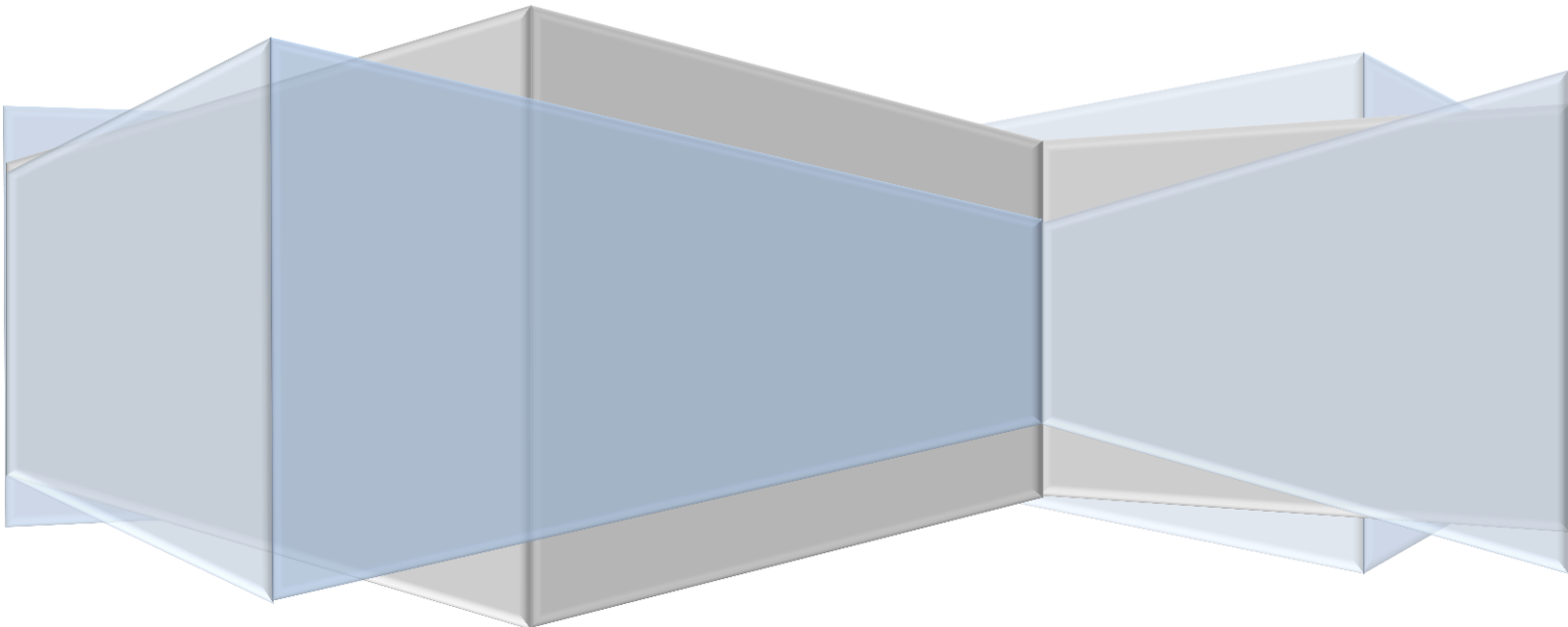


**CITY OF NORCO**  
**ANNEX**  
**LOCAL HAZARD**  
**MITIGATION PLAN**

**March 2017**

**PREPARED BY: SCOTT LANE**

**FIRE BATTALION CHIEF – CITY OF NORCO  
CAL FIRE/RIVERSIDE COUNTY FIRE DEPT.**



# CONTACT INFORMATION

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## PLAN ADOPTION/RESOLUTION

The City of Norco will submit plans to Riverside County Emergency Management Department who will forward to CALOES for review prior to being submitted to FEMA. In addition, we will wait to receive an “Approval Pending Adoption” before taking the plan to our local governing bodies for adoption. Upon approval, the City of Norco will insert the signed resolution.

## EXECUTIVE SUMMARY

The purpose of this local hazard mitigation plan is to identify the City's hazards, review and assess past disaster occurrences, estimate the probability of future occurrences and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards.

The plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 to achieve eligibility and potentially secure mitigation funding through Federal Emergency Management Agency (FEMA) Flood Mitigation Assistance, Pre-Disaster Mitigation, and Hazard Mitigation Grant Programs.

The City of Norco's continual efforts to maintain a disaster-mitigation strategy is on-going. Our goal is to develop and maintain an all-inclusive plan to include all jurisdictions, special districts, businesses and community organizations to promote consistency, continuity and unification.

The City's planning process followed a methodology presented by FEMA and CALOES which included conducting meetings with the Operational Area Planning Committee (OAPC) coordinated by Riverside County Fire and Riverside County Emergency Management Department comprised of participating Federal, State and local jurisdictions agencies, special districts, school districts, non-profit communities, universities, businesses, tribes and public.

The plan identifies vulnerabilities, provides recommendations for prioritized mitigation actions, evaluates resources and identifies mitigation shortcomings, provides future mitigation planning and maintenance of existing plan.

The plan will be implemented upon FEMA approval.

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## SECTION 1.0 - COMMUNITY PROFILE

### The City of Norco

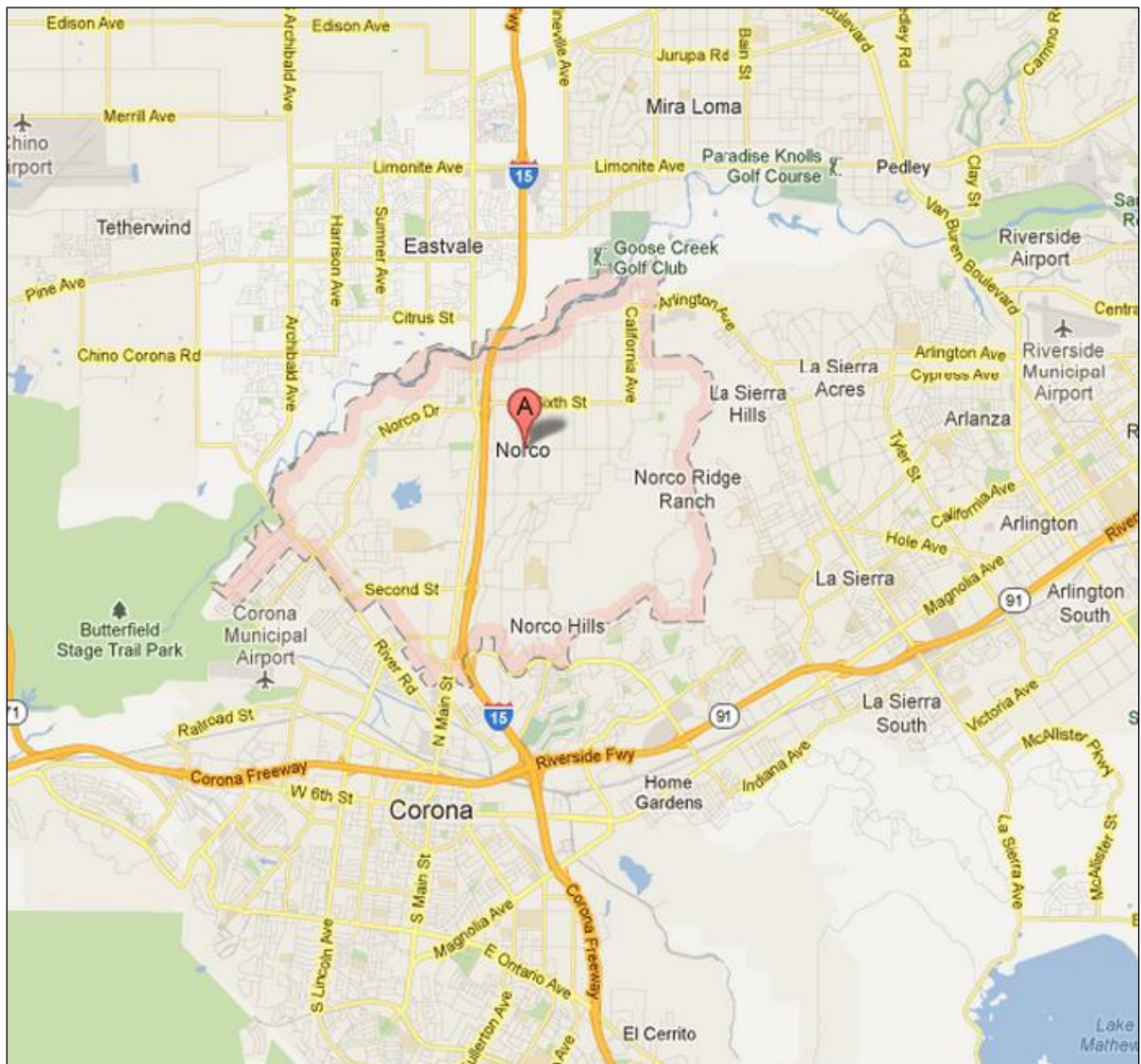
The City of Norco incorporated as a general law City in 1964 and subsequently became a Charter City in 2003. The City of Norco has a five member City Council. Norco is an equestrian-oriented community which is known as “Horsetown, U.S.A.” It is located in Western Riverside County, and is approximately 50 miles east of Los Angeles, and is surrounded by the cities of Ontario, Chino, Corona, Riverside, Eastvale, Jurupa Valley and unincorporated areas of Riverside County. Western Riverside County is among the fastest growing areas in the United States. Norco is approximately 12 miles from the Ontario International Airport.



The City limits of Norco cover an area of approximately 15 square miles, with a population of 26,582 as of 2014. Norco is also home to the U.S. Naval Surface Warfare Center, the California Rehabilitation Center and the Riverside Community College District, Norco Campus and Corona-Norco Unified School District Headquarters.

## 1.1 CITY MAP

Figure 1.1 – City of Norco Boundary Map





## **1.2 GEOGRAPHY AND CLIMATE DESCRIPTION**

The City of Norco is located in the northwestern portion of Riverside County, near the convergence of Los Angeles, Orange, and Riverside Counties, approximately 45 miles southeast of the City of Los Angeles. It is located in a valley, framed by mountains and the Prado Basin. Original settlements focused development in an area within and adjacent to Hamner Avenue. As the City grew, the geographic limitations imposed by the Norco Hills to the east and the Santa Ana River and the Prado Basin to the north and west created natural barriers that confined the City. The City is bordered by the City of Corona to the south and southwest, the City of Riverside to the east, and the cities of Eastvale and Jurupa Valley to the north and northeast.

One major freeway transects Norco with no railroads. Interstate 15 (I-15) runs north/south through the middle of the City. This corridor is the major north-south transportation route in Southern California between Las Vegas and San Diego with nearby direct freeway interconnects to Los Angeles and Orange counties and the rest of the Inland Empire.

The current City corporate limits are fairly congruous with the City's Sphere of Influence (SOI). The City currently includes 15 square miles, with less than 50 acres currently in Riverside County remaining within the SOI.

The SOI was defined by the City, the Southern California Association of Governments (SCAG), and the Riverside County Local Agency Formation Commission (LAFCO). It represents those areas likely to be served by and potentially annexed to the City. The SOI includes two small geographically distinct areas including a single row of mostly developed single-family homes along Bluff Street at the City's southwestern edge along the river bluffs and undeveloped property largely in the river floodplain in the northeast corner of the City.

The City of Norco Planning area is within the South Coast Air Basin of California. The air basin is a 6,600-square mile area encompassing the non-desert portions of Riverside, Los Angeles, and San Bernardino Counties and all of Orange County. Bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, the South Coast Air Basin is an area of high air pollution potential.

The climate of the South Coast Air Basin is dominated by the strength and position of the semi-permanent high-pressure center over the Pacific Ocean near Hawaii. It creates the climate conditions typical of Southern California, (i.e., relatively cool summers, mild winters, infrequent rainfall, cool daytime sea breezes, comfortable humidity, and ample sunshine). Periods of extremely hot weather, winter storms, or Santa Ana wind conditions interrupt this pattern. Unfortunately, the same atmospheric processes that create the desirable living climate combine to restrict the

ability of the atmosphere to disperse the air pollution generated by the region's population.

The location of the Planning Area, east of the Chino Hills and Santa Ana Mountains farther south, insulates it from the moderating effect of the ocean. Temperatures and precipitation in Norco vary more dramatically than coastal areas of the basin. Average summertime high temperatures range between about 85 to 92 degrees Fahrenheit from June through September, and average wintertime low temperatures are generally near 40 degrees in December and January. Rainfall is highly variable and confined almost exclusively to the winter months. Rainfall in Norco averages about 12.6 inches annually.

