

**PLANNING COMMISSION
RESOLUTION # 2023-03**

**A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ANTIOCH
RECOMMENDING THE CITY COUNCIL APPROVE A GENERAL PLAN AMENDMENT TO
MODIFY LAND USE DESIGNATIONS, REDESIGNATE LAND USE CLASSIFICATIONS, AND
UPDATE THE SAFETY ELEMENT**

WHEREAS, the California Government Code Section 65300 et. seq. requires every city and county in California to adopt a General Plan for its long-range development, and further, to periodically update that Plan to reflect current conditions and issues;

WHEREAS, the Land Use Element and Safety Element are two of the mandatory elements of the City of Antioch's General Plan;

WHEREAS, the General Plan Amendment to the Land Use Element ensures consistency between the City of Antioch General Plan and the Zoning Ordinance;

WHEREAS, the California Legislature has made several changes to Section 63502 of the California Government Code to require cities and counties to update the Safety Element of the General Plan to address climate change hazards and incorporate climate adaptation and resiliency strategies (Senate Bills 379 and 1035), identify and evaluate evacuation routes (Assembly Bill 747 and Senate Bill 99), and address fire risk (Senate Bill 1241);

WHEREAS, the Land Use and Safety Element updates, were coordinated with the Draft 6th Cycle Housing Element Update:

WHEREAS, Section 65358 of the California Government Code provides for the amendment of all or part of an adopted General Plan;

WHEREAS, the City, as lead agency under the California Environmental Quality Act ("CEQA"), has completed the Housing Element Environmental Impact Report ("EIR") for the Project, which includes the General Plan Amendments in the project description;

WHEREAS, the Antioch Planning Commission conducted a public hearing to consider the Housing Element EIR on January 4, 2023;

WHEREAS, on January 4, 2023, the Antioch Planning Commission adopted Resolution 2023- recommending that the City Council certify the Housing Element EIR and adopt CEQA findings, a Statement of Overriding Considerations, and a Mitigation Monitoring and Reporting Program;

WHEREAS, recitals and findings from the Antioch Planning Commission adopted Resolution 2023- are incorporated by reference;

WHEREAS, on December 23, 2022, a public hearing notice was published in the East County Times and posted in three public places pursuant to California Government Code Section 65090 for the Planning Commission on January 4, 2023;

WHEREAS, the Planning Commission held a public hearing on January 4, 2023, considered all public comments received, the presentation by City staff, the staff report, and all other pertinent documents regarding the proposed request.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission hereby makes the following findings to recommend approval of the General Plan Amendment:

1. The proposed project conforms to the provisions and standards of the General Plan in that the proposed amendments are internally consistent with all other provisions of the General Plan and do not conflict with any of the previously adopted goals, policies or programs of the General Plan.

2. The proposed amendments are necessary to implement the goals and objectives of the General Plan. The Land Use Element Text Amendments (Exhibit A and Exhibit B) and the Table and Diagram of General Plan Land Use Map Amendments (Exhibit C and Exhibit D) and Text Amendments to the will accommodate higher density multifamily housing to expand housing options and affordability throughout the city, and ensure consistency between the General Plan and Zoning Ordinance. The Environmental Hazards Element Update (Exhibit E) will address and mitigate climate vulnerabilities, fire risk, and evacuation routes to support public safety as required by State law.

3. The proposed amendments will not be detrimental to the public interest, convenience, and general welfare of the City. The amendments will result in a logical placement of land uses consistent with the overall intent of the General Plan and facilitate housing development opportunities at a range of income levels and household types. The amendments will support public safety through resilience and adaptation strategies.

4. The proposed amendment will not cause environmental damage in that potential effects were analyzed in the EIR for the Housing Element, Environmental Hazards and Environmental Justice Elements and either found to be less than significant with mitigations or acceptable pursuant to a Statement of Overriding Conditions.

5. The proposed amendment will not require changes to or modifications of any other plans that the City Council adopted before the date of this resolution, that are not proposed for consideration by the Council.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the that the Planning Commission recommend to the City Council **APPROVAL** of General Plan Amendment (GPA-23-01) as attached hereto in Exhibits A through F.

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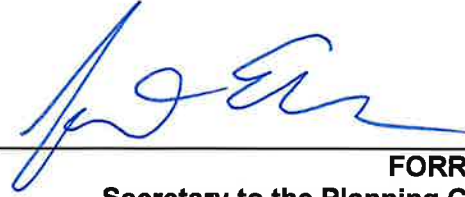
I HEREBY CERTIFY that the foregoing resolution was adopted by the Planning Commission of the City of Antioch at a regular meeting thereof held on the 4th day of January, 2023, by the following vote:

AYES: Gutilla, Hills, Riley, Schneiderman

NOES:

ABSENT: Lutz, Martin, Motts

ABSTAIN:



**FORREST EBBS,
Secretary to the Planning Commission**

EXHIBIT A
GENERAL PLAN FOCUS AREA TEXT AMENDMENTS

protections in the form of easements, deed restrictions, or acquisition of development rights may be provided.

4.4.6 Focused Planning Areas

Ten areas within the Antioch General Plan study area have been identified for focused policy analysis and direction. The purpose of these “Focus Areas” is to provide policy direction specific to each area, including appropriate land use types and development intensity, based upon analysis of the particular opportunities and constraints affecting each area.

