CITY OF NORCO

GENERAL PLAN

SAFETY ELEMENT

UPDATE ADOPTION DATE: January 16, 2013

NORCO

SAFETY ELEMENT

2013 UPDATE

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1.0 INTRODUCTION TO THE SAFETY ELEMENT

The California State Legislature has placed specific responsibilities on local government for identification and evaluation of natural hazards and formation of programs and regulations to reduce risk. Specific authority is derived from Government Code Sections 65302(f) an 65302.1 which require Seismic Safety and Public Safety Elements of all city and county general plans, as follows:

> "A Seismic Safety Element consisting of an identification and appraisal of seismic hazards such as susceptibility to surface ruptures from faulting, to ground shaking, to ground failures, or to the effects of seismically induced waves such as tsunamis and seiches."
>
> "The Seismic Safety Element shall also include an appraisal of mudslides, landslides, and slope stability as necessary geologic hazards that must be considered simultaneously with other hazards such as possible faulting, ground shaking, ground failure, and seismically induced waves."
>
> "A Safety Element for the protection of the community from fires and geologic hazards including features necessary from such protection such as evacuation routes, peak load water supply requirements, minimum road widths, clearances around structures, and geologic hazard mapping in areas of known geologic hazards."

The effect of these sections was to require cities and counties to take seismic and other natural hazards into account in land use planning. The goals and policies addressing these have been combined into the Safety Element of the City of Norco General Plan. The City was incorporated to preserve a small plot agricultural/animal keeping/equestrian lifestyle. The Land Use Element establishes the primary land use goals of the community designed to maintain that lifestyle, and all other elements of the General Plan must be consistent. The Safety Element works in conjunction with the Land Use Element in providing the life quality standards that will maintain the health, safety and welfare of the City, its citizens, and the animal-keeping community. Land use based on Safety Element guidelines directs development so as not to unduly place population and development in areas with high propensities for damage due to natural disasters, without appropriate mitigation efforts in place.

1.1 PURPOSE OF THE SAFETY ELEMENT

The purpose of the Safety Element is to prevent the loss of life and property and minimize injuries and property damage in the event of hazards such as floods, fires, earthquakes, landslides, and other hazards. Natural disasters and crime safety are major concerns for any community. Norco's setting with steep hillsides to the east, the Santa Ana River to the north, and the Prado Dam basin to the west, within a seismically active region makes the Safety Element critical to buffer against the impacts of disasters

(natural or man-made) and avoid potentially disruptive effects to City government *and economic and social dislocation.*

1.2 SCOPE AND FORMAT OF ELEMENT

The element is composed of four sections. The first section includes a description of the Element's purpose and background. The second section contains the City's goals and policy statements in the event of disasters. The third section is the implementation measures. The fourth section is a glossary of terms.

2.0 SAFETY ELEMENT GOALS AND POLICIES

2.1 SAFETY ISSUES AND PROBLEMS

The Safety Element *provides the goals and policies for* responding to potential natural hazards from earthquakes, flooding and fire to providing community protection services. Goals and policies for each of these public safety issues offer a specific framework that allows the City to monitor and evaluate its efforts in the provision of public safety services.

2.1.1 SEISMIC HAZARDS: The Safety Element must establish policies to minimize the loss of property and life as a result of earthquakes. The Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act, and the Unreinforced Masonry Law in addition to map resources and information from the state Department of Conservation, Division of Mines and Geology, provide the base regulations for establishing local policies. The Alquist-Priolo Act restricts development on surface traces of known active faults. The Seismic Hazards Mapping Act directs the State Geologist to map soils susceptible to earthquake effects and the Unreinforced Masonry Law directs governments to identify susceptible buildings for abatement through retrofitting or destruction.

There are several types of seismic hazards that can be grouped in a cause-and-effect classification that is the basis for the order of their consideration. Earthquakes originate as a shock waves generated by movement along an active fault. The primary seismic hazards are ground shaking and the potential for ground rupture along the surface trace of the fault. Secondary seismic hazards result from the interaction of ground shaking with existing soil and bedrock conditions, and include liquefaction, settlement, landslides, tsunamis or "tidal waves", and seiches (oscillating waves in lakes and reservoirs).

There are no active or potentially active faults in the Norco area. However, moderately strong shaking can still be expected in the City as a result from faults in the Chino/Elsinore zone. There is also potential for liquefaction and landslides due to slope instability in the event of any strong earthquake. This potential is

relatively minor in Norco relative to other areas in California because of the hard bedrock that underlies most of the City and the absence of clay- coated bedding that is typical in most California landslides.

Thin alluvium that amplifies earthquake shaking also contributes to a moderately high liquefaction potential and can occur in Norco where the bedrock is shallow and retards the downward flow of groundwater. The only area where this is an issue is along the Santa Ana River channel. In terms of slope instability caused by ground-shaking most of the City is in an area of either Low or Very Low potential. The only area where there is a Moderate potential for slope instability is on vacant land immediately adjacent to the river in the northeast corner of the City (See Exhibit 1- Seismic Hazards Map). Nonetheless, the City can help minimize risks and have quick response to emergencies in the aftermath of seismic events when they do occur.

In 1933 unreinforced masonry commercial buildings were prohibited statewide and in 1986 the Unreinforced Masonry Law (URML) was passed requiring identification of all existing unreinforced masonry structures for seismic retrofitting (or ultimate destruction). In a report provided by the City to the California Seismic Safety Commission in 2003 there were three identified non-historic unreinforced masonry buildings in the City. In a status update report submitted in 2004 all three structures had been brought into substantial compliance with the URML so the City is considered 100 percent compliant.

2.1.2 FIRE HAZARDS: A Safety Element should identify urban fringe and rural residential areas prone to wildland fire hazards. The Element should also identify adequate evacuation routes and establish peakload water supplies to reduce impacts from fire hazards. The goals and policies should form the basis for fire safe ordinances and a strategic fire defense system of zoning for the community. The state Office of Emergency Services has prepared the Fire Hazard Mitigation Plan that maps basic statewide fire hazard areas as well as basic recommendations for reducing risk. The State Board of Forestry has also adopted the California Fire Plan which describes the environment at risk and establishes the State Responsibility Areas as a means of reducing fuel loads. Baseline Fire Hazard Severity Zones are established for adoption by local districts and agencies.

Portions of Norco are under some threat of potential wildland fires especially along the hillside areas. *From the State Fire Hazard Severity Zone Maps the* Local Response Area (LRA) Zones *have been developed* to determine the significance of *local* fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, then define the mitigation strategies to provide a system of fire protection for urban uses and protection from wildland fires (See Exhibit 2- Fire Hazards Map). LRA Zones I and II are the areas with the highest potential for wildfire impacts and as a result should incorporate additional

LEGEND

GROUNDSHAKING

A/B Boundary of ground shaking zone based on soil and/or rock conditions

- A Bedrock (weathered)
- B Alluvium of intermediate thickness (200-2000')
- C Thick alluvium and soft sediments (2000' +)
- D Thin Pliestocene alluvium (10-200')
- E Thin recent alluvium (10-200')

SECONDARY HAZARDS

LIQUEFACTION:

Boundary of area of potential liquefaction within which groundwater is shallower than 10 ft. (Ground shaking zone designation modified by "LL").

Boundary of area of potential liquefaction within which groundwater is shallower than 30 feet. (Ground shaking zone designation modified by "L").