Predominating winds travel from the ocean, across the urbanized coastal areas of Orange and Los Angeles Counties, to Norco through the Santa Ana River Canyon. The canyon acts as a funnel for air masses moving across the basin. Daytime winds are typically channeled through the canyon to create steady, abnormally high (greater than 12mph) wind velocities from the west. Typical nighttime conditions reverse, and light winds (less than 1 mph) drift back towards the ocean. Exceptions to this pattern occur when a high-pressure center forms over the western United States and creates the strong, hot, dry, gusty Santa Ana winds, which move through Norco from the eastern deserts into the canyon.

### **1.3 BRIEF HISTORY**

The pre-European history of Norco is much like the rest of Southern California where various tribes of Indians occupied the different portions of the region. The Luiseño Indians used and occupied a region that included the Norco-Corona area. The main village was in Temescal Canyon, and the Norco area was used as a hunting-gathering location. In 1846, the Norco area became part of the Mexican land grant, part of which was eventually purchased for the purpose of growing orange trees. That was not successful and the land was sold and subdivided as part of the Riverside Orange Heights Tract.

The concept of "Norco" began as a subdivision of the North Corona Land Company in 1910, which again attempted to develop the area with orchard citrus crops, avocados, olives, etc. Years of experimentation showed the area was not suited for that purpose due to high winds, frost, and poor soil conditions. In 1921, the property was sold to the North Corona Land Company. At that time, fewer than 100 families resided in the area, which was mainly a small farming community. The farmers gradually ventured into animal raising, especially poultry and rabbits, some of which are still active today.

By the mid-1920's, the North Corona Land Company owned 5,409 acres in the area, when the first school and the Norconian Club were constructed, the Norconian Club was constructed on a hot sulfur well discovered while digging for irrigation water. It occupied a 700-acre site and was for years a favorite of Hollywood celebrities. Its

use declined during the 1930's and in 1941, the U.S. Navy bought the hotel and expanded it into a premier World War II-era hospital. Today, its grounds are divided between a weapons research facility and a state prison. Most of the resort remains intact, and its history and architecture have earned it a listing on the National Register of Historic Places. Today local leaders and organizations are working to ensure its recognition and preservation.

The community's first public recreational facility was developed in 1948 when the old Norco School was acquired as a community center. The Norco Recreation and Park District was then formed to maintain and operate the property. During the 1950's and 1960's, Norco began to experience more growth, resulting from the population explosion occurring throughout the Southern California metropolitan area. The San Bernardino and Riverside freeways made the area more accessible from Los Angeles and Orange Counties, and Norco's animal-keeping lifestyle came within commuting distance from major centers of employment. Because of rapid growth in surrounding communities, and the previous loss of other animal-keeping communities in the Los Angeles and Orange Counties when development pressures increased there, the City of Norco was incorporated in 1964 to preserve the animal-keeping community that had established roots here.

#### **1.4 ECONOMY DESCRIPTION**

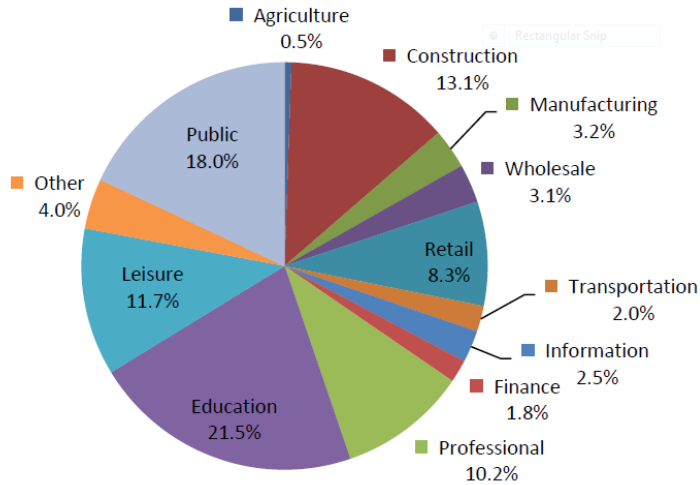
Norco, located in western Riverside County, is primarily a "bedroom community," and most of its residents commute to jobs in larger neighboring cities such as Riverside, Corona, Ontario, or various places in Los Angeles and Orange County. As a result, it is zoned predominantly Residential (60%) and virtually all of that is designated for low density single-family development. 8% of the City is zoned Commercial, mostly along two major thoroughfares-Hamner Avenue and Sixth Street. Just 6% of the City is zoned Industrial, and the remaining 26% is zoned for Open Space or other uses.

Retail sales drive the City of Norco's economy, with most transactions occurring on the City's two primary thoroughfares, Hamner and Sixth Street, where some commercial development opportunities still exist. The three top employers in Norco are 1) Corona-Norco Unified School District (5,215 employees); 2) California Rehabilitation Center (1,146 employees); and 3) Naval Surface Warfare Center (1,010 employees). Norco College, a campus of the Riverside Community College District specializing in technology, provides a trained labor pool for local businesses.

The City of Norco is emerging as a Southern California tourist destination, driven by its Western flavor, accessibility to travelers and Silver Lakes, a world-class 122-acre equestrian and field sport facility. The City's economy will be increasingly supplemented by the hospitality industry in the coming years.

Figure 1.4.1 – Chart for City of Norco Jobs by Sector 2007 and 2010

**Jobs by Sector: 2013**



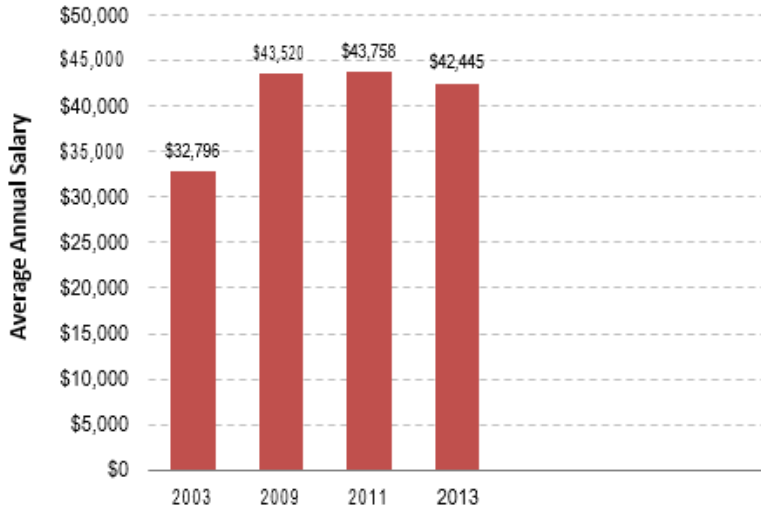
Sources: California Employment Development Department, 2014; InfoGroup; and SCAG.

- In 2013, the Education/Health sector was the largest job sector, accounting for 21.5 percent of total jobs in the city.
- Other large sectors included Public (18 percent), Construction (13.1 percent), and Leisure (11.7 percent).

Figure 1.4.2 – Chart of City of Norco Average Salaries

### Average Salaries

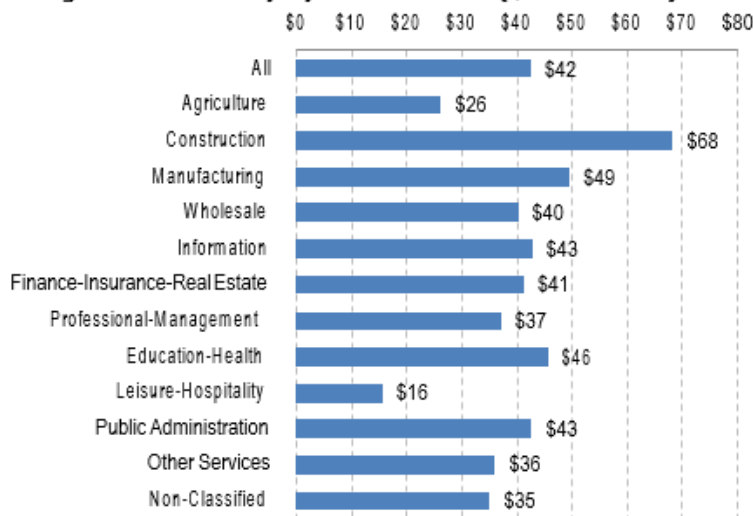
Average Annual Salary: 2003, 2009, 2011, & 2013



Source: California Employment Development Department, 2003, 2009, 2011, 2013

- Average salaries for jobs located in the city increased from \$32,796 in 2003 to \$42,445 in 2013, a 29.4 percent change.
- Note: Dollars are not adjusted for annual inflation.

Average Annual Salary by Sector: 2013 (\$ thousands)



Source: California Employment Development Department, 2013

- In 2013, the employment sector providing the highest salary per job in the city was Construction (\$68,243).
- The Leisure-Hospitality sector provided the lowest annual salary per job (\$15,527).

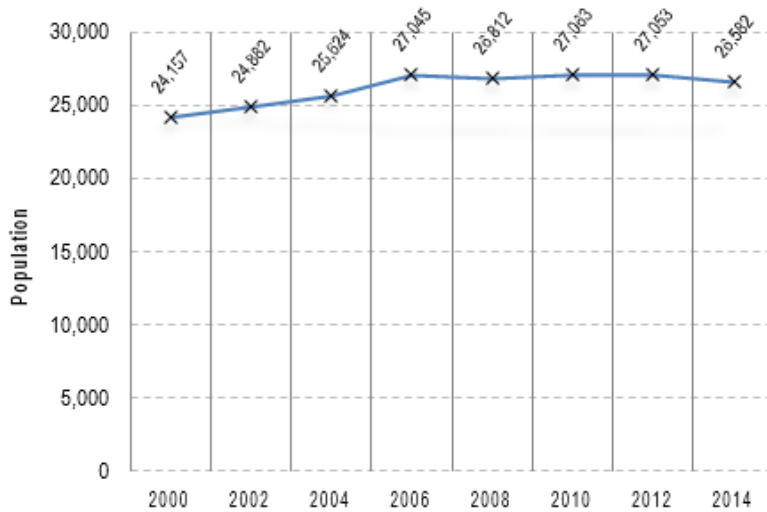
## 1.5 POPULATION

Figure 1.5.1 – City of Norco Population Growth Table

Because of its emphasis on small-plot agricultural animal-keeping lots, the growth of Norco has been steadily rising since the City's incorporation in 1964 but without the large growth spurts that have occurred with other areas of Southern California. The City's population has grown from 23,302 in 1990 to just over 26,582 in 2014.

### **Population Growth**

**Population: 2000 - 2014**



Source: California Department of Finance, E-5, 2014

- Between 2000 and 2014, the total population of the City of Norco increased by 2,425 to 26,582 in 2014.
- During this 14-year period, the city's population growth rate of 10 percent was lower than the Riverside County rate of 47.5 percent.
- 1.2% of the total population of Riverside County is in the City of Norco.

## **1.6 BRIEF STATEMENT OF UNIQUE HAZARDS**

### **Seismic Hazard**

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 a potential for liquefaction in the event of any strong earthquake. In addition, earthquakes could also cause landslides due to slope instability. This problem, however, is relatively minor in Norco relative to other areas in California due to the presence of hard bedrock and the absence of clay-coated bedding typical of most California landslides in the hillside areas around the City.

### **Fire Hazard**

Although portions of Norco are under some threat of potential wildland fires, especially along hillside areas and River bottom, the primary concern of the City is to provide an adequate system of fire protection for urban uses, in the form of appropriately located fire stations and effective fire prevention programs.

### **Flood Hazard**

The City is naturally insulated against extensive, serious flooding from the Santa Ana River by a slope gradient that exists along the south bank of the river. In the event of a 100-year storm, the only areas likely to flood would be limited to the Silver Lakes 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.

## 1.7 DEVELOPMENT TRENDS AND LAND USE

Norco, in contrast to some of neighboring cities in the Inland Empire, remains a semi-rural community with a predominantly equestrian lifestyle. The vast majority of residential parcels are zoned for a minimum half-acre lot size, a feature that has helped to maintain the City's unique lifestyle. Development pressure from 1995-2005 resulted in some traditional, albeit upscale, suburban subdivisions, but the prospect for more of that type of development is very unlikely. Not only will the current housing supply take many years to be absorbed after a devastating housing crash (Riverside County was among the hardest hit in the nation), but developable land for residential development has been almost entirely exhausted. A 429-acre parcel in the southeastern quadrant of the City, long envisioned as a prime site for residential development, has been very restrictively rezoned to accommodate only low-density resort development or nature preserve.

Population growth in Norco during the last decade was modest compared to many neighboring municipalities—thanks in large part to the large-lot zoning—and is expected to remain relatively stable through 2017. Nonetheless, Norco's locational attributes will be extremely attractive to business interests as the economy begins to recover. Its strategic location on the I-15 Freeway makes Norco easily accessible from anywhere in Southern California and businesses in Norco benefit from their access to a consumer market of 15 million people in Los Angeles, Riverside, San Bernardino, and Orange Counties. The community has recently begun to establish itself as a Western-themed tourist destination, with hotels, restaurants and a world-class 122-acre equestrian and soccer complex dominating development in the coming years. Even so, the economy will likely be challenging for several years. Sixth Street, the traditional downtown district, has been developed with Western-façades, while Hamner Avenue, the City's other major thoroughfare, is dominated by national retailers, auto dealers and restaurant chains.