4.4.6.1 Downtown Specific Plan Focus Area. The Rivertown/Urban Waterfront Focus Area has been repealed and replaced with the Downtown Specific Plan. Please refer to this adopted Plan for all policies related to the area.

4.4.6.2 Western Antioch Commercial Focus Area. This Focus Area encompasses the commercial areas along Auto Center Drive from SR-4 north to Fourth Street, as well as the commercial areas south of the freeway along Somersville Road, up to and including the Somersville Town Center. The General Plan intends that existing auto dealerships be retained and revitalized along Auto Center Drive. If the existing dealers ultimately decide to relocate from Auto Center Drive, the City should work with the dealers to secure alternative locations within the City of Antioch. Potential alternative locations include the Regional Commercial area within the East Lone Tree Specific Plan Focus Area.

a. Purpose and Issues. The Auto Center Drive/Somersville Road corridor is one of Antioch’s primary sales tax generators, encompassing automobile dealerships, the Somersville Towne Center mall, and other retail businesses. Uses along this corridor are aging, and in need of improvement. In addition, the Somersville Road interchange is heavily congested. Interchange capacity were increased as part of improvements for SR-4.

- Automobile dealerships exist along Auto Center Drive. The City has worked in the past to improve the design of Auto Center Drive, and to assist existing dealerships to modernize their facilities. Relocating the dealerships to another location within

Antioch could reduce the amount of land available for industrial use, and may or may not be desirable for the dealerships. The dealerships have generated a customer base in their present location, though they do not have freeway visibility.

- South of the freeway is Somersville Towne Center, formerly known as County East Mall. The center was an open air complex, and was enclosed in the 1970s.

There have been discussions in the past regarding adding another anchor tenant. However, the present design of the mall, with a series of tenants having their entries open to the parking lot along Somersville Road, limits simple design solutions. As a result, there have been suggestions that the mall be revitalized as a mixed-use specialty retail, entertainment, office, and residential project.

- The Focus Area’s commercial uses are auto-oriented, and its general character is that of a typical older suburban community. Improvements to signage, street-scapes, and building façades are needed throughout the developed portion of this Focus Area, along with improved pedestrian linkages in the mall area.
- At the southern end of this Focus Area is the Chevron property, which is a 193-acre relatively flat, vacant parcel south of Buchanan Road. It is expected to be annexed by the City of Pittsburg and developed into a residential community. These new residents will contribute to the future financial stability of this commercial Focus Area.

b. Policy Direction. Efforts should be continued to keep existing automobile dealerships in their present locations, and to upgrade their facilities. Somersville Towne Center should be improved and expanded into a cohesive mixed-use retail, retail, entertainment, and/or residential center. Pedestrian and other urban design improvements should be provided to increase linkages between the mall and adjacent uses. Special effort should be undertaken to improve access to the mall site from Somersville Road, and to improve the distribution of parking around the mall.

Residential uses are also envisioned in specific locations, as depicted in the Housing Element and Figure 4-3.

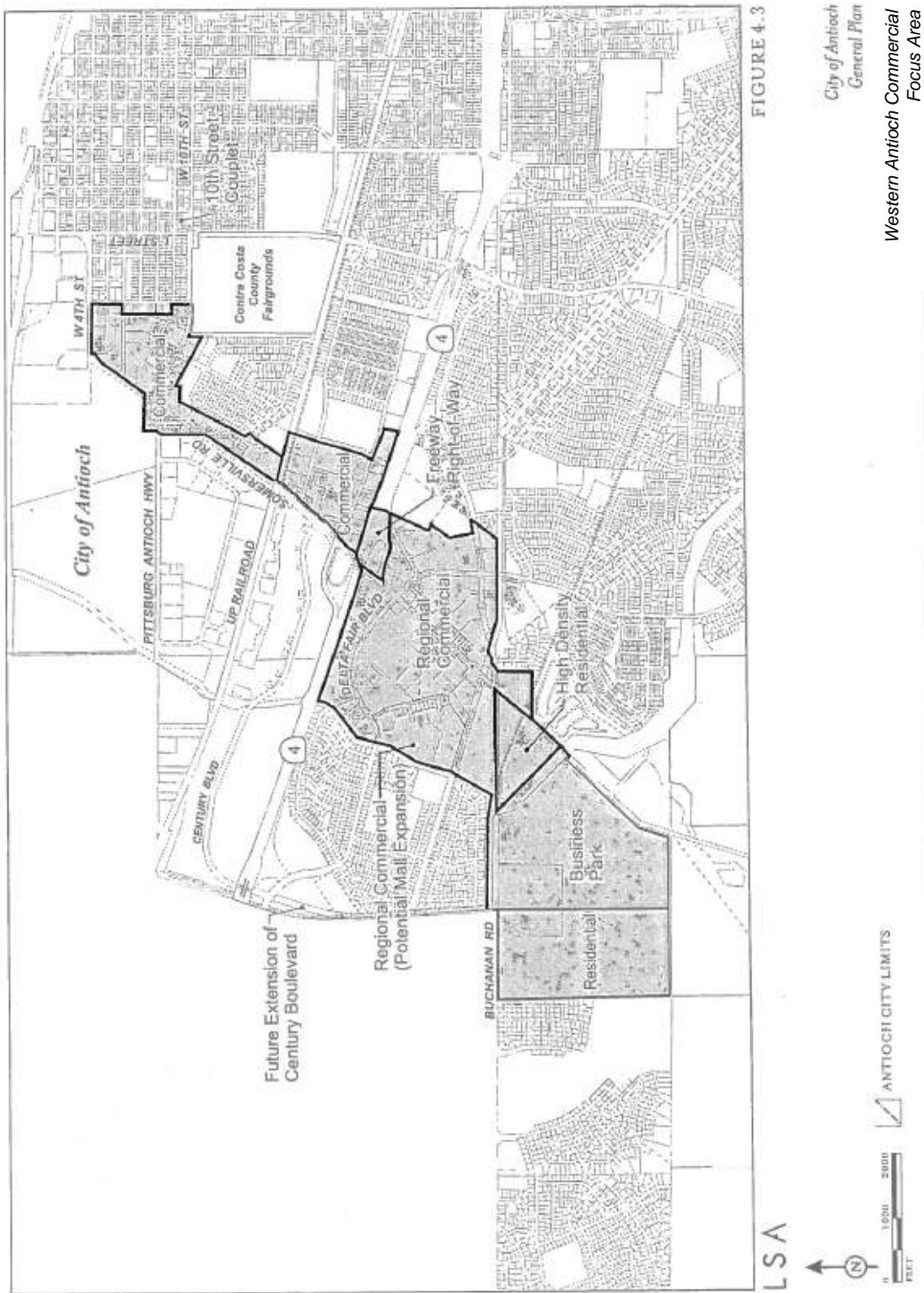
The following policies apply to the Western Antioch Commercial Focus Area.