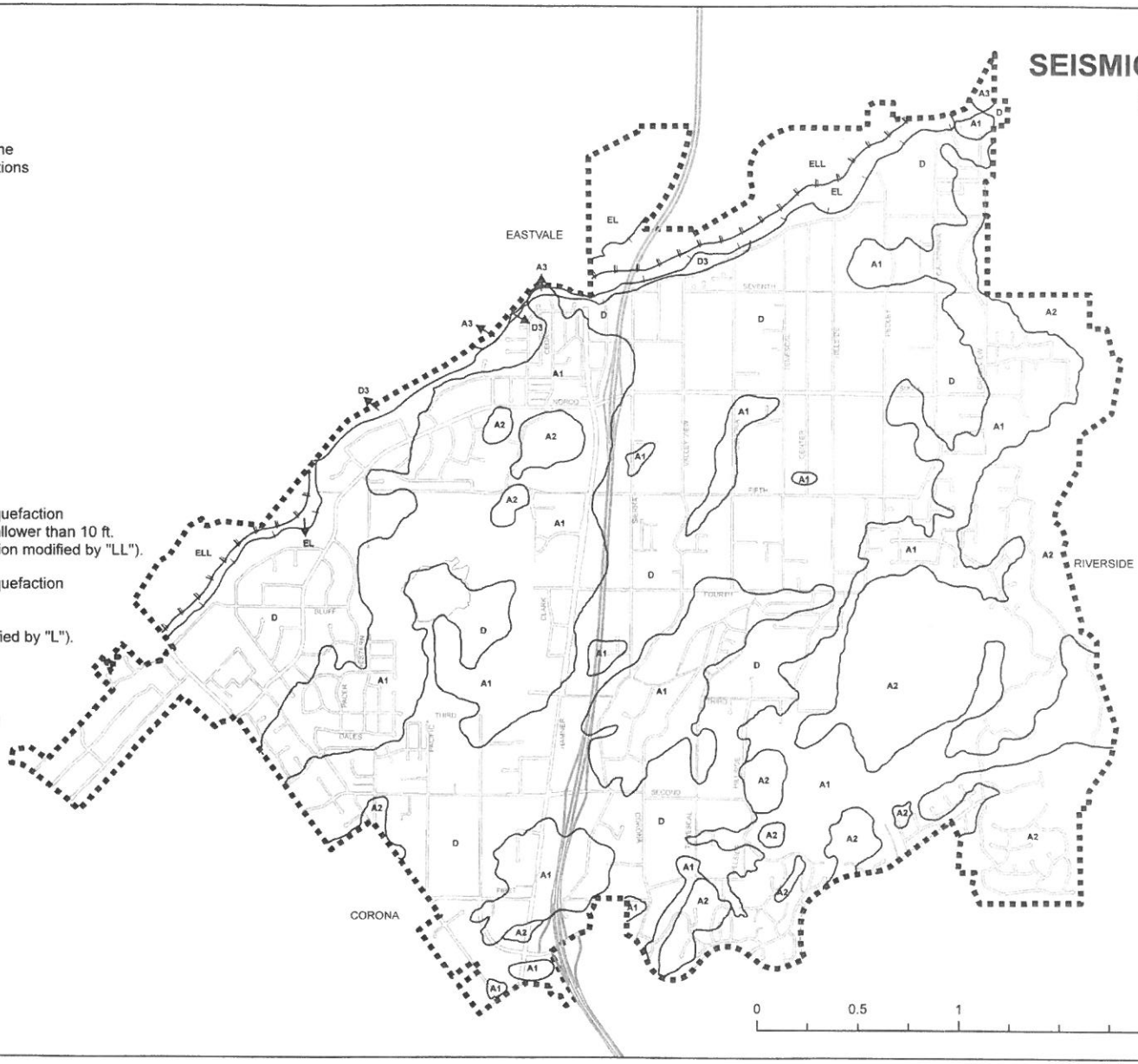
SLOPE INSTABILITY

Ground shaking zones modified as follows to indicate degree of slope instability:

1. Very Low
2. Low
3. Moderate
4. High (probable landslide)

Note: Ground shaking based on the Chino (Elsinore) Fault Zone.

SEISMIC HAZARDS MAP

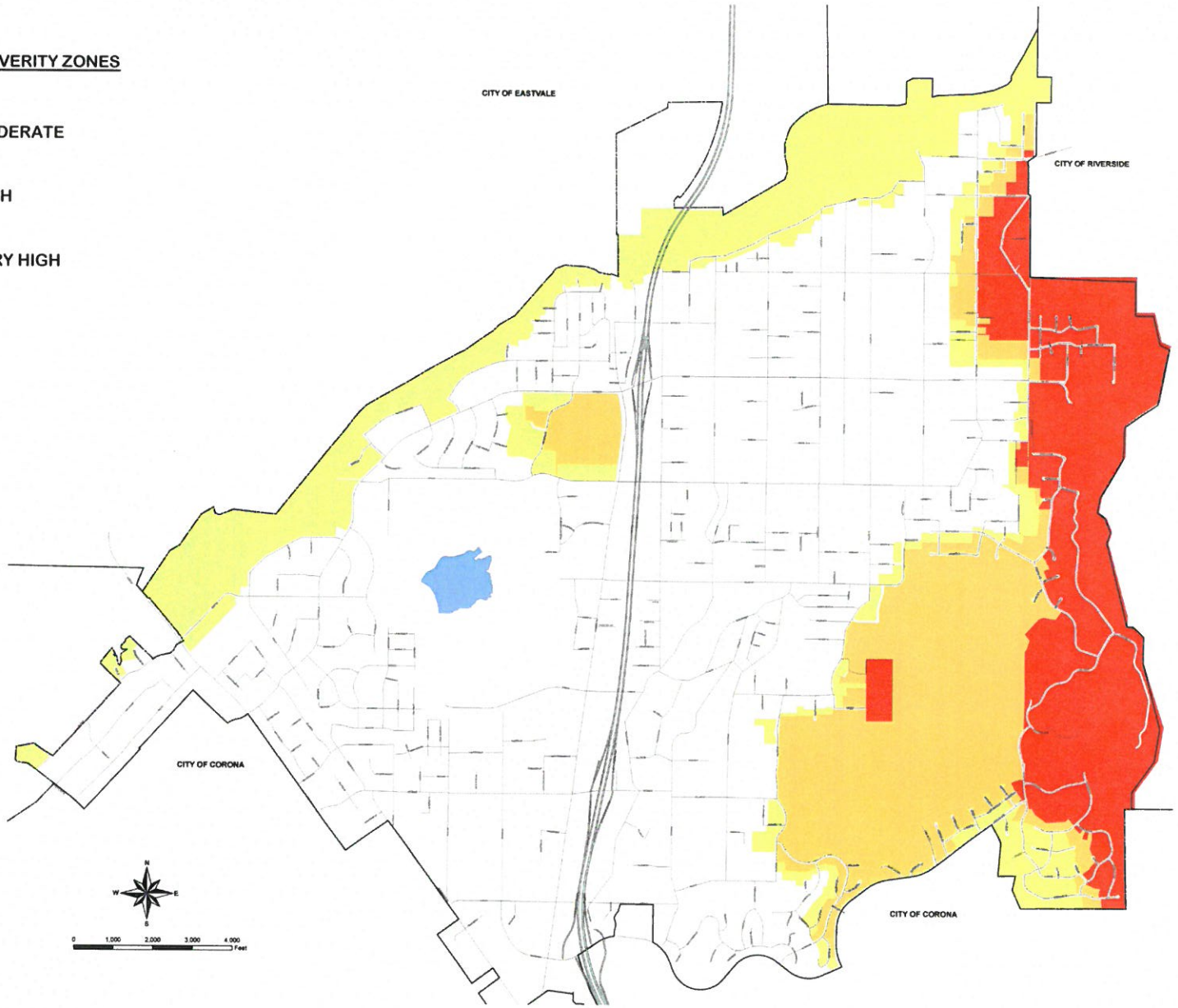


FIRE HAZARDS MAP

LEGEND

FIRE HAZARD SEVERITY ZONES

- 1. MODERATE
- 2. HIGH
- 3. VERY HIGH



Revised 1/12/2012

fire protection strategies including increased setbacks for development from fire hazard areas, better use of inflammable building and landscaping materials, vegetation clearance around structures, and maintained fuel modification zones.

The potential fire hazard situation in the City is closely related to its land use and development patterns. Residential land use constitutes a major consideration in determining fire hazard; however, due to the low density nature of the community the potential for fire hazards spreading from dwelling to dwelling is low. This same land use type, though, can also increase potential fire hazards due to excessive improper storage of flammables, old barns which contain combustible materials, limited access due to deep setbacks, improper parking in alleys and roadways, undisposed animal feces which inhibit the movement of fire personnel and equipment, wood shingle roofs, and other types of fire hazards common to residential areas.

Fire in the City's principal commercial and industrial areas can have a large financial impact on the community in terms of property taxes, sales revenue, employment, and convenience. Fire hazards in these areas are often a result of improper storage of materials or electrical failures. These types of uses require massive and immediate fire control forces if fire loss is to be kept within acceptable limits.

Open areas surrounding and within the City are a potentially dangerous fire hazards due to established and dry vegetation communities, slopes that hamper fire personnel and equipment, and development adjacent to the open areas that increase the potential for loss. The risk is further exasperated by conservation areas designed to maintain important habitat for which there are restrictions against the removal of vegetation regardless of nearby development. Approximately 20% of the City is within an open space, conservation, or limited development area.

The availability of water is a critical component to fire protection. The City is the water purveyor. The Insurance Services Office has rated the fire protection system of the City as Class 1 for its water delivery system. Class 1 is the best possible rating. The water flow requirements for single-family residential land uses is 1,500 gallons per minute (gpm). For multi-family the rate is 2,500 gpm and for commercial/industrial it is 3,000 gpm.