Most anticipated development will occur on infill parcels. Although opportunities for the single-family housing market will be relatively scarce, there is an increasing demand for affordable multifamily housing in Norco, and the State of California mandates all municipalities to accommodate their fair share of affordable units. The City of Norco's Housing Element was certified by the State in January, 2014. It identifies seven (7) potential sites for multifamily housing sites.

The table in Figure 1.7.2 provides the responses to the Development Trends Questionnaire. Some of the City's development, particularly residential construction, has historically taken advantage of hillside views. That may exacerbate some fire hazard issues, but the City strictly enforces ordinances related to the clearing of brush. Like most of Southern California, virtually the entire City is located near an earthquake hazard zone. Although the Santa Ana River comprises a large portion of the City of Norco's northern boundary, some of the community's 7,322 residential units and 1,300 businesses are located in flood hazard zones.

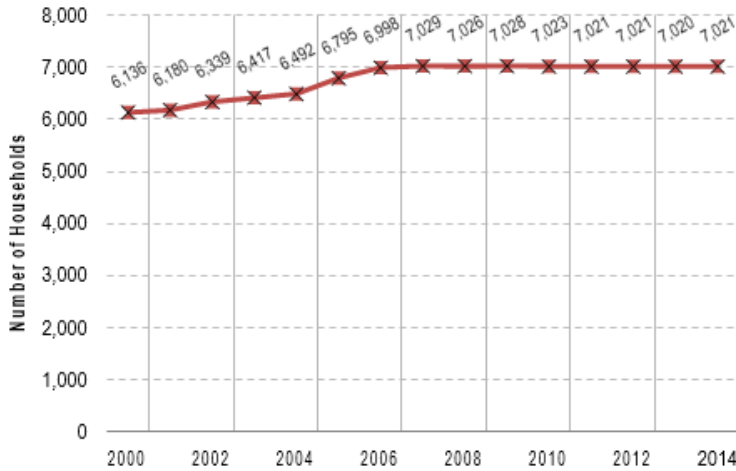


The City of Norco’s population has increased by 314 with an increase in housing units by 51 since 2005.

Figure 1.7.1 City of Norco Household Chart

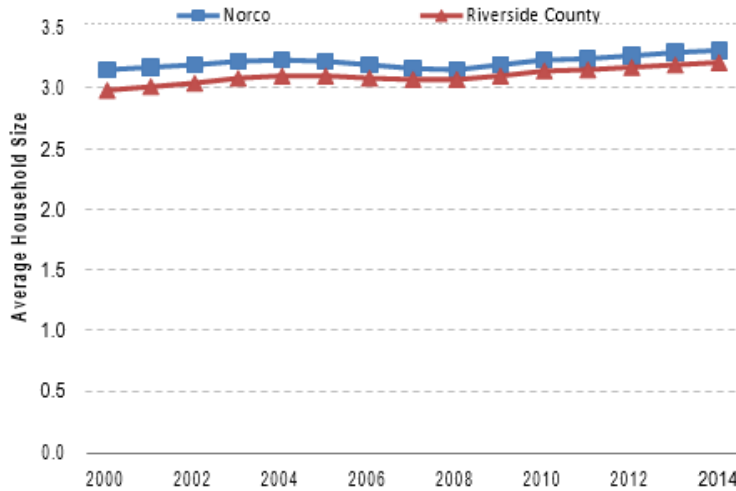
**Number of Households (Occupied Housing Units)**

**Number of Households: 2000 - 2014**



Sources: 2000 and 2010 U.S. Decennial Census; California Department of Finance, E-5, 2014

**Average Household Size: 2000 - 2014**



Source: California Department of Finance, E-5, 2014

- Between 2000 and 2014, the total number of households in the City of Norco increased by 885 units, or 14.4 percent.
- During this 14-year period, the city’s household growth rate of 14.4 percent was lower than the county growth rate of 38.4 percent.
- 1 percent of Riverside County’s total number of households are in the City of Norco.
- In 2014, the city’s average household size was 3.3, higher than the county average of 3.2.

Figure 1.7.2 Development Trend Questionnaire

**LOCAL JURISDICTION DEVELOPMENT TRENDS QUESTIONNAIRE 2017**

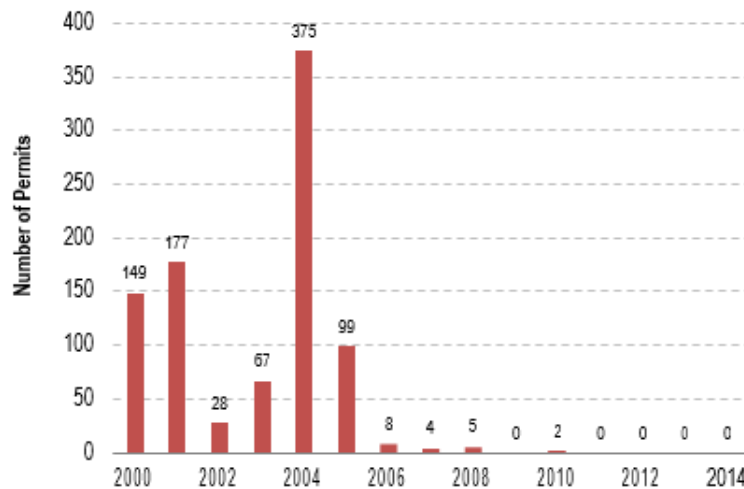
JURISDICTION	DOES YOUR AGENCY HAVE RESPONSIBILITY FOR LAND USE AND/OR DEVELOPMENT ISSUES WITHIN YOUR JURISDICTIONAL BOUNDARIES? YES NO		
	2012 DATA	2017 DATA	2022
Current population in jurisdiction or served	27,063	27,000	Projected population in jurisdiction or Served - 2022 28,000
Current square miles in jurisdiction or served	14.3	14.7	Projected square miles in jurisdiction or served - in 2022 14
Does your jurisdiction have any ordinances or regulations dealing with disaster mitigation, disaster preparation or disaster response?	Yes	Yes	Chapter 2.28, Emergency Services 2.28.170 Emergency Operations Plan 2.28.180 Emergency Operation Center
What is the number one land issues your agency will face in the next five years?	Infill Development, Affordable Housing, Development of 122-acre lot located to the north end of the city.		
Approximate number of homes/apartments, etc.	7,322	7,340	Projected number of homes/apartments/etc - in 2022 7,355
Approximate total residential value	\$2,277,144,000	\$2,846,000,000	Projected residential total value - in 2022 \$3,415,200,000
Approximate number of commercial businesses	1,300	1,400	Projected number of commercial businesses - in 2022 1,400
Approximate percentage of homes/apartments/etc in flood hazard zones	1%	1%	Approximate percentage of homes/apartments/etc in flood hazard zones - in 2022 1%
Approximate percentage of homes/apartments/etc in earthquake hazard zones	100%	100%	Approximate percentage of homes/apartments/etc in earthquake hazard zones - in 2022 100%
Approximate percentage of homes/apartments/etc in wildland fire hazard zones	20%	20%	Approximate percentage of homes/apartments/etc in wildland fire hazard zones - in 2022 20%
Approximate percentage of commercial businesses in flood hazard zones	1%	1%	Approximate percentage of commercial businesses in flood hazard zones - in 2022 1%
Approximate percentage of commercial businesses in earthquake hazard zones	100%	100%	Approximate percentage of commercial businesses in earthquake hazard zones - in 2022 100%
Approximate percentage of commercial businesses in wildland fire hazard zones	0.50%	0.50%	Approximate percentage of commercial businesses in wildland fire hazard zones - in 2022 0.50%
Number of critical facilities in your jurisdiction that are in flood hazard zones	0%	0%	Projected number of critical facilities in your jurisdiction that are in flood hazard zones - in 2022 0%
Number of critical facilities in your jurisdiction that are in earthquake hazard zones	0%	0%	Projected number of critical facilities in your jurisdiction that are in earthquake hazard zones - in 2022 0%
Number of critical facilities in your jurisdiction that are in wildland fire hazard zones	0%	0%	Projected number of critical facilities in your jurisdiction that are in wildland fire hazard zones - in 2022 0%
Does your jurisdiction plan on participating in the County's on-going plan maintenance program every two years as described in Part I of the plan?	Yes	Yes	If not, how will your jurisdiction do plan maintenance?
Will a copy of this plan be available for the various planning groups within your jurisdiction for use in future planning and budgeting?			Yes

The City of Norco has primarily reached residential build-out with the only areas for new development potential being infill or redevelopment at a higher density. No annexation of additional area is imminent at this time.

Figure 1.7.3 – Residential Housing Productions and Permits Issued

### Total Housing Production

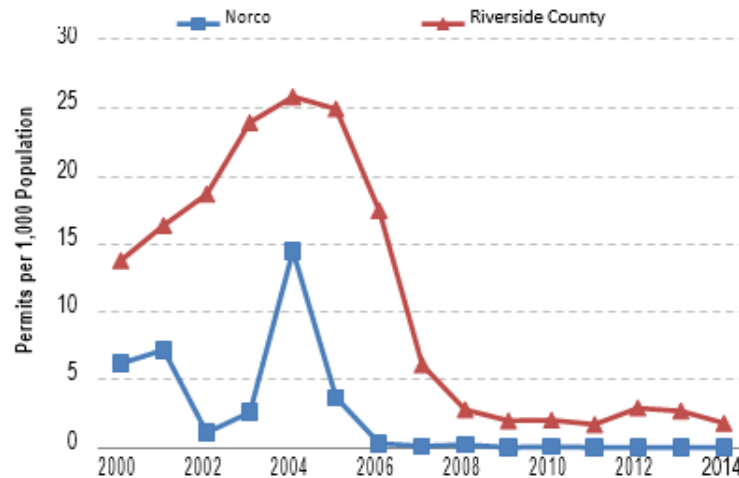
Total Permits Issued for all Residential Units: 2000 - 2014



Source: Construction Industry Research Board, 2000 - 2014

- Between 2000 and 2014, permits were issued for 914 residential units.

Permits Issued for all Residential Units per 1,000 Residents: 2000 - 2014



Source: Construction Industry Research Board, 2000 - 2014

- In 2000, the City of Norco had 6.2 permits per 1,000 residents compared to the overall county figure of 13.8 permits per 1,000 residents.
- For the city in 2014, the number of permits per 1,000 residents decreased to 0 permits. For the county overall, it decreased to 1.8 permits per 1,000 residents.

## SECTION 2.0 - PLANNING PROCESS

### 2.1 LOCAL PLANNING PROCESS

Representatives from multiple city departments have provided information on hazards and mitigation strategies. Departments involved include Public Works, Engineering, Finance, Economic and Development, Parks and Recreation, Planning, Fire Department and City Manager. For list of individual names, see Exhibit B.

This group assisted in identifying general priorities while including city department representatives. Subsequent mitigation strategies and project priorities were provided by members of the group during the months of December and January.

See Appendix B – Public Notices and plan meeting roster with dates.

### 2.2 PARTICIPATION IN REGIONAL (OA) PLANNING PROCESS

The City of Norco participated in various Riverside County workshops, conferences, and meetings, including:

- (2) Riverside County Workshops
  - OAPC
  - Various communications with Emergency Management Staff

In addition, the City of Norco has provided written and oral comments on the multi-jurisdictional plan and provided information.

### 2.3 DATES AVAILABLE FOR PUBLIC COMMENT

Information pertained to the Local Hazard Mitigation Program was made available on the City website. The information described the purpose of the LHMP and its important role, the role the community has on the LHMP and who the city's contact person is in regards to additional questions on the LHMP. The City web page has an attached copy of the 2017 LHMP (PDF Version) for the public to review and make any comments. <http://www.norco.ca.us/depts/fire/hazplan.asp> The web page was available for viewing on the City website on February 1, 2017.

Additional handouts were posted at the Senior Center, City Hall and Fire Administration. The handouts advised the public on the location of the 2017 LHMP copied version, which was located at the front counter of the Fire Administrative office. The handouts and copied 2017 LHMP were posted at the locations on February 1, 2017.

## **2.4 PLANS ADOPTED BY RESOLUTION**

The City of Norco City Council will adopt the plan in a public meeting via an official Resolution upon approval by FEMA. The mitigation strategies will become an implementation appendix of the updated Safety Element of the City of Norco General Plan.

## **SECTION 3.0 – MITIGATION ACTIONS/UPDATES**

### **3.1 UPDATES OR CHANGES FROM 2012**

There are no significant changes in priorities since the approval of the 2012 plan. All items listed in the mitigation strategies have been addressed and are complete or included in the Capital Improvement Plan (CIP) Budget. Please see Appendix C for the City of Norco's adopted CIP Budget for FY 2016-2020.