- a. Areas designated “*Commercial*” on Figure 4.3 shall comply with the provisions of the Western Antioch Commercial land use category (see Table 4.A).
- b. Areas designated “*Regional Commercial*” on Figure 4.3 shall comply with the provisions of the Regional Commercial land use category (see Table 4.A).
- c. Areas designated “*High Density Residential*” in Figure 4.3 shall comply with the provisions of the High Density Residential land use category (see Table 4.A).

and housing opportunity sites identified in the Housing Element

Expansion of Somersville Towne Center is encouraged, including new and expanded retail, particularly addition of new anchor tenants (department stores), higher end specialty retail, and sit-down restaurants. As shown in Figure 4.3, the General Plan permits expansion of the mall to the west. Expansion of the mall could also occur vertically by adding a second story of shops. Also permitted is the conversion of the existing mall into a mixed-use commercial, office, and residential complex. Revitalization of the mall into a mixed use concept could occur alongside expansion of the existing mall itself through development of multi-story office buildings, either free-standing or attached to the mall.

- d. An urban design plan should be prepared for the entire Western Antioch Commercial Focus Area. The design plan should define a design theme; set specific architectural, sign, landscape, and streetscape design standards for the corridor; and select specific designs for public improvements such as street lighting, special paving sections at intersections, and street furniture.
- e. A façade improvement program should also be undertaken for existing commercial uses within this Focus Area.



4.4.6.3 Eastern Waterfront Employment Area. This Focus Area encompasses the industrial areas in the northeastern portion of the City and its General Plan study area, south of the San Joaquin River, west of the SR-160 freeway. The Eastern Waterfront Employment

Area is approximately 976 acres in size, and lies primarily within the City of Antioch and partly within unincorporated territory.

a. Purpose and Primary Issues. As a result of shifts in the national and regional economy, several of the heavy industrial uses located along the San Joaquin River have closed, or have significantly scaled back their operations. Thus, it is necessary to plan for revitalization of former heavy industrial lands along the river, including transition to other uses. This may include environmental cleanup of brownfields resulting from years of heavy industrial use. To the east of Fulton Shipyard and south of the Antioch Dunes National Wildlife Refuge is the abandoned City Sewage treatment plant site. The development feasibility of this site may depend in part upon the clean up and improvement of nearby areas.

A large portion of this Focus Area, primarily north of Wilbur Avenue and the BNSF rail line, was recently annexed into the City of Antioch. Portions of this area are rail-served, which provides opportunities for the development of new industrial uses with modern plants.

South of Wilbur Avenue, industrial areas border along existing residential neighborhoods. As a result, it will be necessary to provide appropriate transitions between existing residential neighborhoods and future industrial development.

The environmental sensitivity and fragility of the Antioch Dunes National Wildlife Refuge within the northwestern portion of this Focus area establishes the need to provide appropriate buffer areas for urban uses located adjacent to the Refuge.

The proximity of the western portion of this Focus Area to Rodgers Point provides an opportunity for development of a recreational vehicle campground. Such a use would be possible at the site of the City's former water treatment plant. This Focus Area's location along the riverfront also provides the opportunity to extend the trail proposed for the

Downtown Specific Plan Focus Area to the existing marina adjacent to the SR 160 freeway.