2.1.3 FLOOD HAZARD: The hydrologic setting for the City of Norco is atop the moderately elevated Temescal Plateau with a mean elevation of 1,620 feet. The average rainfall is 10.85 inches most of which occurs in the rainy season from late winter to early spring (December, January, February). The Santa Ana River along the City's northern edge is the primary drainage for a basin measuring over 2,000 square miles and extends from the San Bernardino mountains down to the Orange County coast`.

The Safety Element should identify flood hazard areas and establish the goals and policies to avoid unreasonable flood risks. Floodplains should be mapped with restrictions against intensive new development with mitigations against flood impacts for development that does occur. The Element should minimize flood impacts to existing development by establishing a capital improvement program to build the facilities needed to ensure flood protection.

Flooding is usually a regional problem crossing jurisdictional boundaries and needs to be addressed cooperatively with area local, state and federal agencies. The City of Norco is a participating city under the jurisdiction of the Riverside Country Regional Flood Control and Water Conservation District which constructs and maintains facilities region-wide for flood control. The Master Drainage Plan for the City of Norco is shown on Exhibit 3. The Federal Emergency Management Agency (FEMA) maintains and periodically updates Flood Insurance Rate Maps (FIRM) that are used to set the flood insurance rates for communities that adopt regulations that limit development in flood zones which Norco has done. The FIRM identify where the zones are located to help guide land use development and policies.

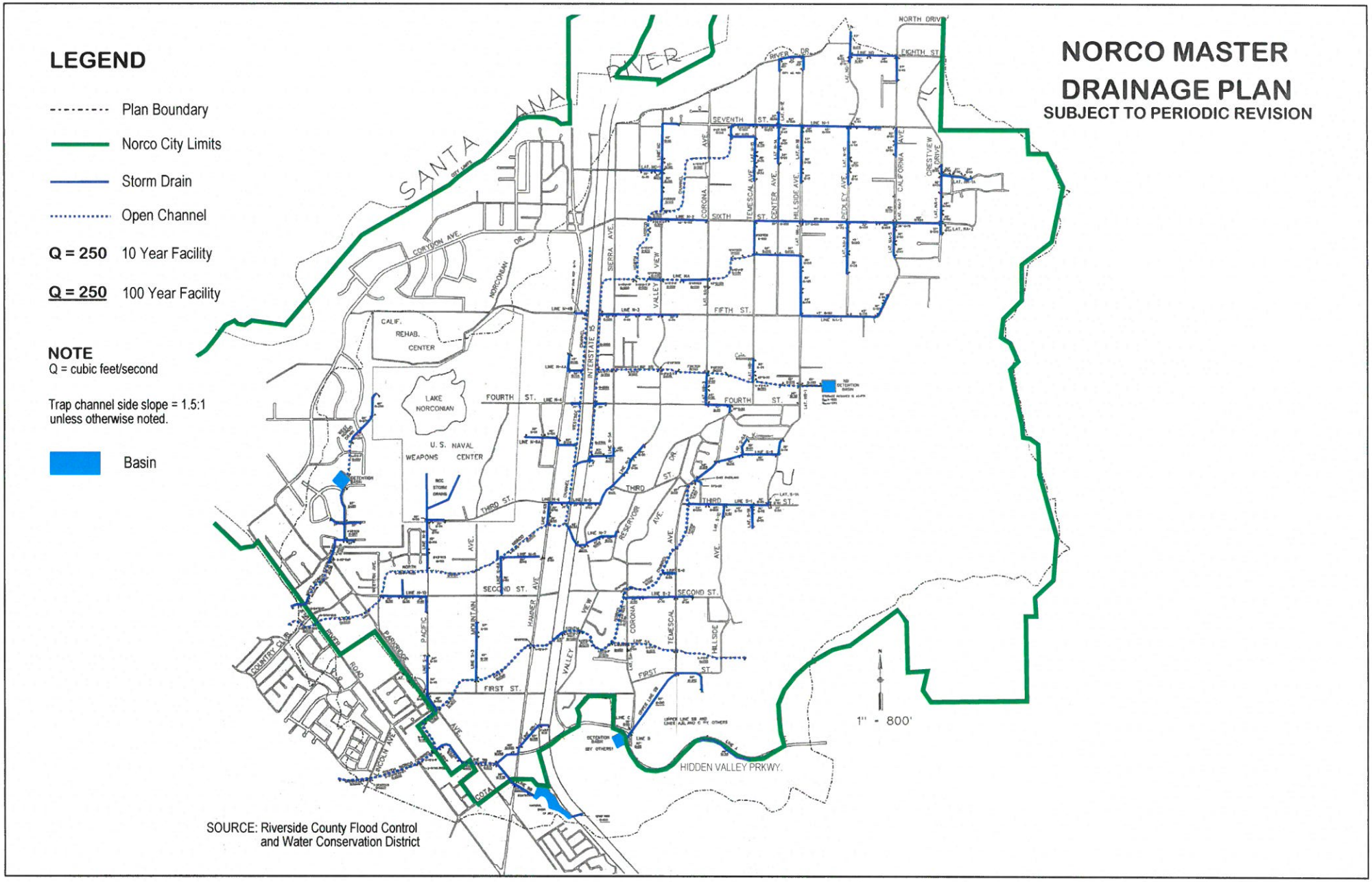
Flooding hazards in the *Safety Element* are considered in two categories: natural flooding and dam inundation. Natural flooding hazards are those associated with major atmospheric events that result in the inundation of developed areas due to overflows of nearby stream course, or inadequacies in local storm drain facilities. Dam inundation hazards are those associated with the downstream inundation that would occur given a major structural failure in a nearby water impoundment.

The City is naturally insulated against extensive natural flooding hazards from the Santa Ana River by steep bluffs that exist along the south bank of the river. In the event of a 1% Annual Flood (100-year) storm, the only areas likely susceptible to flooding would be limited to the Silverlakes Equestrian Center located in the north side of the City, a portion of the Santa Ana Riverbed along the west border, and small pockets of land around the City's flood control channels. The Safety Element identifies flood hazard areas in Exhibit 4 (Flood Hazards Map) and provides for land uses and facilities which will minimize risk to lives and property.

Remaining areas of the City are relatively flat, and in the past, this aspect of local topography has created substantial drainage problems. To help alleviate this problem, the North Norco Channel was excavated to a nominal drainage capacity, and has proven marginally adequate for storms of moderate size. However, the channel's capacity during a 1% Annual Flood storm would be inadequate and resultant flooding in the area of Sierra Avenue could be anticipated. The South Norco Channel, much like the North Norco facility, has a nominal capacity, and would also be expected to flood in the event of a 1% Annual Flood storm.