### **3.2 NEW HAZARDS OR CHANGES FROM 2012**

A threat of Terrorism has occurred in the Region in the last few years. This group believes Terrorism should be added as a hazard to this plan. There were no additional changes since approval of the 2012 Local Hazard Mitigation Plan.

### **3.3 BRIEF STATEMENT OF UNIQUE HAZARDS**

Since the original 2005 version of the Local Hazard Mitigation Plan was submitted, the City of Norco experienced two wildfires and two floods. Four additional major wildland fires occurred near the City of Norco that placed the city on heightened alert.

Jurisdiction hazard's since 2005 include the following:

- 2005 – Winter storms causing flooding to residents and road damage.
- 2010 – Winter storms causing flooding to residents and road damage.
- 2011 – Winter storms causing flooding to residents and road damage.
- 2014 – Highway” Wildland Fire in the Prado Basin burned to the City limits.
- 2017 – Winter storms causing flooding to residents and road damage.

### **3.4 MITIGATION PROJECT UPDATES**

In the 2005 plan, the City of Norco identified a mitigation strategy to develop an Urban Wildland Interface Plan, the updates are as follows:

- The strategy was completed.
- The Norco Fire Department was the lead agency responsible for completing this task.
- The Norco Fire Department Wildland Urban Interface Strategic Pre-plan was written in 2010.
- In 2011, the plan was implemented and will be reviewed on an annual basis for any necessary modifications or changes.

<b>Riverside County Local Hazard Mitigation Plan 2017</b>		
<b>Hazard</b>	<b>Risk Score</b>	<b>Final Ranking</b>
Earthquake	3.50	1
Pandemic Flu	3.50	2
Wildland Fire	2.25	3
Electrical Failure	2.00	4
Emergent Disease/Contamination	1.69	5
Cyber Attack	1.50	6
Terrorist Event	1.13	7
Communications Failure	1.13	8
Flood	1.13	9
Civil Disorder	1.13	10
Drought	1.13	11
Nuclear/Radiological Incident	1.00	12
Extreme Weather	0.75	13
Transportation Failure	0.38	14
Dam Failure	0.38	15
Aqueduct	0.38	16
Tornado	0.25	17
Insect Infestation	0.00	18
Jail/Prison Event	-0.13	19
Pipeline Disruption	-0.38	20
Landslide	-0.56	21
HazMat Incident	-0.75	22
Water Supply Disruption/Contamination	-1.50	23

Figure 3.4.1 Capital Improvement Updates and Projects

FY 16/17 CIP PROJECT SCHEDULE - update 1-5-17					
DESCRIPTION	FUNDING	PROJECT SCOPE	PHASE	AWARD DATE	ANTICIPATED COMPLETION
Storm Drain - Temescal Ave Lateral (7th to River Dr. - Approx. 1,200 LF)	FUND 129	Installation of new storm drain pipe and catch basins.	100%	November, 2015	November, 2016
			0%	Oct, 2016	TBD
Storm Drain - Pedley Avenue Lateral	FUND 129	Drainage Improvements on Pedley Ave. (S'ly of Riverview Elem.)	90%	November, 2015	October, 2016
			0%	TBD	TBD
Storm Drain - Andalusian Drive Improvements (Reservoir 6 & 7 Access Road)	FUND 129	Add concrete swale/parkway drain/splash wall along Reservoir 6 & 7 Access Road	99%	N/A	December, 2016
			0%	September, 2016	TBD
Storm Drain - Line N-7 (Phase II) from Valley View to Reservoir (Approx. 2,400 LF)	FUND 129	Installation of new storm drain pipe and catch basins.	99%	November, 2015	December, 2016
			0%	TBD	TBD
Storm Drain - NB-3 North (Corona Ave. between 4th & 5th)	FUND 129	Installation of new storm drain pipe and catch basins.	100%	November, 2015	May, 2016
			100%	May, 2016	September, 2016
Storm Drain - Burger Basket lateral	FUND 129	Install new storm drain on Burger Basket Property and connect to adjacent Flood Control Channel	100%	January, 2016	July, 2016
			0%	TBD	TBD
Storm Drain - Corona Avenue Lateral (Starbright)	FUND 129	Install Approx. 650 LF of storm drain from Starbright Academy (south end) to MDP Line SA	0%	TBD	TBD
			0%	TBD	TBD
Street Paving - Hamner Ave. (Fourth to Sixth St.)	FUND 137, 149	Grind and Overlay	100%	April, 2016	June, 2016
			100%	August, 2016	October, 2016
Street Paving - Temescal Ave. (First to Second St.)	FUND 137, 149	Grind and Overlay	100%	May, 2016	June, 2016
			100%	August, 2016	October, 2016
Street Paving - Market St. (Clark to Hamner)	FUND 137	Rehab & Overlay, sidewalk replacement, curb & gutter, tree removals	10%	October, 2016	January, 2017
			0%	TBD	TBD
Street Paving - River Road (Bluff to Corydon)	FUND 137	Rehab & Overlay	0%	TBD	TBD
			0%	TBD	TBD

Figure 3.4.1 – Capital Improvement Projects and Updates (Continued)

<b>FY 16/17 CIP PROJECT SCHEDULE - update 1-5-17</b>					
<b>DESCRIPTION</b>	<b>FUNDING</b>	<b>PROJECT SCOPE</b>	<b>PHASE</b>	<b>AWARD DATE</b>	<b>ANTICIPATED COMPLETION</b>
Street Paving - Golden Gate Circle	FUND 137	Rehab & Overlay	50%	October, 2016	January, 2017
			0%	TBD	TBD
Street Paving - Corona Avenue (First to Second St.)	FUND 137	Rehab & Overlay	10%	October, 2016	January, 2017
			0%	TBD	TBD
Street Paving - Bluff Street (River Road to Vine St.)	FUND 137, 149	Rehab & Overlay	0%	TBD	TBD
			0%	TBD	TBD
Street Paving - Reservoir Dr. (Corona to Temescal Ave.)	FUND 137	Rehab & Overlay	0%	TBD	TBD
			0%	TBD	TBD
Street Paving - Sixth St. (Sierra Ave. to California Ave.)	FUND 137	Cape Seal	100%	May, 2016	June, 2016
			0%	August, 2016	TBD
Water & Sewer - SCADA Improvements	FUND 144, 147	Additional SCADA Upgrades and Refinements	0%	TBD	TBD
			0%	TBD	TBD
Water - 2.0 MG Reservoirs on Bluff St	FUND 144	Two Reservoirs totalling 2.0 MG	50%	TBD	TBD
			0%	TBD	TBD
Water - Treatment Plant Upgrades	FUND 144	Upgrade treatment facilities for Arsenic/Fluoride/Chlorine	50%	TBD	TBD
			0%	TBD	TBD
Water - Reservoir 3 Maintenance	FUND 144	Exterior Paint/Interior Coating, safety upgrades	N/A	N/A	N/A
			0%	TBD	TBD
Water - Geographical Information System (GIS)	FUND 144, 147	Development of GIS Program	100%	July, 2016	August, 2016
			80%	July, 2016	Decemmer, 2016
Water & Sewer - Work Order /Asset Management System (CMMS)	FUND 144, 147	Development of CMMS Program	100%	July, 2016	August, 2016
			30%	June, 2016	December, 2016



Figure 3.4.1 – Capital Improvement Projects and Updates (Continued)

<b>FY 16/17 CIP PROJECT SCHEDULE - update 1-5-17</b>					
<b>DESCRIPTION</b>	<b>FUNDING</b>	<b>PROJECT SCOPE</b>	<b>PHASE</b>	<b>AWARD DATE</b>	<b>ANTICIPATED COMPLETION</b>
Water- Hamner Ave Waterline - Third to Fourth (East Side)	FUND 144	Upsize 6" waterline (Design)	15%	August, 2016	February, 2017
			N/A	FY 16/17	TBD
Water - Well Rehab of Pedley Booster(s)	FUND 144	Major Rehab of Pedley Booster Stations	0%	N/A	N/A
			50%	August, 2016	February, 2017
Water - Hillside Waterline - Sixth St to Fifth St	FUND 144	Upsize 6" waterline (Design)	10%	August, 2016	February, 2017
			0%	FY 16/17	TBD
Water - Temescal Waterline - Fourth St to Fifth St	FUND 144	Replace 6" and 10" waterlines	20%	August, 2016	February, 2017
			0%	TBD	16/17
Water - Third Street Waterline Relocations	FUND 144	Relocation of 6" on 3rd & 10" on Temescal waterlines to accommodate S. Norco Channel Construction	0%	TBD	TBD
			0%	TBD	TBD
Water - Valley View Waterline Replacement (Seventh to River Dr.)	FUND 144	Replace 12" Waterline	20%	August, 2016	February, 2017
			0%	TBD	TBD
Water - Vine St - Corydon to Bronco, Driftwood & Halfmoon	FUND 144	Replace 8" & 12" Waterline	20%	August, 2016	February, 2017
			0%	TBD	TBD
Water - Reservoir No. 5 & 6 Cathodic Protection Replacement	FUND 144	Cathodic Protection Replacement - Installing sacrificial anodes	0%	TBD	TBD
			75%	October, 2016	January, 2016
Sewer- Recycled Water System Improvements	FUND 147	Changeover of City Facilities from Potable Water to Recycled Water at Pikes Peak	0%	TBD	TBD
			0%	TBD	TBD
Sewer - WRCRWA & Recycled Water System Improvement	FUND 147	Upgrade existing booster station at WRCRWA	0%	TBD	TBD
			0%	TBD	TBD
Sewer - I-15 Sewer Mainline Rehabilitation	FUND 147	Add 12" Parallel Sewer Line between 2nd and 3rd	0%	TBD	TBD
			0%	FY 17/18	TBD

Figure 3.4.1 – Capital Improvement Projects and Updates (Continued)

<b>FY 16/17 CIP PROJECT SCHEDULE - update 1-5-17</b>					
<b>DESCRIPTION</b>	<b>FUNDING</b>	<b>PROJECT SCOPE</b>	<b>PHASE</b>	<b>AWARD DATE</b>	<b>ANTICIPATED COMPLETION</b>
Sewer - Sewer Lift Station Corona #1 and Valley View #8 - Rehabilitation	FUND 147	Complete Replacement and upgrade to belowgrade station for Lift Stations.	80%	March, 2016	January, 2017
			0%	TBD	TBD
Sewer - First Street Sewer Siphon Rehabilitation	FUND 147	Rehabilitate Existing Sewer Siphon - Inlet/Outlet structure recoating	0%	TBD	TBD
			0%	TBD	TBD
Sewer - Lift Station Aerators	FUND 147	Install Aerators to Reduce Clumping in Lift Station	0%	N/A	N/A
			10%	N/A	June, 2017
Sewer - Flume No. 14 - Large Siphon (Inspection Only)	FUND 147	Conduct Inspection of Siphon to Determine Structural Conditions and Repairs Needed	100%	June, 2016	August, 2016
			0%	TBD	TBD
Sewer - Valley View Sewer Force Main Manhole	FUND 147	Rehabilitate Existing Manhole	0%	TBD	TBD
			100%	August, 2016	August, 2016
Sewer - Shawnee Sewer Mainline Replacement	FUND 147	Upgrade the Existing Sewer Main to larger Capacity	0%	TBD	TBD
			0%	TBD	TBD
Sewer - Parkridge Sewer Mainline Replacement	FUND 147	Upgrade the Existing Sewer Main to larger Capacity	0%	TBD	TBD
			0%	TBD	TBD
Sewer - Navy Sewer Meter Relocation	FUND 147	Sewer line and meter at Navy needs repair to allow billing	0%	TBD	TBD
			0%	TBD	TBD
Street - Second St onto I-15 Right Hand Turn Pocket	FUND 149	Widen Second Street to provide dual protected lefts from Hamner (South)	20%	October, 2016	January, 2017
			0%	TBD	TBD
Street - Sixth St. onto I-15 Right Hand Turn Pocket	FUND 149	Widen Sixth Street to provide dual protects lefts from Hamner (South)	20%	October, 2016	January, 2017
			0%	TBD	TBD
Street Improvements - Bluff Street (River Rd. to Vine St.)	FUND 149, 137	Rehab & Overlay	0%	TBD	TBD
			0%	TBD	TBD

Figure 3.4.1 – Capital Improvement Projects and Updates (Continued)