The Northern Waterfront Economic Development Initiative is a multi-agency collaboration led by the County of Contra Costa to revitalize the areas adjacent to the San Joaquin River within Contra Costa County. The Initiative identifies Antioch's extensive industrial waterfront potential and provides guidance for regional efforts.

b. Policy Direction. The primary function of this Focus Area is to provide employment opportunities, and to assist Antioch in achieving its goal of a balance between local housing and employment. In addition, the Focus Area is intended to support and implement the outcomes of the Northern Waterfront Economic Development Initiative. The majority of employment opportunities created within this area will continue to be industrial in character, will reflect lighter industrial uses than are now present. Generally, this Focus Area will feature a transition between larger industrial uses between Wilbur Avenue and the river to light industrial and business park uses to the south. The area within this Focus Area between East 18th Street on the south and the BNSF rail line on the north, Viera Avenue on the west and Drive-In Avenue on the east is also subject to the provisions of the East Eighteenth Street Specific Plan.

The following policies apply to the Eastern Waterfront Employment Focus Area.

- a. Areas designated "*Eastern Employment Business Park*" in Figure 4.4 are intended for employment-generating uses compatible with a location adjacent to residential neighborhoods as a transition from other industrial uses. Appropriate land use types are set forth in Table 4.A.

The maximum allowable intensity shall be an FAR of 0.55.

- b. The "*Commercial*" area identified in Figure 4.4 shall comply with the provisions of the Neighborhood Commercial Land Use designation (see Section 4.4.1.2).

- c. Areas designated "*Multi-Family Residential*" in Figure 4.4 shall comply with the provisions of the High Density



and housing opportunity sites identified in the Housing Element

Residential uses are also envisioned in specific locations, as depicted in the Housing Element and Figure 4-4.

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- Residential land use category (see Section 4.4.2.2 of the Land Use Element).
- d. The “General Industrial” area identified in Figure 4.4 shall comply with the provisions of the General Industrial land use category described in Section 4.4.1.3 of the Land Use Element.
- e. The “*Light Industrial*” area identified in Figure 4.4 shall comply with the provisions of the Light Industrial land use category described in Section 4.4.1.3 of the Land Use Element.
- f. The “*Regional Commercial*” area identified in Figure 4.4 shall comply with the provisions of the Regional Commercial land use category described in Section 4.4.1.2 of the Land Use Element.
- g. The “*Marina/Supporting Uses*” area identified in Figure 4.4 shall comply with the provisions of the Marina/Supporting Uses land use category described in Section 4.4.1.2 of the Land Use Element.
- h. The “*Open Space*” area identified in Figure 4.4 shall comply with the provisions of the Open Space land use category described in Section 4.4.1.4 of the Land Use Element.
- i. Work with property owners and the California Department of Toxic Substances Control to facilitate clean up of existing brownfields within the industrial properties between Wilbur Avenue and the San Joaquin River.
- j. If a rail transit stop can be established along the BNSF line west of the Route 160 freeway, development of a high-density cluster of retail, office, and residential uses adjacent to the proposed site would be appropriate. Such development could occur as an integrated, mixed-use project at densities as high as an FAR of 1.0 for non-residential uses and up to 35 units per acre for the residential portion of such mixed use development.
- As part of the development of sites adjacent to the freeway interchanges at Wilbur Avenue and East 18th Street, establish community gateway monumentation to be provided, including distinctive signage and landscaping, expressing the theme of Antioch as “Gateway to the Delta.” Such signage and monumentation must portray a high quality design image for the City.
- k. As a condition of new development or redevelopment of properties along the San Joaquin River between Rodgers Point and the existing marina at the SR 160 freeway, explore requiring dedication and improvement of a riverfront trail and linear park.

4.4.6.4 Hillcrest Station Area Focus Area.

The SR-4/SR-160 Industrial Frontage Focus Area has been repealed and replaced with the Hillcrest Station Area Specific Plan. Please refer to this adopted Plan for all policies related to the area.

4.4.6.5 “A” Street Interchange. The “A” Street Interchange Focus Area encompasses 119 acres of land along “A” Street from Worrel Road on the south to 10th Street and the Rivertown/Urban Waterfront Focus Area on the north. This Focus Area includes lands actually fronting on “A” Street, as well as additional adjacent properties.

a. Purpose and Primary Issues. “A” Street is located at the center of Antioch, and is an important gateway to the Rivertown Area. The existing interchange has the opportunity to become the primary gateway into the Rivertown area, as well as into southeastern Antioch. Thus, revitalization of uses at the interchanges, as well as uses along the route into Rivertown is needed. Currently, “A” Street is a suburban commercial strip with some single-family residential fronting on the roadway north of SR-4 freeway. Many uses along “A” Street are deteriorating or have a typical suburban commercial strip design. Most commercial parcels are too shallow to allow for modern design, and existing residential uses fronting on “A” Street are in need of upgrade. Relatively high traffic volumes make it undesirable for single family residential uses to front along and take access from “A” Street. To facilitate revitalization of this corridor, it would be desirable to consolidate commercial parcels fronting on “A” Street, and increase their depth. By accomplishing this, new commercial centers with high quality architectural and site design could be developed, accommodating many of the same uses that are now present, but in a manner more befitting of the area’s central location within the City. It would also be desirable to relocate residents fronting along “A” Street to more suitable living environments.