NORCO MASTER DRAINAGE PLAN

SUBJECT TO PERIODIC REVISION



SOURCE: Riverside County Flood Control and Water Conservation District

FLOOD HAZARDS MAP

LEGEND

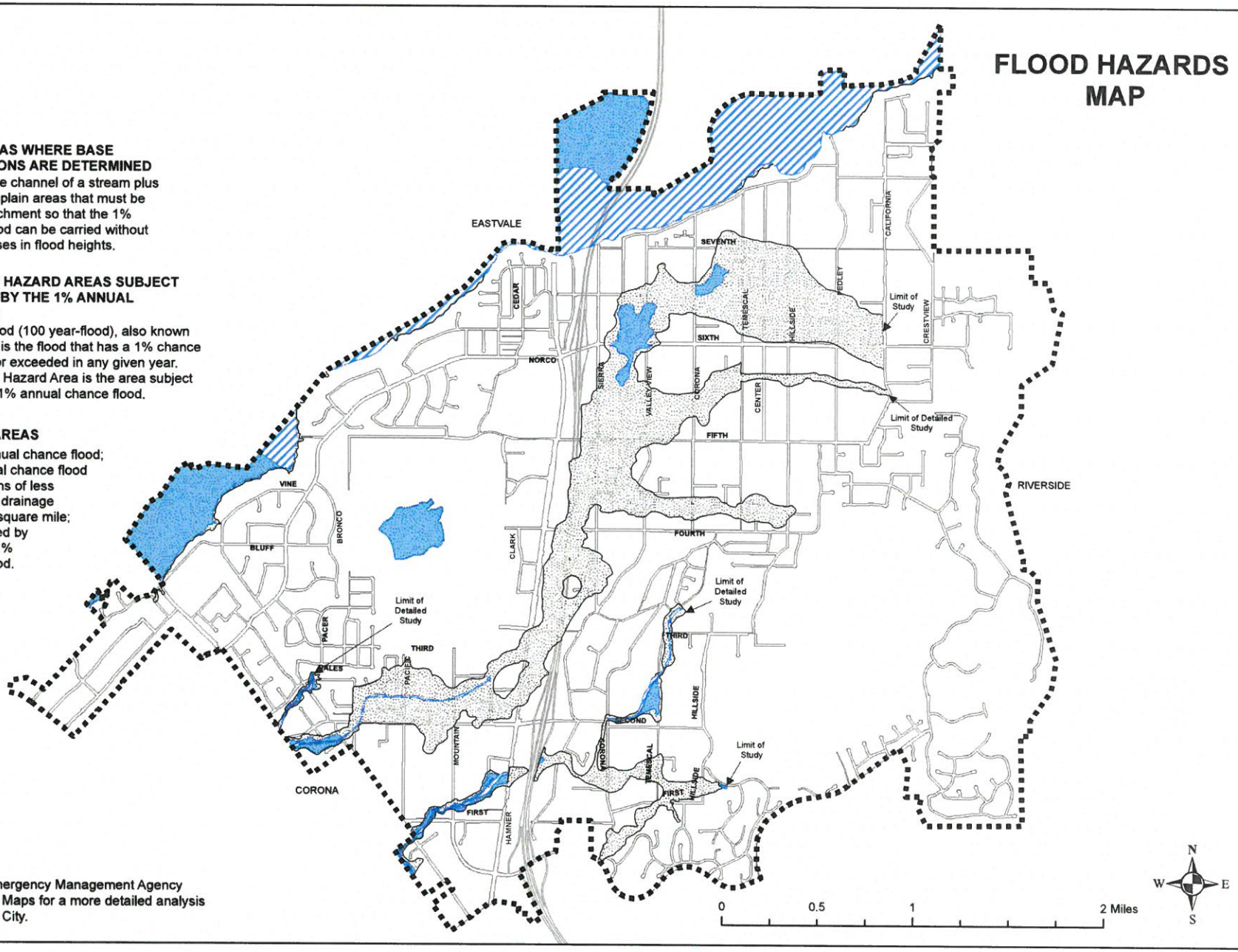
FLOOD ZONES

FLOODWAY AREAS WHERE BASE FLOOD ELEVATIONS ARE DETERMINED
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of enroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
The 1% annual flood (100 year-flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood.

OTHER FLOOD AREAS
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by leveees from the 1% annual chance flood.

Please refer to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for a more detailed analysis of the flood hazards within the City.



The City is not subject to inundation from failure of nearby dams and/or reservoirs. Even though the upper reaches of the Prado Basin would extend up the Santa Ana River channel adjacent to Norco during capacity flood conditions, the water would stay within the established river channel. The City does not lie in the inundation pathway of any major damns or reservoirs. Failure of the Seven Oaks Dam located approximately six miles upstream from Redlands in the San Bernardino Mountains should not cause significant inundation as far south as Norco.

2.1.4 SECURITY, POLICE, AND MEDICAL SERVCE: Like in all communities, residents are desirous of feeling secure and protected in their homes and community. For the City to maintain its equestrian/animal-keeping lifestyle in addition to enhancing its image as a desirable place to live and work there needs to be a plan that ensures public safety. The General Plan Safety Element assists by providing infrastructure to provide adequate response in the event of disasters and by encouraging development standards that minimize crime potential.

2.1.5 DAMAGE OR LOSS OF PROPERTY: During emergency events City personnel through the Emergency Operation Center (EOC), along with local emergency response groups and agencies should establish, and continually monitor and update locations throughout the City where damage has occurred, the extent of the damage, and the loss of property to aid individuals and businesses to re-establish and normalize conditions as quickly as possible using state and federal funds that may become available.

2.1.6 LAND USE AND DEVELOPMENT IN HAZARD PRONE AREAS: Development in hazard-prone areas shall include review by the appropriate agencies with jurisdiction over the types of hazards that could occur and affect the development being considered, so as to include appropriate mitigation measures to minimize to the extent feasible, potential damage from events.

2.1.7 EVALUATION AND RESTORATION OF LOST SERVICES: During emergency events City personnel through the EOC will establish contact as quickly as possible connections to local utility providers to provide a list of locations where service has been interrupted with updates, as available, as to when services are anticipated to be restored.

2.1.8 EVACUATION AND SHELTER: The City will maintain, in cooperation with the Corona-Norco Unified School District, local churches, and other places of assembly locations where evacuation centers and temporary shelters can be established during emergency events. Should they be needed, evacuation routes should be established based on the location and magnitude of an event. The City's main evacuation routes are the I-15 Freeway and Hamner Avenue. Secondary routes include Second Street and River Rd./Archibald Ave., California Ave./North Dr., and Mountain Ave. and Hidden Valley Pkwy./McKinley Ave.

2.1.9 MANAGEMENT OF HAZARDOUS MATERIALS: Many businesses transport, store, use, and dispose of hazardous materials. Extensive federal, state, and local regulation of these materials are established to ensure that such chemicals are not released into the environment. Even with the extensive regulations on the use and transport of these materials, there is still the potential for an accidental release into the environment. And requirements change regularly so those involved in the use or transport of hazardous materials need to maintain updated permits and information from the appropriate agencies.

The U.S. Environmental Protection Agency and Riverside County Health Department are the primary agencies that regulate the use and transport of hazardous materials in Norco. The U.S. Department of Transportation, California Department of Health Services, and Caltrans also get involved in tracking shipments, marking vehicles, and performing periodic vehicle inspections. The Fire Department maintains an updated list of businesses that store hazardous materials on-site so as to provide the appropriate response for containment during times of emergencies.

2.1.10 AIRPORT LAND USE COMPATIBILITY: Portions of the City lie within the airport influence area of the Corona Municipal Airport that is located west of the City. The influence area of an airport is determined in the Airport Land Use Compatibility Plan (ref. Exhibit 5). The principal airport/land use compatibility concerns are:

1) Exposure to airport noise;
2) Land use safety with respect to both people on the ground and occupants of aircraft;
3) Protection of airport airspace; and
4) General concerns related to aircraft overflight.

Compatibility is defined in terms of zones related to distances from runways and airport activity. Zone E is the lowest impact area. All of the areas in Norco that are within the airport influence area are within Zone E.

Table 1 shows the compatibility criteria for development within Zone E. Basically there no limitations on the density of dwelling units or the density of people per acre for commercial and other non-residential types of land uses. The only restriction is that any building structure taller than 100 feet and any single solitary structure such as an antenna higher than 35 feet need review by the Airport Land Use Commission first.