<b>FY 16/17 CIP PROJECT SCHEDULE - update 1-5-17</b>					
<b>DESCRIPTION</b>	<b>FUNDING</b>	<b>PROJECT SCOPE</b>	<b>PHASE</b>	<b>AWARD DATE</b>	<b>ANTICIPATED COMPLETION</b>
Street Improvements - Traffic Signal @ Hidden Valley Parkway (Hobby Lobby)	FUND 149	Add Dual Left Turns onto @ Second St. (Part of Second St. Widening)	100%	November, 2015	October, 2016
			100%	N/A	October, 2016
Street Improvements - Traffic Signal: Dual Left on Hamner to Sixth Street	FUND 149	Add Dual Left Turns onto Sixth Street (Part of Sixth Street Widening)	0%	October, 2016	February, 2017
			0%	TBD	TBD
Street Improvements - Traffic Signal: Dual left on Hamner to Second St.	FUND 149	Signal Modifications (Part of Street Widening Project)	0%	October, 2016	February, 2017
			0%	TBD	TBD
Street Improvements - Traffic Signal: Dual left on Hamner to Hidden Valley Parkway	FUND 149	Signal Modifications for Dual Left	50%	August, 2016	February, 2017
			0%	TBD	TBD
Street Improvements - 2nd Street Sidewalk Improvement	CALTRANS	Removal of existing mound on sidewalk and install of ADA ramps	20%	October, 2016	January, 2017
			0%	TBD	TBD
Trails - Valley View - First to Second St	143	New Vinyl Trail Fence	0%	N/A	N/A
			100%	N/A	N/A
Trails - Corydon - River Rd to Santa Anita	143	New Wood Trail Fence	0%	TBD	TBD
			100%	September, 2016	October, 2016
Trails - Third St - Corona to Temescal	143	New Vinyl Trail Fence	0%	N/A	N/A
			100%	N/A	N/A
Trails - 6th St - Sierra to California	143	New Vinyl Trail Fence	0%	TBD	TBD
			0%	TBD	TBD
Trails - Bluff Peninsula	143	New Vinyl Trail Fence	0%	N/A	N/A
			100%	N/A	N/A
Trails - 4th St - Navy Entrance to Hamner	143	New Vinyl Trail Fence	0%	N/A	N/A
			100%	N/A	N/A

(For completed document, see Appendix C – CIP Budget FY 16-20)

## SECTION 4.0 - HAZARD IDENTIFICATION AND RISK ASSESSMENT

The City of Norco is committed to providing protection to residents and businesses from natural and human induced hazards. The City is also committed to coping with and rebuilding from emergency or disaster events in a manner that is efficient, safe, and provides for a quick return to the quality of life that exists daily in Norco.

The City of Norco has identified and evaluated natural and human-induced public safety risks that can have an impact on the health, safety, and social well-being of the community. These risks include; the effects of seismically-induced surface rupture, ground shaking, ground failure; slope instability; subsidence and other geologic hazards known to the legislative body; flooding; and wild land and urban fires. The table in section 4.1 identifies the critical facilities in the City.

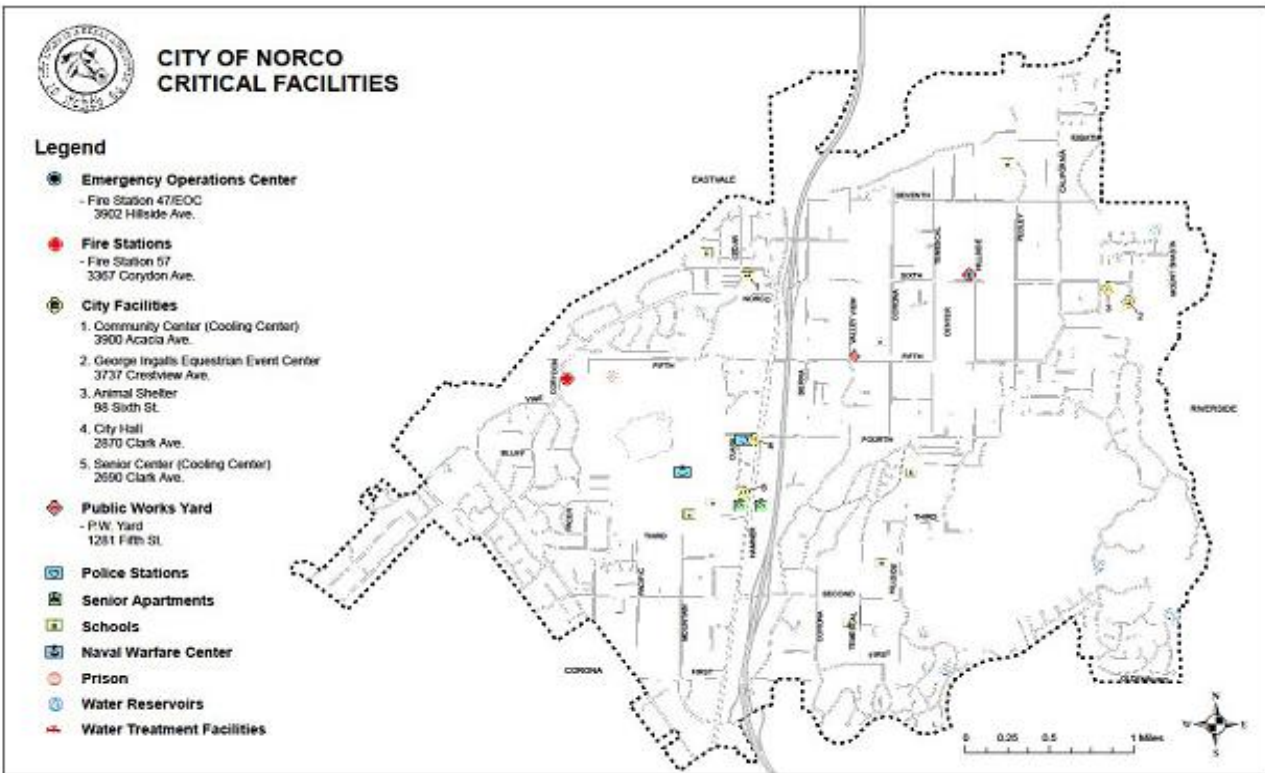
### 4.1 CRITICAL FACILITIES AND INFRASTRUCTURES

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. An inventory of critical facilities is included from the City of Norco in the table.

Figure 4.1.1 – Critical Facility Map

Critical Facilities Type	Number
Emergency Operations Center	1
City Facilities	5
Fire Stations	2
Water Reservoirs	5
Water Treatment Plants	1
CH Police facility	1
PW Maintenance Yards	1
SC Senior Care	2
Prison	1
Schools	8
Total Critical Facilities	27

Figure 4.1.2 – City of Norco Critical Facilities Map



## 4.2 ESTIMATING POTENTIAL LOSS

Please refer to Riverside County Operational Area MJHMP Section 4.5 for the property loss value for the City of Norco.

(Appendix D - See Part II – Page 18 - Development Trends Questionnaire)

## 4.3 TABLE REPLACEMENT VALUES

Name of Asset	Replacement Value (\$)	Occupancy/ Capacity #	Hazard Specific Info.
City Hall	14,000,000	n/a	Unsecured perimeter
Fire Stations (2)	4,600,000 ea.	n/a	Unsecured perimeters
Police Department	1,600,000	n/a	Secured Located at Norco City Hall
Emergency Operations Center	640,000	n/a	Located at Norco Fire HQ FS47

## 4.4 IDENTIFICATION OF RISKS AND VULNERABILITIES

### Severity and Probability Methodology

Hazards have been identified and ranked from zero to four (0 to 4), higher numbers signify greater chance of occurrence and greater effect.

SEVERITY	PROBABILITY
0 – Does not apply	0 – Does not apply
1 – Negligible damage/injuries	1 – Unlikely to happen
2 – Limited damage/injuries	2 – Possible (1% to 10% chance in next ten years)
3 – Critical damage/injuries	3 – Likely (10%-100% chance in next 10 years)
4 – Catastrophic	4 – Highly likely (near 100% in next year)

#### 1. Flood – City of Norco Rating: Severity: 3 Probability: 3

Several creeks, washes, channels, and flood zones are contained in the Planning Area of Norco. The majority of areas within the City adjacent to the Santa Ana River are in Flood Zon(shaded) which indicates the area is inundated by 0.2 percent annual chance flooding. Other portions of the Planning Area have various designated flood zones ranging from a 1-percent Flood Hazard Area to areas not subject to the 0.2 percent annual flooding (Zone X – unshaded). Areas within the 1-percent flooding area are reviewed by the Riverside County Flood Control & Water Conservation District for future improvements.

In the City of Norco, the only future floodplain management measures being considered are those related to the results presented in this report.

A fully improved one percent annual chance design channel is currently under design, with a construction schedule designating completion by October 2018for the segment of South Norco Channel from the intersection of 2<sup>nd</sup> Street and Corona Avenue to the northerly extents of the Norco Intermediate Junior High. This improvement eliminates the 1-percent I flood hazards adjacent to the channel in this area. In this study, it was considered as already existing, based on preliminary design criteria provided by the Riverside County Flood Control District.

North Norco Channel, Tributary A is a fully improved, one percent annual chance design watercourse; but, due the current lack of inlet capacity, shallow flooding occurs, resulting in depths of less than 1.0 foot and a moderate flood hazard to areas adjacent to the watercourse.

During expected heavy storms the City of Norco offers to the local residents a sandbagging program. This short-term mitigation effort allows residents to obtain and fill sandbags at a designated city facility. These measures have helped residents prevent flooding of their properties from the torrent water flow.

(See Riverside County OA MJHMP Section 5.3.1 Pages 164-195).

**2. Wild Fire - City of Norco Rating:            Severity: 3            Probability: 3**

The combination of population density, weather, and growing residential and commercial development presents a potential year-round threat of conflagration. A conflagration is best described when a fire becomes widespread and crosses natural or prepared barriers, i.e. streets, fire walls, or prepared fire breaks. If the fire extends beyond the perimeter of the complex, it is termed a conflagration. Potential conflagrations can occur at any fire, but during the late spring through early fall months commonly referred to “Fire Season”, the increased winds, lower humidity and higher temperatures are added factors for conflagration to occur.

The City of Norco is nearly surrounded by water shed (Santa Ana River) and hillsides. In the city there has been the potential for large wildland fires. To the west, and east the City sits at the base of the Santa Ana mountain range, and adjacent to the Prado Basin Watershed. The fuels are heavy brush with oaks, sycamore and on the slopes and drainages. Residential structures are immediately adjacent to the eastern mountain range (Norco Hills). Some are newer construction with good clearances, and some are much older with less clearance.

The western portion of the City runs along the Santa Ana River. The geography of the Santa Ana River and I-15 corridor allows for increases in wind speed and magnifies the effects of fire on the available fuel bed, contributing to the rapid rate of fire spread. The eastern portion of Norco Hills comprises primarily light flashy fuels due to frequent burning and fuel type-conversion, and the western side comprises primarily of Arundo and native brush with in the watershed. There is significant fire history in the watershed which lies primarily in the unincorporated area of Riverside County. Along the western and eastern boundaries of the City are residential developments where structures sit adjacent to wildland areas throughout the western and eastern areas of the City.

The southwest and northeast area of the City sits in the Santa Ana River watershed and is part of the Prado Basin behind the Prado Dam and there are several residential developments that parallel the river adjoin some heavy fuels. The eastern part of the City sits along the Norco Hills, and developments are built up to and on top of the hills. These hills comprise primarily of light flashy fuels due to frequent burning and type-conversion. The eastern edge of the City is bordered by the Norco Hills and Hidden Valley Golf Course which borders the City of Riverside. In addition to interface areas within the City Limits, many of these areas also have significant residential development to the east in the City of Riverside and to the north to the City of Eastvale and to the northeast and northwest in unincorporated areas that are immediately adjacent to the City. Over the years, there have been several fires, within the City or areas just outside its borders, these fires have resulted in destroyed and damaged structures.

## **Weather**

Weather patterns combined with certain geographic locations can create a favorable climate for wildfire activity. Areas where annual precipitation is less than 30 inches per year are extremely fire susceptible. High risk areas in Southern California share a hot, dry season in late summer and early fall when high temperatures and low humidity favor fire activity. The frequent occurrence of 40-50 mile per hour Santa Ana or foehn winds, coupled with temperatures in excess of 90 degrees, relative humidity of 20 percent or less and dense and extremely dry ground cover in inaccessible mountain or canyon areas causes the kinds of wildland fires Southern California experiences every year.

## **Topography**

Topography has considerable effect on wildland fire behavior and on the ability of firefighters and their equipment to take action to suppress those fires. Simply because of topography, a fire starting in the bottom of a canyon may expand quickly to the ridge top before initial attack forces can arrive. Rough topography greatly limits road construction, road standards, and accessibility by ground equipment. Steep topography also channels airflow, creating extremely erratic winds on leeward slopes and in canyons. Water supply for fire protection to structures at higher elevations is frequently dependent on pumping units. The source of power for such units is usually from overhead distribution lines, which are subject to destruction by wildland fires.