Remaking the uses at the “A” Street Interchange will be costly, and relocation of residents can be traumatic and difficult. However, the potential benefits are substantial. At a minimum, urban design improvements, including undergrounding of utilities, building façade, and sign improvements are needed in the short-term. In the mid- to long-term (8 to 15 years), deepening of existing commercial parcels and removal of existing residences fronting on “A” Street at the interchange appear to be appropriate.

b. Policy Direction. The General Plan envisions a cluster of commercial and office uses with high design quality, transforming the “A” Street corridor from a strip commercial area into a pedestrian-oriented village with well-designed retail and office uses. The A Street interchange along the SR 4 freeway needs to feature a major community gateway statement. “Signature” buildings (those having greater height and design detail than adjacent buildings) will be encouraged at key locations, including at all four quadrants of the freeway interchange, as well as the intersections of A Street with Texas Avenue, East Eighteenth Street, Tenth Street and Wilbur Avenue.

To accomplish this requires relocation of deteriorating residential uses from the “A” Street frontage, and increasing the depth of commercial/office uses to provide a more sensible development pattern.

Transformation of the “A” Street corridor is intended to occur over a period of several years. Residents to be relocated as part of the revitalization effort will be afforded all of the protections and relocation benefits provided under State law.

The following policies apply to the “A” Street Interchange Focus Area.

- a. Areas designated “Commercial” in Figure 4.6 shall comply with the provisions of the Neighborhood Commercial Land Use designation (see Section 4.4.1.2).

Residential uses are also envisioned in specific locations, as depicted in the Housing Element and Figure 4-6.

- b. Areas designated “*Commercial/Office*” in Figure 4.6 shall comply with the provisions of the Neighborhood/Community Commercial Land Use designation (see Section 4.4.1.2). The land uses that are considered to be appropriate for areas designated “*Commercial/Office*” in Figure 4.6 are those identified for “A” Street Commercial/Office in Table 4.A.
 - assist residents with relocation costs; assist area businesses in financing façade and sign improvements;
 - i. assist in funding improvements within the public right-of-way (e.g., streetscape improvements, special paving at intersections, street furniture)
 - j. facilitate the consolidation of parcels along “A” Street as a means of encouraging new, high quality, pedestrian-oriented commercial and office development.
- c. Areas designated “*Office*” in Figure 4.6 shall comply with the provisions of the Office Land Use designation (see Section 4.4.1.3). In addition to the uses identified as being appropriate within the Office designation, Religious Assembly uses would also be appropriate.
- d. Areas designated “*Residential*” in Figure 4.6 shall comply with the provisions of the Low Medium Density Residential Office Land Use designation (see Section 4.4.1.1).

Additionally, any housing opportunity site identified in the Housing Element shall be permitted to develop in accordance with the High Density Residential Land Use Designation.
- e. An urban design plan should be prepared for this Focus Area. The plan should define a design theme; set specific architectural, sign, landscape, and streetscape design standards for the corridor; and select specific designs for public improvements such as street lighting, special paving sections at intersections, and street furniture.
- f. A signage and façade improvement program should also be undertaken for commercial uses within this Focus Area.
- g. To provide visual emphasis to specific locations, commercial and office buildings should be limited to two stories in height, except at the intersection of 18th Street, where three story structures with distinctive architecture (“signature buildings”) are encouraged.
- h. The City should, if feasible, expand Antioch Development Agency Project Area 1 or establish a new redevelopment project area for the “A” Street Interchange Focus Area. The primary purpose of such a redevelopment project would be to:
 - assist in the conversion of existing residential dwellings to commercial and office uses:

4.4.6.6 Western Gateway. The Western Gateway Focus Area consists of approximately 43 acres, located at the western edge of the City, adjacent to the City of Pittsburg (Figure 4.7). The triangular Focus Area is bounded by the SR-4 freeway to the north, the Pittsburg city limits to the west, and an existing single-family residential neighborhood to the southeast. Delta Fair Boulevard runs through the center of Focus Area.

a. Purpose and Issues. The Western Gateway Focus Area is located at a key community entry. It is the first property in Antioch seen by eastbound travelers along the SR-4 freeway, and as such, will define Antioch's visual character for new visitors to the community. The Focus Area is partially developed. The County Social Services Department maintains offices along the south side of Delta Fair Boulevard. An existing transitional housing development is located adjacent to the County offices. Los Medanos College is located adjacent to the west side of the Focus Area, in Pittsburg. The Western Gateway Focus Area is connected to the Somersville Towne Center mall and regional commercial uses along Somersville Road by Delta Fair Boulevard, which traverses the residential neighborhoods between the two areas. Thus, even though there is a roadway connecting between the Western Gateway Focus Area and regional commercial uses along Somersville Road, the two areas do not have a functional linkage. The recent extension of Century Boulevard from the north provided a roadway connection between this Focus Area and commercial areas to the north of the SR-4 freeway in the City of Pittsburg.

Along the southeasterly side of this Focus Area are single-family dwellings. Thus, while the location of this Focus Area at a key entry to the community calls for dramatic architecture, perhaps with mid-rise buildings, there is also a need to maintain compatibility with the adjacent residential neighborhood.