AIRPORT LAND USE COMPATIBILITY MAP

CORONA MUNICIPAL AIRPORT

LEGEND

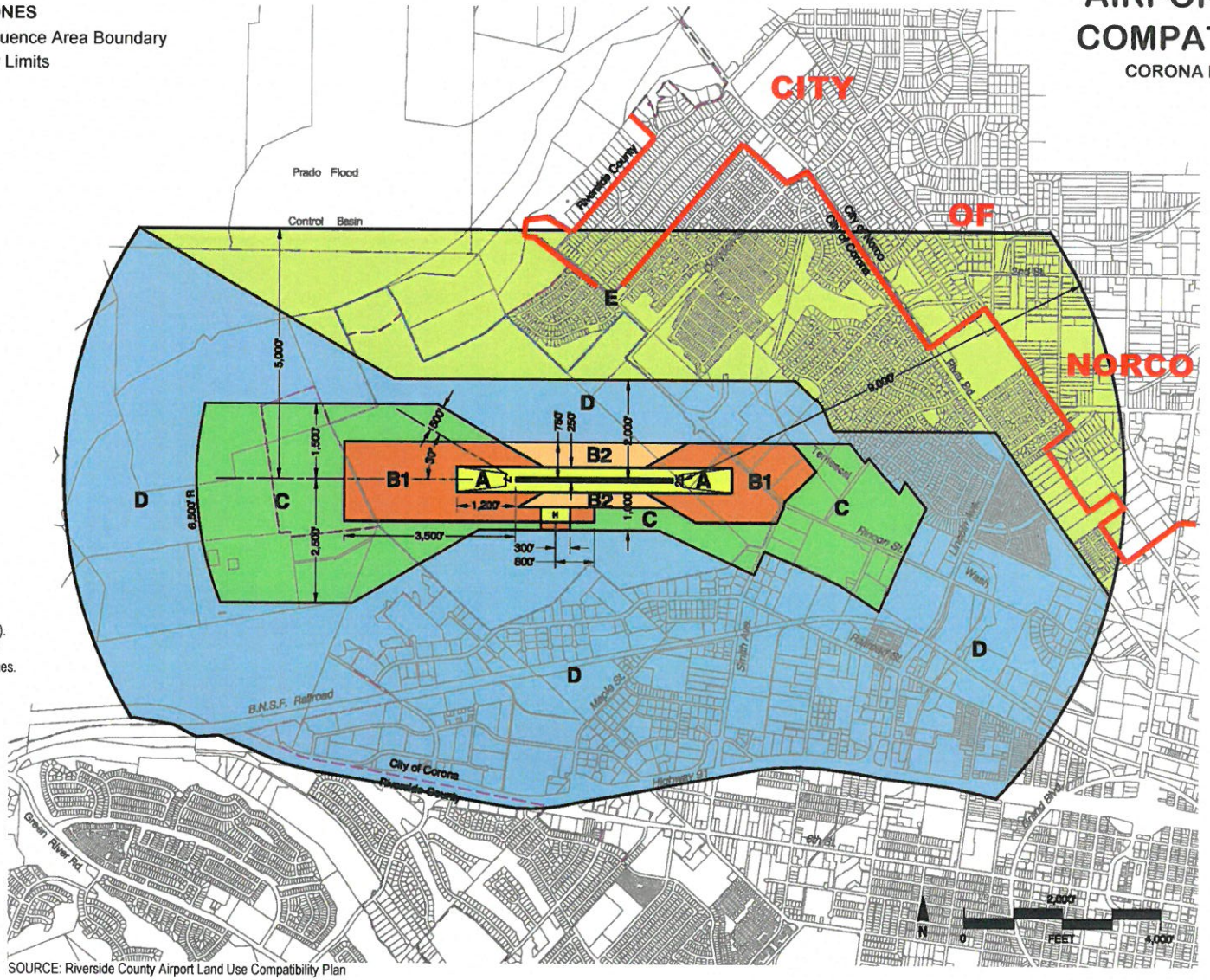
COMPATIBILITY ZONES

- Airport Influence Area Boundary
- Norco City Limits
- Area A
- Area B1
- Area B2
- Area C
- Area D
- Area E

NOTE

Compatibility criteria for each area is found on Table 1.

Airport influence boundary measured from a point 200 feet beyond runway ends in accordance with FAA airspace protection criteria (FAR Part 77). All other dimensions measured from runway ends and centerlines.



SOURCE: Riverside County Airport Land Use Compatibility Plan

TABLE 1
AIRPORT LAND USE COMPATIBILITY CRITERIA

(Table continues on next page)

Zone	Locations	Maximum Densities / Intensities: Residential (d.u./ac) [1]	Other Uses (people/ac) [2]: Average [6]	Single Acre [7]	with Bonus [8]	Req'd Open Land [3]	Additional Criteria: Prohibited Uses [4]	Other Development Conditions [5]
A	Runway Protection Zone and within Building Restriction Line	0	0	0	0	All Remaining	› All structures except ones with location set by aeronautical function › Assemblages of people › Objects exceeding FAR Part 77 height limits › Storage of hazardous materials › Hazards to flight [9]	› Avigation easement dedication
B1	Inner Approach/ Departure Zone	0.05 (average parcel size ≥20.0 ac.)	25	50	65	30%	› Children's schools, day care centers, libraries › Hospitals, nursing homes › Places of worship › Bldgs with >2 aboveground habitable floors › Highly noise-sensitive outdoor nonresidential uses [10] › Aboveground bulk storage of hazardous materials [11] › Critical community infrastructure facilities [12] › Hazards to flight [9]	› Locate structures maximum distance from extended runway centerline › Minimum NLR of 25 dB in residences (including mobile homes) and office buildings [13] › Airspace review required for objects >35 feet tall [14] › Avigation easement dedication
B2	Adjacent to Runway	0.1 (average parcel size ≥10.0 ac.)	100	200	260	No Req't	Same as Zone B1	› Locate structures maximum distance from runway › Minimum NLR of 25 dB in residences (including mobile homes) and office buildings [13] › Airspace review required for objects >35 feet tall [14] › Avigation easement dedication
C	Extended Approach/ Departure Zone	0.2 (average parcel size ≥5.0 ac.)	75	150	195	20%	› Children's schools, day care centers, libraries › Hospitals, nursing homes › Bldgs with >3 aboveground habitable floors › Highly noise-sensitive outdoor nonresidential uses [10] › Hazards to flight [9]	› Minimum NLR of 20 dB in residences (including mobile homes) and office buildings [13] › Airspace review required for objects >70 feet tall [15] › Deed notice required
D	Primary Traffic Patterns and Runway Buffer Area	**(1)** ≤0.2 (average parcel size ≥5.0 ac.) *or* [16] **(2)** ≥5.0 (average parcel size ≤0.2 ac.)	100	300	390	10%	› Highly noise-sensitive outdoor nonresidential uses [10] › Hazards to flight [9]	› Airspace review required for objects >70 feet tall [15] › Children's schools, hospitals, nursing homes discouraged [17] › Deed notice required
E	Other Airport Environs	No Limit	No Limit [18]			No Req't	› Hazards to flight [9]	› Airspace review required for objects >100 feet tall [15] › Major spectator-oriented sports stadiums, amphitheaters, concert halls discouraged beneath principal flight tracks [18]
★	Height Review Overlay	Same as Underlying Compatibility Zone				Not Applicable	Same as Underlying Compatibility Zone	› Airspace review required for objects >35 feet tall [14] › Avigation easement dedication

TABLE 1
AIRPORT LAND USE CAMPATIBILITY CRITERIA

NOTES:

[1] Residential development must not contain more than the indicated number of dwelling units (excluding secondary units) per gross acre. Clustering of units is encouraged. See Policy 4.2.5 for limitations. Gross acreage includes the property at issue plus a share of adjacent roads and any adjacent, permanently dedicated, open lands. Mixed-use development in which residential uses are proposed to be located in conjunction with nonresidential uses in the same or adjoining buildings on the same site shall be treated as nonresidential development. See Policy 3.1.3(d).

[2] Usage intensity calculations shall include all people (e.g., employees, customers/visitors, etc.) who may be on the property at a single point in time, whether indoors or outside.

[3] Open land requirements are intended to be applied with respect to an entire zone. This is typically accomplished as part of a community general plan or a specific plan, but may also apply to large (10 acres or more) development projects. See Policy 4.2.4 for definition of open land.

[4] The uses listed here are ones that are explicitly prohibited regardless of whether they meet the intensity criteria. In addition to these explicitly prohibited uses, other uses will normally not be permitted in the respective compatibility zones because they do not meet the usage intensity criteria.

[5] As part of certain real estate transactions involving residential property within any compatibility zone (that is, anywhere within an airport influence area), information regarding airport proximity and the existence of aircraft overflights must be disclosed. This requirement is set by state law. See Policy 4.4.2 for details. Easement dedication and deed notice requirements indicated for specific compatibility zones apply only to new development and to reuse if discretionary approval is required.

[6] The total number of people permitted on a project site at any time, except rare special events, must not exceed the indicated usage intensity times the gross acreage of the site. Rare special events are ones (such as an air show at the airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.

[7] Clustering of nonresidential development is permitted. However, no single acre of a project site shall exceed the indicated number of people per acre. See Policy 4.2.5 for details.

[8] An intensity bonus may be allowed if the building design includes features intended to reduce risks to occupants in the event of an aircraft collision with the building. See Policy 4.2.6 for details.

[9] Hazards to flight include physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations. Land use development that may cause the attraction of birds to increase is also prohibited. See Policy 4.3.7.

[10] Examples of highly noise-sensitive outdoor nonresidential uses that should be prohibited include amphitheaters and drive-in theaters. Caution should be exercised with respect to uses such as poultry farms and nature preserves.

[11] Storage of aviation fuel and other aviation-related flammable materials on the airport is exempted from this criterion. Storage of up to 6,000 gallons of nonaviation flammable materials is also exempted. See Policy 4.2.3(c) for details.

[12] Critical community facilities include power plants, electrical substations, and public communications facilities. See Policy 4.2.3(d) for details.

[13] NLR = Noise Level Reduction, the outside-to-inside sound level attenuation that the structure provides. See Policy 4.1.6.

[14] Objects up to 35 feet in height are permitted. However, the Federal Aviation Administration may require marking and lighting of certain objects. See Policy 4.3.6 for details.

[15] This height criterion is for general guidance. Shorter objects normally will not be airspace obstructions unless situated at a ground elevation well above that of the airport. Taller objects may be acceptable if determined not be obstructions. See Policies 4.3.3 and 4.3.4.