## **Vegetation**

A key to effective fire control and the successful accommodation of fire in wildland management is the understanding of fire and its environment. Fire environment is



the complex of fuel, topographic, and air mass factors that influence the inception, growth, and behavior of a fire. The topography and weather components are, for all practical purposes, beyond man's control, but it is a different story with fuels, which can be controlled before the outbreak of fires. In terms of future urban expansion, finding new ways to control and understand these fuels can lead to possible fire reduction.

Of these different vegetation types, coastal sage scrub, chaparral, and grasslands reach some degree of flammability during the dry summer months and, under certain conditions, during the winter months. For example, as chaparral gets older, twigs and branches within the plants die and are held in place. A stand of brush 10- to 20-years of age usually has enough dead material to produce rates of spread about the same as in grass fires when the fuels have dried out. In severe drought years, additional plant material may die, contributing to the fuel load.

### **Wildfire Characteristics**

There are three categories of interface fire: The classic wildland/urban interface exists where well-defined urban and suburban development presses up against open expanses of wildland areas; the mixed wildland/urban interface is characterized by isolated homes, subdivisions and small communities situated predominantly in wildland settings; and the occluded wildland/urban interface exists where islands of wildland vegetation occur inside a largely urbanized area. Certain conditions must be present for significant interface fires to occur. The most common conditions include: hot, dry and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel, topography, weather, drought and development. Southern California has two distinct areas of risk for wildland fire: the foothills and lower mountain areas which are most often covered with scrub brush or chaparral and the higher elevations of mountains with heavily forested terrain.

### **Wildfire Hazard Areas**

The State of California Department of Forestry and Fire Protection (CAL FIRE) is required by law to periodically map areas of significant fire hazards based on history, fuels, terrain, weather, and other relevant factors that influence fire potential and behavior. The fire hazard areas are delineated into zones known as Fire Hazard Severity Zones (FHSZ) that influence the construction of buildings and property protection to reduce the risks associated with wildland fires. In addition to areas of state responsibility, the map also displays areas where local governments have

financial responsibility for wildland fire protection depicting moderate, high and very high delineations.

The Fire Hazard Severity Zone Map will be used for:

- Implementing wildland-urban interface building standards for new construction using the 2016 California Building Code, Section 7A (Wildland-Urban Interface);
- Natural hazard real estate disclosure at the time of sale;
- One-hundred foot defensible space clearance requirements around buildings;
- Property development standards such as road widths, water supply and signage;
- Reference for City and County General Plans.

(See Riverside County OA MJHMP Section 5.3.2 Pages 154-163).

### **3. Earthquake - City of Norco Rating:      Severity: 3              Probability: 3**

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. The Elsinore Fault zone is the closest major fault system to the City and one of the largest in Southern California. Historically, the Elsinore Fault zone has also been one of the least active systems. At its northern end, near the City, the Elsinore Fault zone splays into two segments, the Chino-Central Avenue Fault and the Whittier Fault. Along the southwestern portion of the City the Elsinore Fault zone is referred to as the Glen Ivy Fault.

Ground surface rupture due to active faulting is considered possible in the western portion of the City where known active or potentially active faults are mapped. Geological evidence indicates that the Glen Ivy and portions of the Whittier Faults are active and that the Chino-central Avenue Fault is potentially active.

Historically, the Norco region has generally been spared a major destructive earthquake. However, based on a search of earthquake databases of the USGS National Earthquake Information Center, several major earthquakes (magnitude 6.0 or more) have been recorded within approximately 100 kilometers of the City since 1769.

Liquefaction potential is low to moderately high in areas of shallow groundwater in the alluvium of the Temescal Wash and all along the Santa Ana River.

The City's Seismic / Public Safety Element have identified various geologic disturbances and are continually being evaluated. Through planning and education future programs can be developed. The 2016 Building Code, has been adopted which addresses seismic and structural building improvements.

(See Riverside County OA MJHMP Section 5.3.3 Pages 196-218).

#### **4. Severe Weather- City of Norco Rating: Severity: 2 Probability: 3**

Heat/Wind/Cold

The City of Norco Parks, Recreation and Community Services Department has procedure operation programs for the activation of a Cooling Center in the City. Cooling Centers will be activated based on the following conditions (Cooling Centers SC and CC are identified on the City Map of Facilities and Parks):

- The forecast anticipated temperatures of 97+ degrees.
- The Riverside County Department of Public Health, after contact with the National Weather Service, issues a “Heat Warning” for affected areas.
- Heat Warning announcements posted on media outlets, television, radio, local newspaper and posting on the Summer Crisis Hotline.
- Norco is in a wind prone area and is susceptible foehn winds “ Santa Ana” due to the proximity to the Cajon Pass. Wind speeds in excess of 70 mph are possible which greatly increase the potential for a devastating wind driven wildland fire.

(See Riverside County OA MJHMP Section 5.3.4 Pages 219-226 and Section 5.3.8 Pages 239-245).

#### **5. Agricultural Hazards - City of Norco Rating: Severity: 2 Probability: 1**

Although Norco was historically a city of agricultural and animal-keeping production, the land still remains primarily A-1-20 and ½ acre parcels for animal keeping and equestrian use. Agricultural land use has been picked up by development for urban equine use within the City’s limits.

#### **6. Technical Hazards – City of Norco Rating: Severity: 2 Probability: 1**

(Transportation Hazards / Hazardous Materials Release)

Along with the potential for death and injuries from large-scale motor vehicle accidents, there is the potential for hazardous material spills or fires as numerous commercial transportation vehicles travel the highways and freeways with various types and quantities of hazardous materials.

The health, safety and general welfare of residents and visitors of the City of Norco including the overall health of the natural environment is provided through good land use planning and strict adherence and enforcement of the City of Norco Municipal

Code, 2016 California Fire Code, providing assistance to Certified Unified Program Agency through Riverside County Department of Environmental Health, and other pertinent sources and documents. Enforcement through Fire Inspections, Code Enforcement Investigations and Building Code requirements the types and quantities of hazardous materials are constantly being reviewed and or evaluated for potential risks.

In addition, the City of Norco has various water well sites used for treatment of the City's water system. The process includes the use of chlorine gas and this material is stored in various water well sites. Retrofitting these well sites to the most current code is in future planning process. In case of a cascade event that accidentally releases the material, it would be more controlled and confined. The city is also seeking alternative materials such as salt treatment process to treat the water system which would lessen the hazard being used in the process and release of the material in a cascade event.

**7. Dam Failure - City of Norco Rating: Severity: 2 Probability: 1**

The western edge of the city limits is in a flood zone and could possibly be affected.

(See Riverside County OA MJHMP Section 5.4.1 Pages 261-270).

**8. Drought - City of Norco Rating: Severity: 2 Probability: 3**

On June 4, 2008, the Governor of the State of California proclaimed a condition of statewide drought and strongly encouraged local agencies to take aggressive, immediate action to reduce water consumption and prepare for potentially worsening conditions. Since that time the City of Norco has adopted, implemented and is currently enforcing a water conservation program to reduce the quantity of water used by consumers within the City to ensure that there is sufficient water for human consumption, sanitation, and fire protection. The City is authorized to declare a water shortage emergency to prevail within its jurisdiction when it finds and determines that the City will not be able to or cannot satisfy the ordinary demands and requirements of water consumers without depleting the water supply of the City to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

Although ranked of lower planning significance relative to other hazards, the following information about extreme heat, agricultural hazards, dam failure, transportation hazards/hazardous materials release should still be noted:

(See Riverside County OA MJHMP Section 5.3.5 Pages 227-230 and Appendix D - Part II - Inventory Worksheet Page 18 for complete ranking chart).

**9. Terrorist Attack – City of Norco Rating:    Severity: 4            Probability: 2**

Terrorism, as defined by the FBI, is the unlawful use of force against persons or property to intimidate or coerce a government, the civilian population or any segment thereof, in the furtherance of political or social objectives. The act of terrorism could involve chemicals, biological, radiological, or nuclear agents, explosives, or cyber-terrorism.

A specific location for a terrorist attack is not known; however, some of the most likely targets in the City of Norco could be: Naval Surface Warfare Center (NSWC)-Norco, Norco College, Silver Lakes Equestrian and Sports Park, and George Ingalls Equestrian Event Center. These are considered high-profile targets, but acts of terrorism could occur anywhere within the City of Norco.