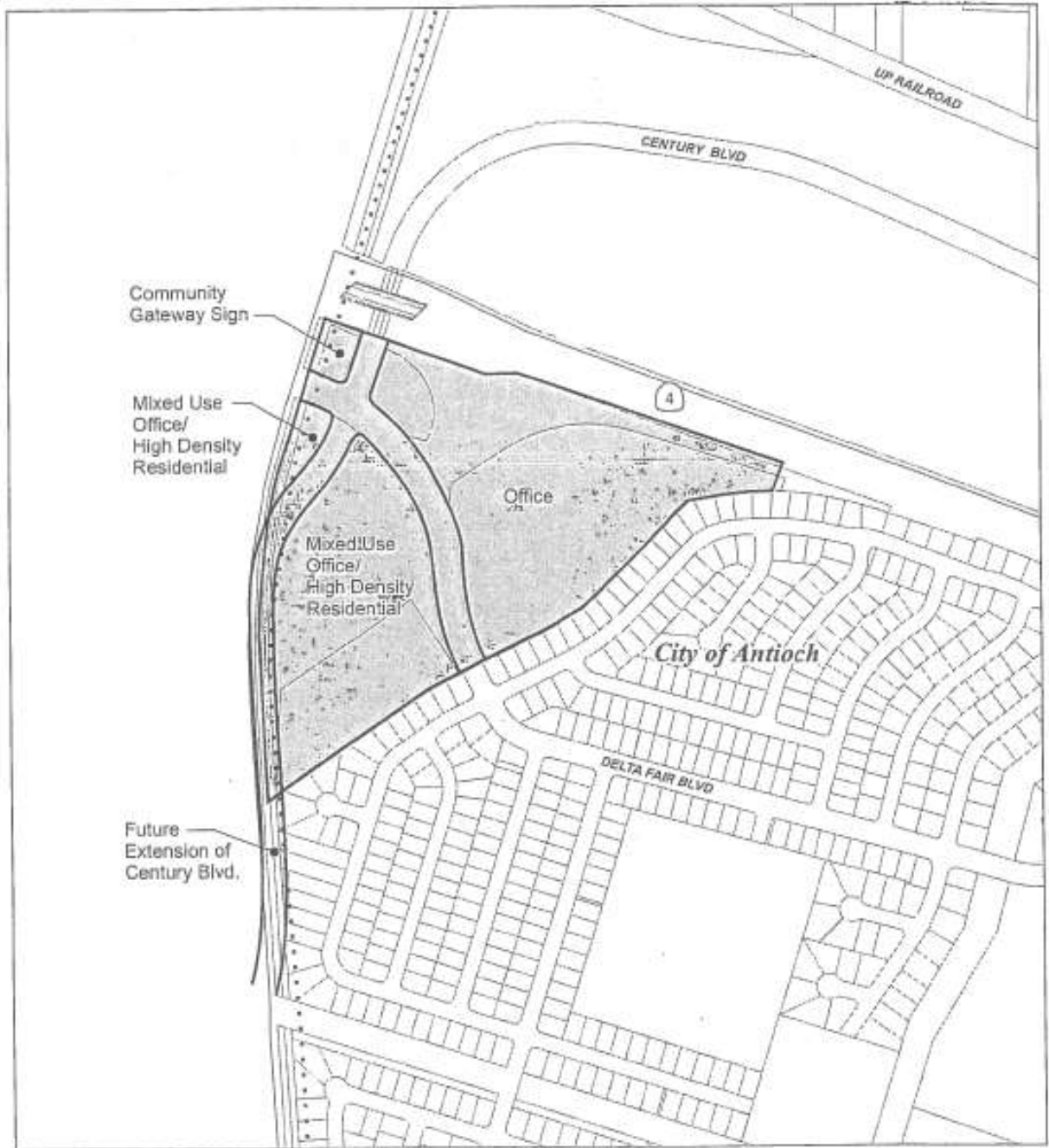
b. Policy Direction. A community gateway monument and landscaping should be developed along the west side of the intersection of Delta Fair Boulevard and

Century Boulevard. This monument should include modern community signage and appropriate landscaping. Development along the north side of Delta Fair Boulevard should consist of mid-rise office uses at the intersection of Delta Fair and Century boulevards, and potentially attached residential dwelling units adjacent to the existing neighborhood.

The following policies shall guide development of the Western Gateway Focus Area.

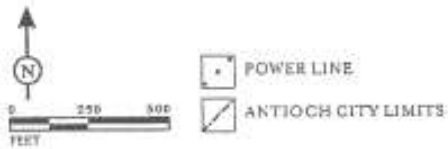
- a. The Western Gateway Focus Area is intended for office uses northwest of Delta Fair Boulevard, along with existing multi-family residential and public uses on the opposite side of the roadway.
- b. Areas designated "Office" on Figure 4.7 shall comply with the provisions of the Office land use designation (see Section 4.4.1.3).
- c. Areas designated "High Density Residential" on Figure 4.7 shall comply with the provision of the High Density Residential land use designation (See Section 4.4.1.3)
- d. Adequate separation shall be maintained between new multi-family uses and existing residential neighborhoods. If parking areas are located along the residential edge, sufficient noise mitigation shall be provided.
- e. As part of the development of this Focus Area, community gateway monumentation is to be established at the northwest corner of Delta Fair and Century Boulevards, including distinctive signage and landscaping and expressing the theme of Antioch as "Gateway to the Delta." Such signage and monumentation must portray a high quality design image for the City.¹

¹ See the Community Image and Design Element.