[16] Two options are provided for residential densities in *Compatibility Zone D*. Option (1) has a density limit of 0.2 dwelling units per acre (i.e., an average parcel size of at least 5.0 gross acres). Option (2) requires that the density be *greater than* 5.0 dwelling units per acre (i.e., an average parcel size *less than* 0.2 gross acres). The choice between these two options is at the discretion of the local land use jurisdiction. See Table 2B for explanation of rationale. All other criteria for *Zone D* apply to both options.

[17] Discouraged uses should generally not be permitted unless no feasible alternative is available.

[18] Although no explicit upper limit on usage intensity is defined for *Zone E*, land uses of the types listed—uses that attract very high concentrations of people in confined areas—are discouraged in locations below or near the principal arrival and departure flight tracks. This limitation notwithstanding, no use shall be prohibited in *Zone E* if its usage intensity is such that it would be permitted in *Zone D*.

2.2 SEISMIC SAFETY GOAL – TO CREATE A SECURE PUBLIC ENVIRONMENT WHICH MINIMIZES SOCIAL, ECONOMIC, ENVIRONMENTAL AND PROPERTY LOSSES DUE TO SEISMIC HAZARDS

2.2.1 SEISMIC SAFETY POLICY: Preparedness for primary seismic hazards (earthquakes, ground shaking) and secondary seismic hazards (liquefaction, landslides) shall continue to be promoted through the enforcement of the latest building and safety codes in both old and new structures.

Policy 2.2.1a. Continue to require all new development to conform to the currently adopted Uniform Building Code and seismic safety regulations.

Policy 2.2.1b. Maintain a program to systematically mitigate existing seismic-related structural hazards (i.e. mitigation program for unreinforced masonry buildings).

Policy 2.2.1c. Give special consideration to hazardous structures deemed to be of historical value when determining whether alteration or destruction of these facilities is necessary in mitigating the identified geologic hazards.

Policy 2.2.1d. Require site-specific geologic engineering studies in accordance with the Alquist-Priolo Earthquake Fault Zoning Act as part of the development review process, especially in areas of high potential for liquefaction as presented in Exhibit 1 (Seismic Hazards Map).

Policy 2.2.1e. Not permit an emergency or critical facility in an area of potential liquefaction and seismic geologic hazards without requiring a detailed site analysis that determines that the location of such facility will not be hazardous.

Policy 2.2.1f. Require site specific soils and geologic engineering studies to assess natural and graded slope stability for proposed developments in any areas which may be found to be of moderate to high landslide risk. Slope stability calculations should incorporate the groundshaking parameters (i.e., soil depth, groundshaking potential, and liquefaction potential) presented in Exhibit 1 (Seismic Hazards Map).

Policy 2.2.1g. Make available to the public pertinent information regarding earthquake safety, damage prevention, mitigation measures, and appropriate responses to seismic events.

Policy 2.2.1h. Continue monitoring new construction techniques and materials designed for earthquake safety and resistance to include in the design review process and incorporate into the City Municipal Code as feasible.

Policy 2.2.1i. Evaluate the risks to emergency and critical facilities from seismic activity. Take measures to minimize the risks to these facilities and ensure their continuous operation during seismic events.

2.3 FIRE HAZARD SAFETY GOAL.

2.3.1 FIRE SAFETY POLICY – The City shall maintain adequate fire protection in both urban and hillside areas through the enforcement of the latest fire codes, encouraging cooperation between the Fire department, Planning, and building divisions, and coordinating with neighboring fire departments.

Policy 2.3.1a. Coordinate with other fire protection agencies to provide adequate levels of fire protection throughout the General Plan Area, through a combination of both aggressive prevention and suppression activities.

Policy 2.3.1b. Pursue mutual response agreements between area fire districts and departments. These agreements should provide equal and reciprocal benefits and enhance the ability of local entities to provide levels of adequate fire protection.

Policy 2.3.1c. The minimum fireflow standard for low density residential construction should be 1,000 gallons of water per minute.

Policy 2.3.1d. The minimum fireflow standard for multiple-family residential construction should be 1,500 gallons of water per minute.

Policy 2.3.1e. The minimum fireflow standard for commercial and industrial developments should be 2,500 gallons per minute.

Policy 2.3.1f. Endeavor to meet and maintain adequate fire response time for all residents and businesses.

Policy 2.3.1g. Evaluate all new development to be located in or adjacent to wildland areas to assess vulnerability to fire and the potential as a source of fire. Specific design and landscaping requirements may be established to reduce fire risks to development in these areas.

Policy 2.3.1h. Encourage all fire prevention measures taken in rural or wildland areas to meet the functional needs for fire prevention, while maintaining the aesthetic character of the natural area.

Policy 2.3.1i. Consider the needs of fire prevention and suppression during project review of development projects. These include, but are not limited to, providing adequate access to buildings, adequate separation between buildings, and adequate building setbacks from fuel modification areas. Fire suppression measures also include continued implementation of adopted fire and building

codes (Title 15) pertaining to the installation of automatic fire extinguishing systems in new buildings.

Policy 2.3.1j. The City Fire Department should provide input to the Planning Division for all developments that require site plan or subdivision review prior to hearings before official commissions or the City Council. Street and driveway widths shall be adequate to provide access to sites and buildings shall be configured to provide sufficient clearances for fire suppression and other emergency access needs.

Policy 2.3.1k. During project review, include conditions of approval as warranted to mitigate projects that will be within wildland urban interface fire areas.

Policy 2.3.1l. Consider wildland fire potential and the incorporation of necessary fire prevention measures when establishing habitat conservation areas that might otherwise prohibit those measures once the area has been established as a condition of approval for project development.

Policy 2.3.1m. Continuously and systematically mitigate existing fire hazards related to existing development or patterns of development as they are identified and as resources permit.

Policy 2.3.1n. Maintain evacuation plans for areas subject to wild fires.

Policy 2.3.1o. Regularly test fire hydrants throughout the City to determine their pressures and capacities. Replace or repair faulty fire hydrants, color code hydrants by capacity and schedule improvements to portions of a system that do not meet the fire flow standards established herein.

Policy 2.3.1p. Make available to the public information regarding the prevention of wildland fires along with standard fire prevention and hazard abatement practices for all land uses.

2.4 **FLOOD SAFETY GOAL** – TO REDUCE POTENTIAL FLOOD HAZARDS FOR RESIDENTS AND BUSINESSES IN THE CITY OF NORCO

2.4.1 FLOOD SAFETY POLICY: Property damage and loss of life in the event of flooding shall be minimized through the construction of flood control facilities, and ensuring that structures built on the floodplain can withstand a 1% annual chance flood (100-year flood).

Policy 2.4.1a. Exhibit 3 (Flood Hazards Map) identifies the location of potential areas subject to inundation due to dam failure or a 1% annual chance flood as determined by the Federal Emergency Management Agency (FEMA). Evaluate all developments proposed in these areas to minimize the risks of life or property.

Policy 2.4.1b. Maintain compliance with FEMA's rules for development in regulatory floodplains and floodways. Establish and maintain guidelines for development of additional areas subject to periodic inundation.

Policy 2.4.1c. Relocate or protect all existing emergency or critical facilities determined to be in the 1% annual chance flood area, as shown in Exhibit 3 (Flood Hazards Map), or as later defined through specific engineering studies, as funds are available.

Policy 2.4.1d. Prohibit the placement of emergency facilities in the 1% chance annual flood area, as shown in Exhibit 3 (Flood Hazards Map) or as later defined through specific engineering studies. Critical facilities should only be permitted if adequate flood protection measures are taken.

Policy 2.4.1e. Encourage the continued construction of flood control facilities to protect areas threatened by inundation, emphasizing underground channels or facilities that give the appearance of natural water courses.

Policy 2.4.1f. Maintain evacuation plans for areas that could be affected by flooding or dam failure (As shown in Exhibit 3 - Flood Hazards Map) with special emphasis on critical and emergency facilities.

Policy 2.4.1g. Permit development in a floodplain only if it possesses minimal risk to lives and property and is adequately designed so that all structures are capable of withstanding a 1% annual chance flood or greater.

Policy 2.4.1h. Discourage the construction of schools and other places of public assembly in areas subject to inundation as shown in Exhibit 3 (Flood Hazards Map).

Policy 2.4.1i. During project review require drainage studies (as needed) by a qualified engineer to certify that new development will be adequately protected and that project development will not create new downstream flood hazards.

Policy 2.4.1k. Require erosion and flood control improvements to be consistent with Regional Water Quality Control Board Best Management Practices (BMP's) and encourage the incorporation of natural landscaping and pervious surfaces in site design review.