Figure 4.4.1 – Map of City of Norco

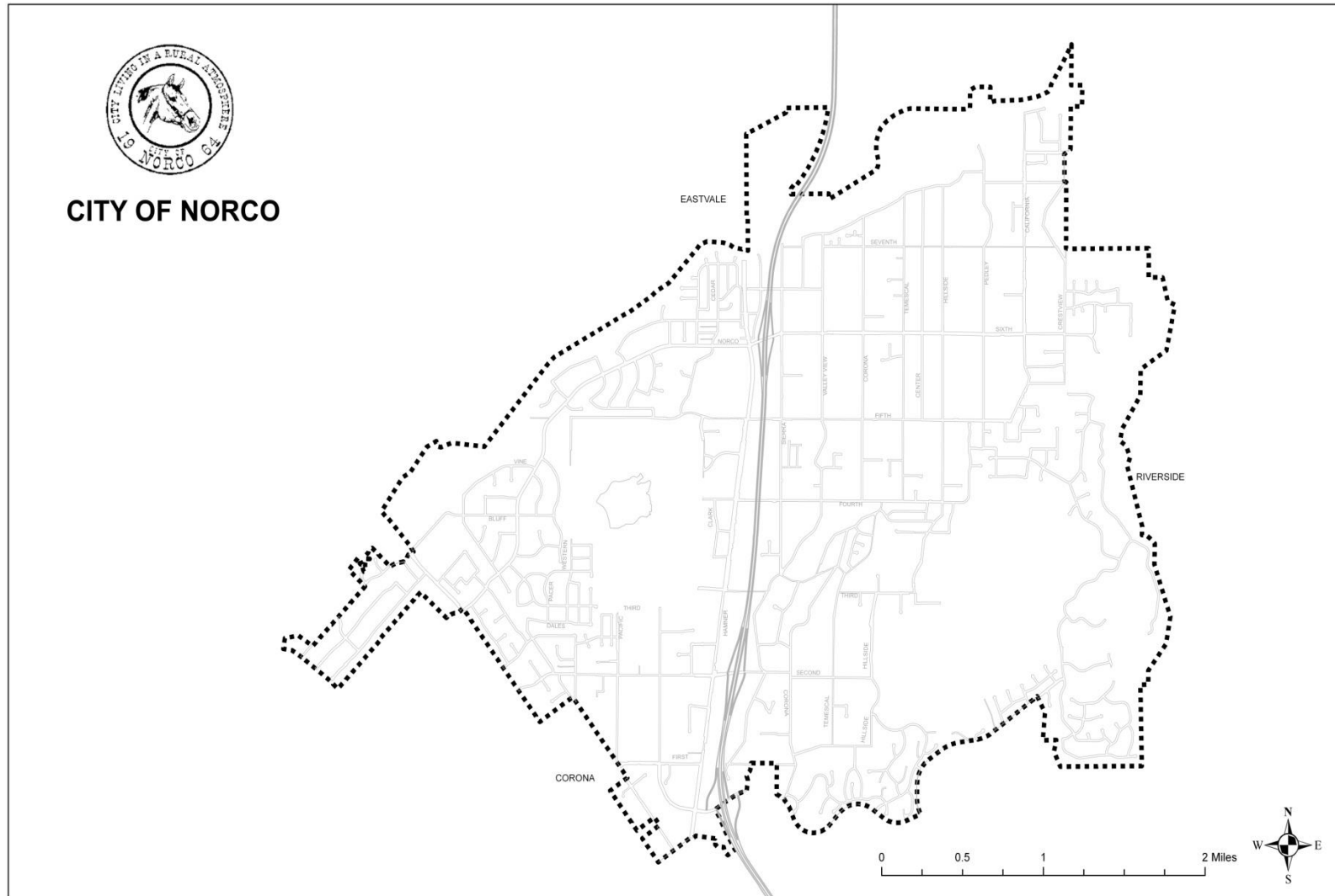


Figure 4.4.2 – City of Norco Seismic Hazard Zone Map

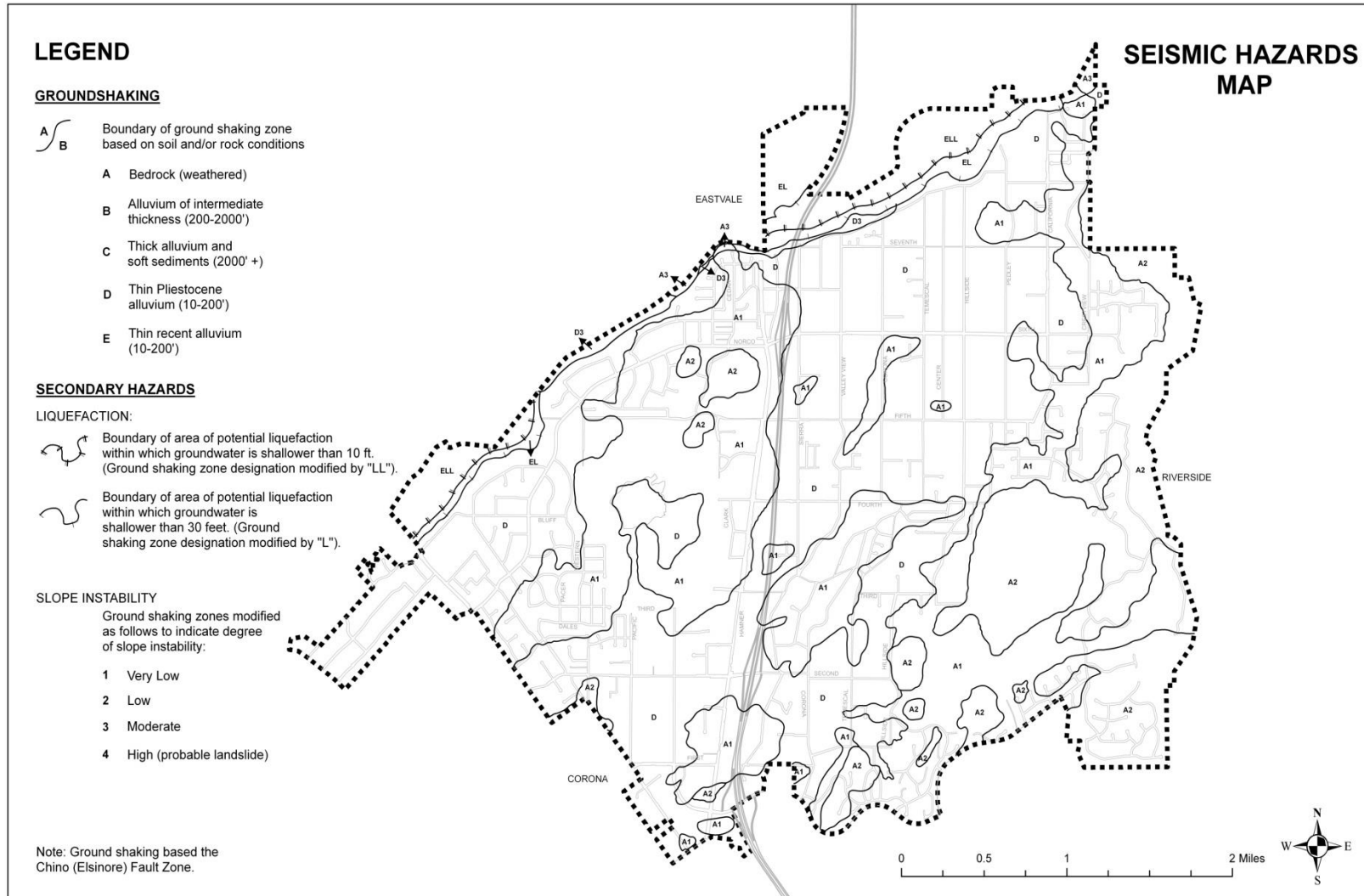


Figure 4.4.3 - City of Norco Flood Hazards Map

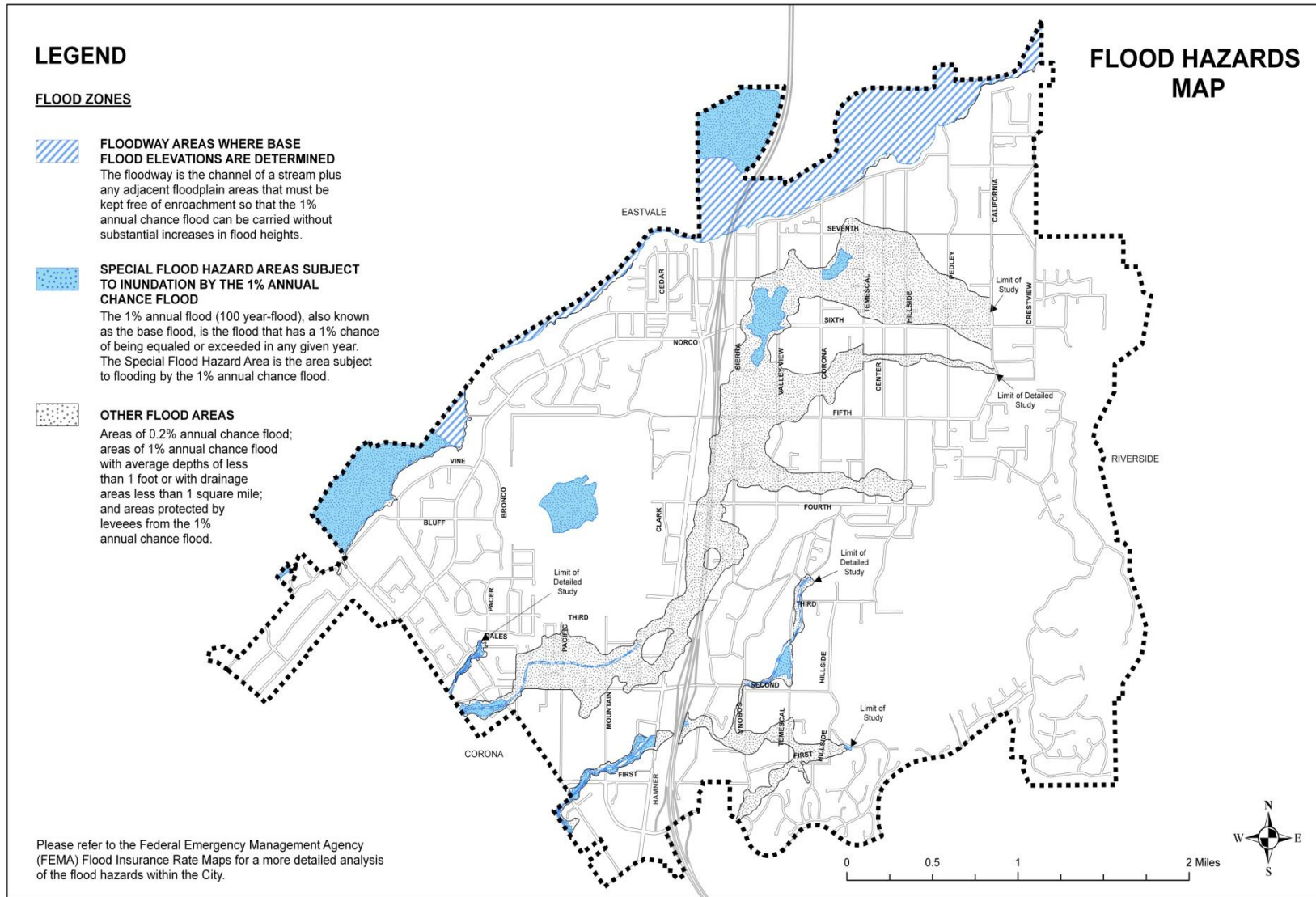
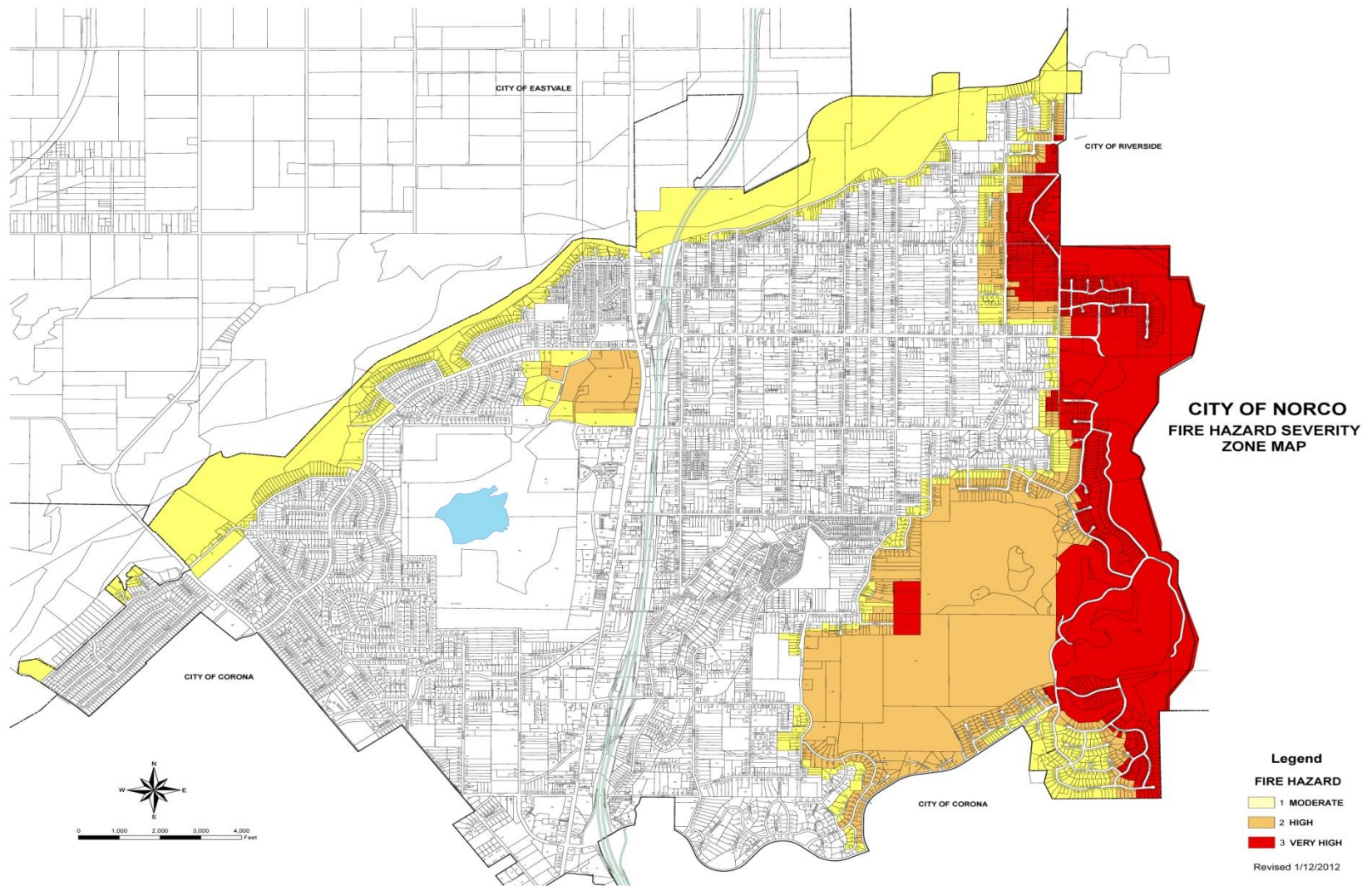




Figure 4.4.4- City of Norco – Fire Hazard Severity Zone Map



## SECTION 5.0 – COMMUNITY RATING SYSTEM

### 5.1 REPETITIVE LOSS PROPERTIES

There are no repetitive loss properties reported since approval of the 2005 LHMP.

### 5.2 NATIONAL FLOOD INSURANCE PROPERTIES

National Flood Insurance Program

The City of Norco has participated in the National Flood Insurance Program since 1978.

- a. **Describe participation in NFIP, including any changes since previously approved plan.** Norco enacted Floodplain Management measures pursuant to NFIP in 1978. In addition, the City of Norco has had multiple updates to Chapter 15.60 of the Municipal Code, Floodplain Management, with the most recent being 2008.
- b. **Date first joined NFIP?** – October 2, 1978
- c. **Identify actions related to continued compliance with NFIP** – Norco Floodplain Management Ordinance was updated in 2008 to meet the minimum NFIP requirements pursuant to Title 44 Code of Federal Regulations Sections 59, 60.3-60.6, and 65.3 and the California Department of Water Resources (DWR) Model Ordinance; the Public Works Department reviews development permit applications and plans to ensure they are in compliance with our Ordinance and requires map revisions as necessary; the Public Works Department maintains records such as elevation certificates, Letters of Map Changes, and Flood Insurance Rate Maps (FIRMs) for public availability; and the Community Development Department and Public Works Department investigate violations and issue enforcement to bring developments in compliance with our Ordinance.
- d. **CRS member** - No
- e. **CRS class** – n/a
- f. **Describe any data used to regulate flood hazard area other than FEMA maps-** Riverside County Flood Insurance Study issued August 28, 2008; Drainage studies used to support CLOMR and LOMR issuance.
- g. **Have there been issues with community participation in the program?**  
No, unless the permit is in compliance.