LSA

FIGURE 4.7



City of Antioch
General Plan
Western Gateway Focus Area

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4.4.6.7 Sand Creek. The Sand Creek Focus Area encompasses approximately 2,712 acres in the southern portion of the City of Antioch (Figure 4.8).

This Focus Area is bounded by existing residential neighborhoods to the north, Black Diamond Mines Regional Preserve to the west, the city limits to the south, and the City of Brentwood to the east. Empire Mine Road and Deer Valley Road run in a general north-south direction through the Focus Area, dividing it roughly into thirds.

a. Purpose and Primary Issues. The Sand Creek Focus Area combines two existing policy and planning areas identified in the previous General Plan: the southern portion of “Focused Policy Area 18” and the entirety of Future Urban Area 1.” Previous General Plan policy tied the timing of development within this Focus Area to progressive build out of the land immediately to the north (the area generally known as Southeast Antioch), and to agreement on an alignment for the SR-4 bypass.

Through the 1990s, build out of Southeast Antioch was largely completed, an alignment for the SR-4 bypass was selected, and financing for construction of the bypass was developed. As a result, the City stepped up its planning efforts for the Sand Creek Focus Area with area landowners. Because of the multiple ownerships within the Sand Creek Focus Area, detailed coordination of access and infrastructure, along with the establishment of workable financing mechanisms was necessary in addition to land use planning.

Sand Creek, as well as natural hillsides and canyons within the Sand Creek Focus Area, contain habitats for sensitive plant and animal species, as well as habitat linkages and movement corridors. Overall, the western portion of the Focus Area is more environmentally sensitive than the eastern portion in terms of steep topography, biological habitats and linkages, the existence of abandoned coal mines, and proximity to public open space at Black Diamond Mines Regional Preserve. The west end of the Sand Creek Focus Area serves as a linkage between two regionally significant

blocks of grassland. Decades of urban and agricultural use have greatly reduced the width of this linkage, substantially increasing the ecological importance of the remaining linkage within the Sand Creek Focus Area. Land has been preserved in regional parks and permanent open space, primarily in extensive grassland to the immediate west and northwest, as well as south of the Sand Creek Focus Area. These preserves represent a significant investment of public resources, and are a valued public asset.

Stream and riparian communities occupy a small portion of the Focus Area, but are widely distributed. Because of their high biotic value, stream and riparian communities within the Focus Area are considered to be a sensitive resource. The Focus Area also includes an oak woodland and savanna community, which, because of its high wildlife value, is considered to be a sensitive resource.

b. Policy Direction. The environmental sensitivity of portions of the Sand Creek Focus Area was recognized in the City’s previous General Plan; however, policy direction was very general. As an example, the previous General Plan did not provide any indication of the maximum allowable development intensity for Future Urban Area 1. The previous General Plan also stated that while the area between Contra Loma Boulevard and Empire Mine Road was designated Estate Residential, “the actual density should be based on a development plan that ensures that the special characteristics of the area, including steep slopes, riparian habitat, and other environmental constraints, are accommodated.

The following policy discussion and policies for the Sand Creek Focus Area are intended to provide clear direction for the future development and environmental management of the area.

The Sand Creek Focus Area is intended to function as a large-scale planned community, providing needed housing and employment opportunities. This Focus Area is also intended to provide substantial employment opportunities. Up to approximately 280 acres are to be devoted to retail and employment-generating uses, which will result in the creation of

up to 6,500 jobs at build out. Residential development within the Sand Creek Focus Area will provide for a range of housing types, including upper income estate housing, golf course-oriented age-restricted housing for seniors, suburban single-family detached housing for families or for seniors, and multifamily development.

The following policies apply to development within the Sand Creek Focus Area.

- a. Prior to or concurrent with approvals of any development applications other than major employment-generating uses (including, but not limited to a medical facility on the Kaiser property), a specific plan or alternative planning process as determined by the City Council, shall be prepared and approved for the Sand Creek Focus Area. Such specific plan or alternative planning process shall identify and provide for project for project-related land uses, financing of required public services and facilities, open space preservation, community design, recreational amenities, and community improvements within the area proposed for development.
- b. Sand Creek Focus Area development shall make a substantial commitment to employment-generating uses. Up to 280 180 acres are to be devoted to employment-generating uses within the areas shown for Business Park and Commercial/Open Space, in addition to the area shown as Mixed Use Medical Facility. Appropriate primary land uses within employment-generating areas include:
 - Administrative and Professional Offices
 - Research and Development
 - Light Manufacturing and Assembly
 - Hospital and related medical uses
- c. Secondary, support and ancillary uses within employment-generating areas include:
 - Banks and Financial Services
 - Business Support Services

