseminating information and coordinating all jurisdictional emergency operations within the area. During disasters, the City of Loma Linda is required to coordinate emergency operations with the San Bernardino County Operational Area and, in some instances, other local governments. Local agencies are a part of a broader Emergency Management Systems, overseen by the State of California’s Southern Region Emergency Operations Center.

### 10.6.1 Identified Emergency Preparedness Issues

During disasters, the City of Loma Linda is required to coordinate emergency operations with the San Bernardino County Operational Area and, in some instances, other local governments. Local agencies are a part of a broader Emergency Management Systems, overseen by the State of California’s Southern Region Emergency Operations Center.

### 10.6.2 Guiding Policy

Maintain a level of preparedness to adequately respond to emergency situations and disasters.

**Implementing Policies**

a. Maintain and update the City's Emergency Plan, as required by State law.

b. Maintain ongoing emergency response coordination with surrounding jurisdictions.

c. Develop a public awareness program on the nature and extent of natural hazards in the Planning Area, and ways of minimizing disasters.

d. Require all City staff to be adequately trained to respond to emergency situations and conduct regular emergency preparedness drills with local organizations including City and County Fire, Police, Emergency Medical Services, and Public Works.

e. Establish community programs that train volunteers to assist police, fire, and civil defense personnel during and after disasters.

## 10.7 AIRPORT SAFETY

The San Bernardino International Airport, a commercial airport with an instrument landing system and a 10,000-foot runway, is located 1.5 miles from the northern boundary of the City. Portions of the City fall within the 2-mile radius considered within the airport influence area as shown in Figure 10.4. According to Government Code, Section 65302.3, general plans must be consistent with the Airport Land Use Commission's plan for the area included within their jurisdiction.

### 10.7.1 Identified Airport Safety Issues

The Airport Land Use Plan for the San Bernardino International Airport has not been adopted and, therefore, compliance with airport land use compatibility policies cannot be determined at this time.

### 10.7.2 Guiding Policy

Support the San Bernardino Airport Land Use Commission.

**Implementing Policies**

a. Participate in the development of the Airport Land Use Plan.

b. Upon adoption of the Airport Land Use Plan, adopt an overlay zone for the area which specifies the criteria included in the Plan for the airport influence area.

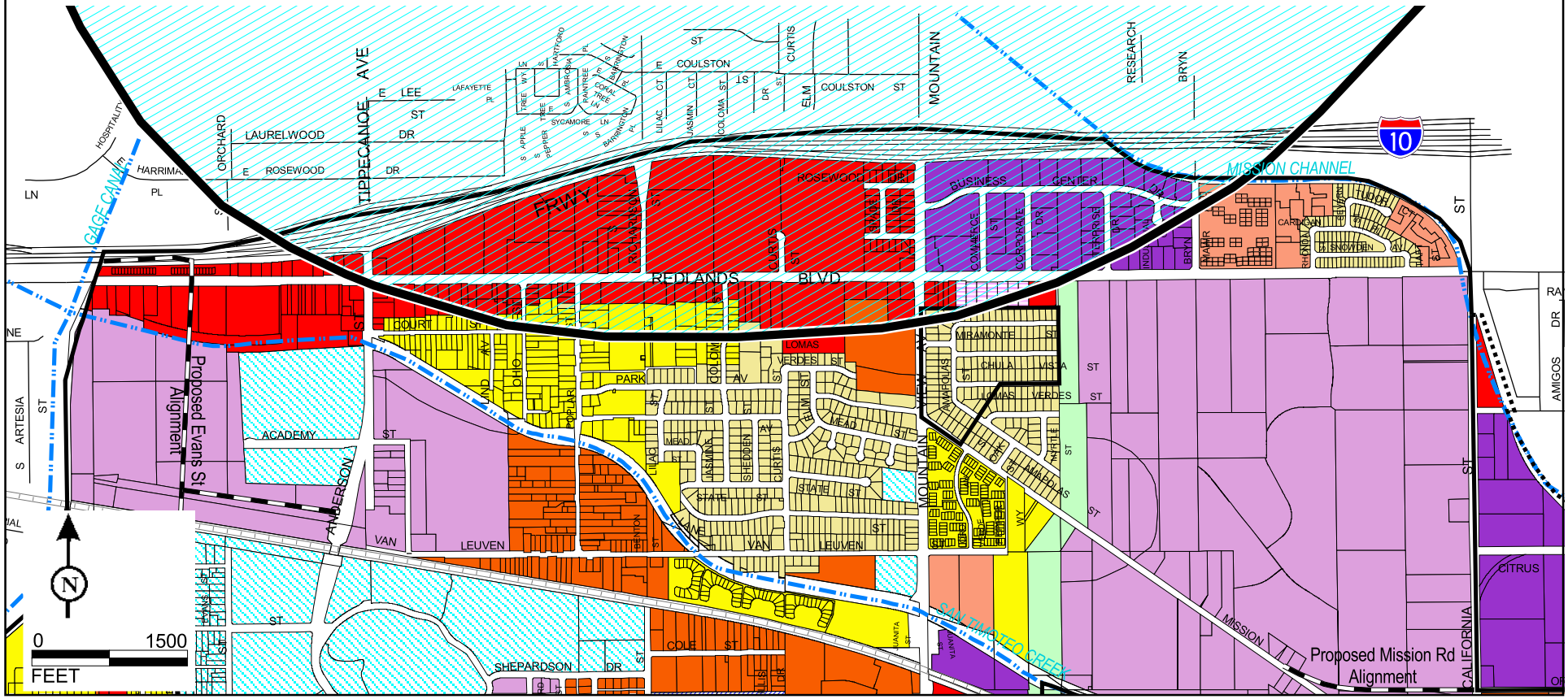
## 10.8 Railroad Crossing Hazards

The City of Loma Linda is bisected by two parallel sets of railroad tracks which serve both passenger and freight trains. In addition, a third set of tracks is under construction. Passenger or freight trains use these tracks on a continuous basis with approximately 60 trains passing through Loma Linda daily.

### 10.8.1 Identified Railroad Safety Issues

The highway-rail grade crossings present a safety hazard when drivers or pedestrians neglect or refuse to obey warning signs and signals.

# San Bernardino International Airport Influence Area




LSA

Figure 10.4

**Jurisdictinal and Infrastructure**

- City Limit
- Sphere of Influence
- Water Ways
- Proposed Street Alignments
- Rail Road
- Aiport Influence Area

**General Plan Land Use**

- Low Density Residential
- Medium Density Residential
- Medium High Density Residential
- High Density Residential
- Commercial
- Business Park
- Mixed Use
- Industrial
- Institutional
- Public Open Space

SOURCE: AIRPORT INFLUENCE AREA, CALTRANS DIVISION OF AERONAUTICS, DECEMBER 2003

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*City of Loma Linda General Plan*

**AIRPORT INFLUENCE AREA**

### 10.8.2 Guiding Policy

Minimize the threats to drivers and pedestrians at rail-highway crossings

### 10.8.3 Implementing Policies

a. Work with railroad owners to maintain grade crossing tracks and road surfaces.

b. Assist railroad companies with community education and awareness programs related to railroad safety.

c. Encourage and assist where applicable, the maintenance of warning signs and devices for railroad grade crossings.