2.5 SECURITY, POLICE, AND SAFETY GOAL- THE ENSURE THAT EQUIPMENT AND STRUCTURES DESIGNED TO PROVIDE EMERGENCY DISASTER SERVICES ARE LOCATED AND DESIGNED TO FUNCTION AFTER A DISASTER OR EMERGENCY EVENT.

2.5.1 SECURITY AND SAFETY POLICY: Reliable and timely emergency response during emergencies shall be maintained by ensuring the integrity of emergency facilities.

Policy 2.5.1a. Mitigate deficiencies, if any, in the location or construction of the City's disaster and relief equipment and structures in accordance with the policies and recommendations for implementation in this Plan.

Policy 2.5.1b. Subject all future disaster relief equipment and structures to careful locational and engineering scrutiny based upon the currently adopted Uniform Building Code and other applicable regulations.

Policy 2.5.1c. Prepare, implement, and maintain a Local Hazard Mitigation Plan, which will incorporate a plan regarding the specific roles of different emergency facilities in case of a flood, fire, or seismic related disaster.

2.5.2 POLICE SERVICE POLICY: The City shall endeavor to provide a safe, low-crime environment through neighborhood watch programs, citizen patrols, and ensuring adequate police response times.

Policy 2.5.2a. Endeavor to provide a minimum response time of 5 minutes on all priority 1 calls and 12 minutes on all priority 2 calls. Priority 1 calls include those of a life-threatening nature such as: robbery in progress, accident involving bodily injury, death-threatening situation, a person unable to breathe, and violent crimes in process. Priority 2 calls include those that are not life threatening such as: burglary past, petty theft, shoplifting.

Policy 2.5.2b. Maintain inter-agency cooperation with other policing agencies within the General Plan Area to provide adequate levels of protection through a combination of crime prevention and law enforcement activities.

Policy 2.5.2c. Maintain a decentralized and neighborhood level police service with community volunteer groups such as citizen/equestrian patrols and neighborhood watch programs.

2.5.3 SECURITY DESIGN PROGRAM POLICY: The City will work to reduce crime potential in the urban environment by making sure that any input regarding crime-reduction strategies from the Planning Division and the Sherriff's Department are considered in all development plans.

Policy 2.5.3a. Through zoning, subdivision and building regulations, and environmental assessment practices, the City should encourage development that will increase or better ensure the public's safety.

Policy 2.5.3b. Encourage and implement appropriate utilization of defensible space design concepts in new developments.

Policy 2.5.3c. Encourage community crime prevention measures, such as building security hardware that could result in a reduction in insurance premiums and other economic incentives.

Policy 2.5.3d. Consider public security policies in the development of specific and community plans.

Policy 2.5.3e. Promote land use and design policies and regulations which encourage a mixture of compatible uses to promote and increase the safety of public use areas and pedestrian/equestrian travel.

Policy 2.5.3f. Systematically mitigate crime hazards related to urban development or patterns of urban development as they are identified and as resources permit.

Policy 2.5.3g. Advocate and support regional efforts to accelerate the adoption of crime reduction measures incorporating physical planning techniques, such as those of the Southern California Association of Governments and the California Council on Criminal Justice.

Policy 2.5.3h. Encourage and support continued research efforts, such as those funded by the Federal Law Enforcement Assistance Administration, to implement design/planning crime prevention strategies.

2.6 EVACUATION AND EMERGENCY MANAGEMENT GOAL- PROVIDE ADEQUATE LEVELS OF EMERGENCY RESPONSE TO ALL RESIDENTS IN NORCO.

2.6.1 MEDICAL EMERGENCY RESPONSE POLICY: The City will ensure adequate medical response times by continuing to pursue mutual response agreements, and making sure that medical responders coordinate with the Sherriff and Fire Departments.

Policy 2.6.1a. Maintain appropriate emergency response levels for medical emergencies. Maintain mutual response agreements among public service agencies that support interagency cooperation in response to medical emergencies.

Policy 2.6.1b. Establish working relationships with local amateur radio clubs and service organizations that can provide assistance in disaster assessment and recovery efforts.

2.6.2 EVACUATION POLICY:

Policy 2.6.2a. In the event of an outbreak of a major emergency, the EOC shall establish evacuation routes immediately to implement should they become needed.

2.7 ANIMAL SAFETY GOAL- PROTECT THE ANIMAL COMMUNITY BOTH IN TERMS OF ON-GOING ANIMAL SAFETY PRACTICES AND IN EVACUATION AND RESCUE OPERATIONS DURING EMERGENCY SITUATIONS.

2.7.1 ON-GOING ANIMAL PROTECTION POLICY: The City will maintain adequate resources to monitor animal-keeping conditions with appropriate enforcement actions where animal safety is a concern.

Policy 2.7.1a. Maintain standards for the evaluation and intervention as needed to maintain animal-safety community-wide.

2.7.2 ANIMAL RESCUE POLICY: The City should continue to work with community volunteers and Animal Control for the safe evacuation of animals during emergency situations.

Policy 2.7.2a. Continue to work with community volunteers and Animal Control to ensure that animal safety is maintained to the extent feasible during emergency situations and operations.

Policy 2.7.2b. Maintain and update a list of locations available for the evacuation of animals during emergency situations.

Policy 2.7.2c. The City should offer inter-agency cooperation its experience, knowledge, and facilities for the rescue and evacuation of animals in area jurisdictions during emergency events.

2.8 HAZARDOUS MATERIAL MANAGEMENT GOAL- PROTECT LIFE AND PROPERTY FROM ADVERSE RISK FROM THE TRANSPORTING, STORING, TREATING, AND DISPOSING OF HAZARDOUS MATERIALS AND WASTE MATERIALS WITHIN THE CITY.

2.8.1 HAZARDOUS MATERIAL MANAGEMENT POLICY: Through the annual business license renewal program ensure that businesses involved in the use of hazardous materials are in compliance with federal, state, and local regulations.

Policy 2.8.1a. For businesses or individuals involved in the use of hazardous materials require proof of compliance with all jurisdictional agencies (federal, state, and local) prior to issuance or renewal of a business license.

Policy 2.8.1b. When determined feasible and/or necessary by the Fire Department require established routes of transport or disposal of hazardous materials to avoid potential impact to sensitive land uses from materials being routinely transported.

Policy 2.8.1c. Make available to the public information on the proper use and storage of hazardous materials.

Policy 2.8.1d. The Fire Department, through project and business license reviews, should maintain a list of locations with known storages of hazardous materials along with appropriate evacuation, response, and clean-up that may have to occur during emergency events that can cause spillage.

Policy 2.8.1e. The Fire Department should maintain a list of known locations with hazardous materials for the protection of citizens and businesses in the event of spillage due to and emergency situation.

2.9 AIRPORT LAND USE COMPATIBILITY GOAL- ARTICULATE POLICIES AND PROCEDURES FOR AIRPORT COMPATIBILITY TO PROTECT LIFE AND PROPERTY FROM ADVERSE RISK FROM AIRPORT OPERATIONS AT CORONA MUNCIPAL AIRPORT.

2.9.1 AIRPORT LAND USE COMPATIBILITY POLICY: Through coordination with the Riverside County Airport Land Use Commission (ALUC) ensure that any proposed new development and any change in General Plan Land Use is consistent with the established policies of the Riverside County Airport Land Use Compatibility Plan.

Policy 2.9.1a. A determination of consistency should be obtained from the ALUC for any proposed development or General Plan Amendment that is not already deemed exempt by the Airport Land Use Compatibility Map and Policies.

Policy 2.9.1b. Proposals for new development consisting of buildings taller than 100 feet and other single solitary structures such as antenna that exceed 35 feet high shall be submitted for recommendation from the ALUC prior to receiving approval from the appropriate City body.

Policy 2.9.1c. The location within an airport land use compatibility area does not preclude: 1) the construction of a single-family home or second unit that is permitted by local land use regulations, 2) expansion or approvals on existing structures that do not exceed height limitations, and 3) lot line adjustments that do not exceed the density identified in the Airport Land Use Compatibility Criteria.

3.0 SAFETY PLAN IMPLEMENTATION

The Safety Element addresses a range of potential hazardous situations and what measures are needed to ensure maximum safety for citizens in the time of an event, minimum loss of property, and with minimal social and economic dislocation impacts. Implementation measures are summarized below:

3.1 MITIGATION TO POTENTIAL GEOLOGIC HAZARDS

3.1.1 DEVELOPMENT STANDARDS FOR GEOLOGIC HAZARDS: Establish and implement standards prior to site development and land division ensuring geotechnical safety measures as needed, specific for the site in question, in terms of the potential for ground-shaking and secondary seismic impacts from liquefaction, slope failure, subsidence, mudslides, and seiches. Standards should also address other potential geologic hazards as needed, such as cliff erosion.