- h. **What are the general hurdles for effective implementation of the NFIP?**  
Funding for updating outdated drainage studies and for performing new studies in previously unstudied flood hazard areas.
- i. **Summarize actions related to continued compliance with NFIP (c-2 and c-4) –**See item c. above.
  - ii. Repetitive Loss Properties-Unknown

**Other risks –** There are no known risks different from rest of County.

## SECTION 6.0 - CAPABILITIES ASSESSMENT

### 6.1 REGULATORY MITIGATION CAPABILITIES

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections –

- Regulatory Mitigation Capabilities
- Administrative and Technical Mitigation Capabilities
- Fiscal Mitigation Capabilities
- Mitigation Outreach and Partnerships
- Other Mitigation Efforts

Regulatory Tool	Yes/No	Comments
General Plan	Yes	Last updated 2009 (Land use element)
Zoning ordinance	Yes	NMC Title 18
Subdivision ordinance	Yes	NMC Title 17
Site plan review requirements	Yes	NMC Title 18
Growth management ordinance	No	
Floodplain ordinance	Yes	NMC Ch. 15.60
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	Water Conservation Ordinance, Norco Municipal Code
Building Code	Yes	California Building Code 2016
Fire Department ISO rating	Yes	Rating: 3
Erosion or sediment control program	Yes	NMC Ch. 15.70
Stormwater Management Program	Yes	Norco Storm Drain Master Plan,

		2005
Capital Improvements Plan	Yes	Five-year plan; updated annually
Economic Development Plan	Yes	Norco Strategic plan (EDAC)
Local emergency operations plan	Yes	Emergency Operations Plan, November 1992, Draft 2017 being finalized
Other special plans		<ul style="list-style-type: none"> <li>• Water Master Plan, 2007</li> <li>• Urban Water Management Plan (possible adoption summer 2008)</li> <li>• California Fire Code 2016</li> <li>• Weed abatement Program</li> </ul>
Flood Insurance Study or other engineering study for streams	Yes	FEMA Flood Insurance Study, 2008

The City of Norco’s General Plan reflects the City’s long-range aspirations (15-20 years) of physical form and amenity and provides guidance for developmental regulations, such as zoning and subdivision ordinances. Two of the plans goals, in particular, support hazard mitigation. These goals and their policies are included below.

**Goal 1: Seismic Hazards**

Goals for achieving and maintaining safety from seismic events, include preventing serious injury, loss of life, serious damage to critical facilities involving large assemblies of people, and loss of continuity in providing services.

The City will inventory buildings which are unsound under conditions of “moderate” seismic activity; buildings having questionable structural resistance should be considered for either rehabilitation or demolition. Structures determined by the City’s Building Official to be structurally unsound are to be reported to the owner and recorded with the County recorder to insure that future owners are made aware of hazardous conditions and risks.

**Goal 2: Public Safety Hazards**

Goals for public safety seek to reduce loss of life or property due to crime, fire, earthquake, or other disasters or hazards, provide adequate medical and emergency services to reduce the effects of natural or manmade disasters, promote citizen awareness and preparedness for emergency/disaster situations or potential for the incidence of crime, and implement adequate interagency disaster planning.

The City will continue to maintain and update emergency service plans, including plans for managing emergency operations, the handling of hazardous materials, and the rapid cleanup of hazardous materials spills.

### **Water Conservation Ordinance**

The City of Norco currently operates under the provisions and guidelines of Water Conservation Ordinance No. 397. In response to drought conditions in the State of California, staff is in the process of updating the water conservation ordinance in accordance with guidelines set forth by the State of California. It will provide details and establish criteria and activities which may be prohibited during times of water shortage emergencies, as well as consequences that the City may take in order to ensure compliance with these guidelines, including fines and penalties. The City has completed a system wide automated meter reading project that will provide a valuable conservation tool to City staff and residents.

## 6.2 ADMINISTRATIVE/TECHNICAL MITIGATION CAPABILITIES

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	Yes	Planning and Senior Engineer
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Senior Engineer and Senior Building Inspector
Planner/engineer/scientist with an understanding of natural hazards	Yes	Senior Engineer
Personnel skilled in GIS	Yes	Planning, IT Department
Full time building official	No	
Floodplain manager	Yes	Senior Engineer
Emergency manager	Yes	Police Chief or Fire Chief
Grant writer	No	
Other personnel	No	
GIS Data—Land use	Yes	IT, Planning
GIS Data—Links to Assessor's data	Yes	IT
Warning systems/services (EWNS, Nixel, outdoor warning signals)	Yes	EMD
Other		

## 6.3 FISCAL MITIGATION CAPABILITIES

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Community Development Block Grants	Yes	Depending on Budget
Capital improvements project funding	Yes	Depending on available budget
Authority to levy taxes for specific purposes	Yes	With voter City council approval
Fees for water, sewer, gas, or electric services	Yes	Subject to Proposition 218 protest hearing provisions.
Impact fees for new development	Yes	With City council approval
Incur debt through general obligation bonds	Yes	With voter City council approval
Incur debt through special tax bonds	Yes	With voter City council approval
Incur debt through private activities	No	
General Fund and Special Asset Revenue Fund Reserves	Yes	Reserve for Emergency

## 6.4 FUNDING OPPORTUNITIES

The City of Norco has the same funding opportunities as Riverside County Operational Area. Please refer to Section 7.4 and Table 7.4 of the Riverside County Multi-Jurisdictional Hazard Mitigation Plan on pages 327-336 plan for list of funding sources available.

## 6.5 MITIGATION OUTREACH AND PARTNERSHIPS

The City of Norco currently has an existing program in which information is made available to the public via web site, E-blasts, weekly highlights, Social Media, Norco App and handout materials. The Fire Department has multiple programs which include a fire prevention week, weed abatement, fire safety tips in the home, disaster preparedness, etc. conducted yearly for the community. The Fire Department also attends additional special community events, which provides public education materials to the public. Some of the organizations that request or provide help include Norco Horsemen's Association, Norco Lions Club, Corona/Norco Unified School District, Mommy's Club, Boy Scouts, Hillside Tree Farm and Norco Mounted Posse.

## SECTION 7.0 - MITIGATION STRATEGIES

### 7.1 GOALS AND OBJECTIVES

**Goal 1:** *Provide effective emergency response to disasters that limits the loss of life and curtails property damage, and minimizes to the greatest extent feasible, serious damage and injuries.*

**Objective 1.1:** Provide timely notification and direction to the public of imminent and potential hazards.

**Objective 1.2:** Protect public health and safety by preparing for, responding to, and recovering from the effects of natural or technological disasters.

**Objective 1.3:** Improve community transportation corridors to allow for better evacuation routes for public and better access for emergency responders.

**Goal 2:** Substantially reduce the known level of risk to loss of life, personal injury, public and private property damage, economic and social dislocation, and disruption of vital community services that would result from earthquake damage or other geologic disturbance.

**Objective: 2.1:** Require new development and re-development to be undertaken in a manner that is in compliance with current seismic and geologic hazard safety standards, as follows:

**Objective 2.2:** Amend the Building and Zoning Codes to incorporate specific standards for siting, seismic design, and review of Essential Facilities.

**Goal 3:** Promote Disaster Preparedness

**Objective 3.1:** Promote greater community awareness and understanding of the effects of natural and man-made disasters

**Goal 4:** Maintain Coordination of Disaster Planning

**Objective 4.1:** Coordinate with changing DHS/FEMA needs.

**4.1.1:** National Incident Management System (NIMS)

**4.1.2:** Disaster Mitigation Act (DMA) planning

## **7.2 MITIGATION ACTIONS**

The City has implemented mitigation efforts in the past. The City of Norco has installed auxiliary emergency power connections on each municipal groundwater well and potable water booster pump stations. The City has purchased an auxiliary generator capable of providing emergency power to all booster pump stations

- Vacant lot weed abatement program.
- Improved property hazardous vegetation removal program.
- Abandoned vehicle abatement program.
- Sandbagging program for Norco residents.
- Hazardous vegetation mitigation program addressing city-owned properties.
- The City's Building Department has standards on building elevations in reference to curbs and gutters based on past practice.
- Update buildings at Booster Stations to current fire standards.
- Update SOP's to sewer lift station flood measures.
- City has constructed all weather access (asphalt) on roadways to all but one reservoir.
- Proper venting on reservoirs for earthquake mitigation measures.
- Maintain interconnections to other agencies to provide sewage lift station emergency bypass.



- Distribution\Transmission system shutoff valves.
- Automatic/remote pump resets were installed providing the ability to reset if lift station is flooded and inaccessible.
- Public health pandemic emergencies measures were conducted by mitigating and educating the community via intranet, newsletters / flyers and meetings with the school board members.

### **7.3 ON-GOING MITIGATION STRATEGY PROGRAMS**

The City of Norco has many on-going mitigation programs that help create a more disaster-resistant community. The following list highlights those programs:

- Water Master Plan
- Urban Water Management Plan
- Standard Plans and Specifications for Sewer & Water
- Wildland Urban Interface Strategic Pre Plan
- Hazardous Materials Area Plan
- Certified Unified Program Agency
- Riverside County Drainage Area Management Plan (DAMP)
- Emergency Operations Plan
- Local Hazard Mitigation Plan
- N.A.R.T (Norco Animal Rescue Team)

## 7.4 FUTURE MITIGATION STRATEGIES

The City of Norco identified and prioritized the following mitigation actions based on risk assessment. Background information and information on how each action will be implemented and administered are included.

**Goal 1:** Substantially reduce the known level of risk to loss of life, personal injury, public and private property damage, economic and social dislocation, and disruption of vital community services that would result from earthquake damage or other geologic disturbance.

Objective 1.1: Amend the Building and Zoning Codes to incorporate specific standards for siting, seismic design, and review of Essential Facilities.

Action: Require all new developments, existing critical and essential facilities and structures to comply with the most recent California Building Code seismic design standards.

Priority: High  
Responsible Dept: Public Works / Planning  
Timeframe: Ongoing  
Funding/cost: Current funding; cost unknown  
Hazard: Earthquake  
Status: Continuing and ongoing.

**Goal 2:** Promote Disaster Preparedness

Objective 2.1: Promote greater community awareness and understanding of the effects of natural and man-made disasters to property, humans and animals within the rural City of Norco.

Action: Provide Community Public Education material available City Web page and handouts at all fire stations.

Priority: High  
Responsible Dept: Fire Department – Battalion Chief  
Timeframe: Ongoing  
Funding/cost: Current funding; cost unknown  
Hazard: All hazards  
Status: Continuing and ongoing.

## SECTION 8.0 - PLAN IMPLEMENTATION AND MAINTENANCE PROCESS

The City of Norco will monitor our LHMP yearly basis over the next 5 years. We will review the LHMP and assess:

- The goals and objectives address current and expected conditions.
- The nature, magnitude, and/or type of risks have changed.
- The current resources are appropriate for implementing the plan.
- Implementation problems, such as technical, political, legal, or coordination issues with other agencies.
- The outcomes have occurred as expected (a demonstration of progress).
- The agencies and other partners participated as originally proposed.

If we discover changes have occurred during the evaluation, we will update the LHMP Revision Page, and notify County of Riverside Emergency Management Department to update our Annex.

## SECTION 9.0 - INCORPORATION INTO EXISTING PLANNING MECHANISMS

The City has incorporated the Local Hazard Mitigation Plan by adoption into the Safety Element of the City's General Plan.

The City has a Safety Element in its General Plan that includes a discussion of fire, earthquake, flooding, and landslide hazards. This plan was adopted as an implementation appendix to the Safety Element. In addition, the City enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, requires mitigation for identified natural hazards. The City has used these pre-existing programs as a basis for identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

## SECTION 10.0 - CONTINUED PUBLIC INVOLVEMENT

If any changes are made in the Scheduled Plan Maintenance Process, the public will be notified through actions taken at City Council meetings by posting of the Agenda, informational flyers and outreach at community meetings.

# APPENDIX A – CITY OF NORCO MAPS

SEE ATTACHMENTS

Exhibit A-1 – Flood Hazard Map

Exhibit A-2 – Fire Hazard Severity Map

Exhibit A-3 – Critical Facilities Map

Exhibit A-4 – Seismic Hazard Map

Exhibit A-5 – City of Norco Map

## APPENDIX B – PUBLIC NOTICES

SEE ATTACHMENTS

Exhibit B-1 – Introduction to Local Hazard Mitigation Plan Notice

Exhibit B-2 – Photo of Public Announcement in Lobby

Exhibit B-3 – Photo of Announcement on Outside Bulletin Board

Exhibit B-4 – Copy of Update Information Available for Public Comment

Exhibit B-5 – Photo Posting at Fire Department

Exhibit B-6 and 7- Public Meeting Log

## APPENDIX C – CIP BUDGET FY 17-21

**<http://www.norco.ca.us/depts/fiscal/budgets.asp>**

## APPENDIX D – INVENTORY WORKSHEETS

SEE ATTACHMENT



# APPENDIX E – PLAN REVIEW TOOL/CROSSWALK

**SEE ATTACHMENTS – PART III**