Responsible Agency: Building Division, Planning Division

Funding Source: Development impact fees, exactions; application fees.

Time Frame: Ongoing

3.1.2 REHABILITATION/REPLACEMENT OF PUBIC INFRASTRUCTURE: Periodically perform inspections of primary circulation features, bridges, water delivery facilities, public safety facilities, and other critical facility infrastructure to ensure that structures built prior to current standards designed to withstand earthquake impacts, are replaced when there is reasonable concern of collapse if such an event were to occur.

Responsible Agency: Public Works Department, Building Division, Riverside County Flood Control and Water Conservation District, and Riverside County Department of Transportation and Land Use Management.

Funding Source: Development impact fees/exactions, City and County capital improvement programs, and available State and Federal funds.

Time Frame: Ongoing

3.2 MITIGATION TO POTENTIAL FLOOD HAZARDS

3.2.1 DEVELOPMENT STANDARDS FOR FLOOD HAZARDS
Establish and implement standards prior to site development or land division, for the site in question, in terms of the potential for flooding due to a 1% Annual Flood Occurrence, or inundation from other types of events including dam failure.

Responsible Agency: Building Division, Planning Division, Public Works Department, and Riverside County Flood Control and Water Conservation District.

Funding Source: Development impact fees/exactions, application fees.

Time Frame: Ongoing

3.2.2 *MAINTENANCE OF FLOOD CONTROL FACILITIES*
Periodically perform inspections of flood control facilities for maintenance cleaning and repairing on an as-needed basis.

Responsible Agency: Public Works Department and Riverside County Flood Control and Water Conservation District.

Funding Source: City water funds and County capital improvement and maintenance programs, and available State and Federal funds.

Time Frame: Ongoing

3.2.3 *FLOODPLAIN MANAGEMENT*
Maintain non-structural approaches and cooperative alliances with area jurisdictions to support zoning and regulations needed to maintain qualification for FEMA's National Flood Insurance Program.

Responsible Agency: Public Works Department and Riverside County Flood Control and Water Conservation District.

Funding Source: Water Department and County general funds, and available State and Federal funds.

Time Frame: Ongoing

3.3 *MITIGATION TO POTENTIAL FIRE HAZARDS*

3.3.1 *DEVELOPMENT STANDARDS FOR FIRE HAZARDS*
Establish and implement policies, standards, and restrictions to reduce the risk from urban fire hazards in new development and land divisions.

Responsible Agency: Fire Department, Planning Division, Building Division.

Funding Source: City general fund, and available State and Federal funds.

Time Frame: Ongoing

3.3.2 STRATEGIES TO PREVENT OR MITIGATE WILDLAND FIRE HAZARDS
Establish the different strategies for the protection and maintenance of property based on the fire hazard levels identified in the Fire Zones Map.

Responsible Agency: Fire Department.

Funding Source: City general fund, and available State and Federal funds.

Time Frame: Ongoing

3.4 *EMERGENCY CONTIGENCY PLANS*

3.4.1 EMERGENCY RESPONSE AND EVACUATION: Establish and be familiar with post-event contingency plans for emergency response and evacuation scenarios. Responsible Agency: Fire Department, Sheriff's Department, City Emergency Operation Center staff.

Funding Source: City general fund, and available State and Federal recovery funds.

Time Frame: On-going for preparedness.

3.4.2 EMERGENCY HOUSING AND RECONSTRUCTION: Establish contingency plans for post event short term emergency housing and long term reconstruction scenarios.

Responsible Agency: Fire Department, Sheriff's Department, City Emergency Operation Center staff.

Funding Source: City general fund, and available State and Federal recovery funds.

Time Frame: Event specific and on-going for evacuation preparedness.

4.0 GLOSSARY OF TERMS

Airport Influence Area: Areas where airport-related factors may significantly affect land uses or necessitate restrictions on those uses as determined by the Riverside County Airport Land Use Commission.

Airport Land Use Commission: Established in each county through the California Public Utilities Code to ensure orderly development of air transportation facilities compatible with surrounding land uses, and vice versa. Commission members are appointed by the County Board of Supervisors, City Councils, and selection committees appointed by the Commission.

Alluvium: Loose, unconsolidated sediment deposited by flowing water usually in a riverbed, floodplain, or delta.

Alquist-Priolo Fault Zone: Regulatory zones that encompass surface traces of active faults that have a potential for future surface fault rupture. There is no Alquist-Priolo Earthquake Fault Zone in or near the City of Norco.

Best Management Practice: A measure implemented to control water pollution to the nations' water stream from urban wastewater and storm water run-off.

Clay-coated Bedding: Oriented clay coating on individual soil and mineral grains.

Emergency Operation Center (EOC): A central command post/control facility to bring together key personnel responsible for emergency management and continuity of operations during times of disasters affecting the City of Norco. The Norco EOC is located at the County of Riverside/Calfire Station 47 at 3902 Hillside Avenue, Norco.

Faulting: A place where sections of the earth's crust move relative to one another along a crack in the crust

where one section is displaced with respect to the other.

Federal Emergency Management Act (FEMA):
A federal agency of the United States created to coordinate responses to disasters that overwhelm state and local resources.

Fire Hazard Zone: Fire Hazard Severity Zone maps adopted by Cal Fire that delineate those areas that are more prone to damage from wildland fires due to fire history, available fuels (vegetation), terrain, weather, and other relevant local factors that may exist.

Fire flow Standard: An estimate of the amount and duration of water needed to provide municipal fire protection.

Floodplain: Land adjacent to a river, stream, or tributary channel that periodically floods during high levels of rainfall and run-off in a short period of time where the run-off is not contained within the standard banks of the channel; areas that have historically flooded during these incidents.

Floodway: The channel of a watercourse that is needed to discharge run-off from a flooding incident that has a 1% chance of occurring each year, or more commonly referred to as a "100-year flood", the largest anticipated flood event in a 100-year period.

Fuel Modification Area/Zone:
Fuel modification area is that portion of the City within a "Very High" Fire Hazard Area where "defensible spaces" around homes should be incorporated. The fuel modification zone is that area around a home defined as the defensible space to protect the home from wildland fires. It provides adequate room for firefighters to fight fires, and is an area where the vegetation should be minimized/ reduced and replaced with fire-resistant species.

Ground Failure: A general reference to impacts caused by seismic activity that reduce the stability of the ground resulting in landslides, liquefaction, lateral spreads, etc.

Ground Shaking: Caused by the passage of seismic waves, especially near the surface, from earthquakes and is the trigger for damage resulting from ground failure depending on the magnitude of the earthquake.

Hazardous Material: Any item or agent (biological, chemical, radiological, and/or physical) that has the potential to cause harm to humans, animals, or the environment, either by itself of through interaction with other factors.

Liquefaction: A seismic event, generally cause by ground shaking, that occurs in saturated, loose, fine to medium-grained soils that result in soils losing its bearing strength so as to behave much like a liquid. The depth of groundwater is generally within 50 feet of the surface in areas where liquefaction can be a problem. While Norco is designated "Moderate to High" for potential liquefaction threats in the Riverside County Implementation Plan based on the shallow ground water, the type of soils generally negates this potential. However, detailed soils studies will identify site specific threats before development should be allowed to occur.

Local Hazard Mitigation Plan (LHMP):
A requirement of the Disaster Mitigation Act of 2000, each jurisdiction that receives federal disaster assistance needs to have in place an LHMP to provide mitigation planning and implementation efforts of possible future disasters. The development of the LHMP includes reviews of past disasters, estimates the probability of future occurences, and sets goals to mitigate potential risks from natural and man-made disasters.

One-Percent (1%) Annual Flood:
A flood event of such a magnitude that it only has a one-in-100 chance of occurring in a one-year period; or once every 100 years.

Settlement:	Downward movement of underlying layers of soil due to excessive loading on top that is in excess of the bearing capacity of the soil below.
Seiches:	Standing waves created on rivers, reservoirs, ponds, and lakes when seismic waves pass through an area.
Subsidence:	Downward movement of underlying layers of soil due to the withdrawal of moisture causing shrinkage within the structure of the soil itself.
Wildland Fire:	A non-structural fire, natural and human-caused, that occurs in an area where development is sparse except for roads powerlines, and similar transportation facilities. A pre-scribed wildland fire is one that is ignited for management purposes to achieve specific pre-planned objectives. Wildland fire use is the appropriate management response to a naturally-ignited wildland fire to accomplish specific resource management objectives.