- Eating and Drinking Establishments
- Health Clubs and Spas
- Lodging and Visitor Services
- Storage and Distribution – Light
- Civic Administration
- Cultural Facilities
- Day Care Centers
- d. The maximum development intensity for employment-generating lands shall be an overall FAR of 0.5.
- e. A maximum of 95 acres of retail commercial uses designed to service the local community may be developed within the areas shown for Commercial/Open Space, with a maximum overall development intensity of a 0.3 FAR.
- f. Up to 1.24 million square feet of retail commercial uses may be constructed. Within areas designated for retail use (areas shown for Commercial/Open Space), office development may be developed at a maximum FAR of 0.5.
- g. Appropriate uses within the retail portions of this Focus Area include:
 - Administrative and Professional Offices
 - Automotive Uses
 - Banks and Financial Services
 - Business Support Services
 - Eating and Drinking Establishments
 - Food and Beverage Sales
 - General Merchandise
 - Health Clubs and Spas
 - Personal Services
 - Personal Instruction
 - Theaters
 - Civic Administration
 - Cultural Facilities
 - Day Care Centers
 - Residential development as part of a mixed-use medical facility

- h. Commercial areas shall be designed as cohesive centers, and not in narrow corridors or commercial strips.
- i. Each commercial center shall establish an identifiable architectural theme, including buildings, signage and landscaping.
- j. Commercial and employment-generating developments shall be designed to accommodate public transit and non-motorized forms of transportation.
- k. A maximum of 4,000 dwelling units may be constructed within the Sand Creek Focus Area. Appropriate density bonuses may be granted for development of age-restricted housing for seniors; however, such density bonuses may not exceed the total maximum of 4,000 dwelling units for the Sand Creek Focus Area.
- l. It is recognized that although the ultimate development yield for the Focus Area may be no higher than the 4,000 dwelling unit maximum, the actual development yield is not guaranteed by the General Plan, and could be substantially lower. The actual residential development yield of the Sand Creek Focus Area will depend on the nature and severity of biological, geologic, and other environmental constraints present within the Focus Area, including, but not limited to constraints posed by slopes and abandoned mines present within portions of the Focus Area; on appropriate design responses to such constraints, and on General Plan policies. Such policies include, and but are not limited to, identification of appropriate residential development types, public services and facilities performance standards, environmental policies aimed at protection of natural topography and environmental resources, policies intended to protect public health and safety, and implementation of the Resource Management Plan called for in Policy “u,” below.
- m. As a means of expanding the range of housing choices available within Antioch, three types of “upscale” housing are to be provided, including Hillside Estate Housing, Executive Estate Housing, and Golf Course-Oriented Housing.

Hillside Estate Housing consists of residential development within the hilly portions of the Focus Area that are designated for residential development. Appropriate land use types include Large Lot Residential. Within these areas, typical flat land roadway standards may be modified (e.g., narrower street sections, slower design speeds) to minimize required grading. Mass grading would not be permitted within this residential type. Rough grading would be limited to streets and building pad areas. Residential densities within Hillside Estate Areas are to be limited to one dwelling unit per gross developable acre (1 du/ac), with typical lot sizes ranging upward from 20,000 square feet. The anticipated population density for this land use type is up to four persons per developed acre. Included in this category is custom home development, wherein semi-improved lots are sold to individuals for construction of custom homes. Approximately 20 percent of Hillside Estate Housing should be devoted to custom home sites.

Executive Estate Housing consists of large lot suburban subdivisions within the flatter portions of the Focus Area. Appropriate land use types include Large Lot Residential. Densities of Executive Housing areas would typically be 2 du/ac, with lot sizes ranging upward from 12,000 square feet. The anticipated population density for this land use type is up to eight persons per developed acre.

Golf Course-Oriented Housing consists of residential dwelling units fronting on a golf course to be constructed within the portion of the Focus Area identified as Golf Course/Senior Housing/Open Space in Figure 4.8. Appropriate land use types include Single Family Detached and Small Lot Single Family detached for lots fronting on the golf course. Maximum densities for golf course-oriented housing would typically be 4 du/ac, with lot sizes as small as 5,000 square feet for lots actually fronting on the golf course. Given the significant environmental topographic constraints in the portion of the focus area west of Empire Mine Road, the minimum lot size for executive estate housing within

- this area shall be a minimum of 10,000 square feet. This would allow additional development flexibility in situations where executive estate housing needs to be clustered in order to preserve existing natural features. In no case shall the 10,000 square foot minimum lot size constitute more than 20 percent of the total number of executive estate housing units in the area west of Empire Mine Road. The anticipated population density for this land use type is up to eight to twelve persons per acre developed with residential uses. Should the City determine as part of the development review process that development of a golf course within the area having this designation would be infeasible, provision of an alternative open space program may be permitted, provided, however, that the overall density of lands designated Golf Course/Senior Housing/Open Space not be greater than would have occurred with development of a golf course.
- n. Single-Family Detached housing within suburban-style subdivisions with lot sizes ranging from 7,000 square feet to 10,000 square feet may also be developed within the Sand Creek Focus Area within areas shown as Residential and Low Density Residential in Figure 4.8. The anticipated population density for this land use type is up to eight to twelve persons per acre developed with residential uses.
 - o. Small Lot Single Family Detached housing at the Aviano planned development and at the Vineyards at Sand Creek planned development with lots smaller than 7,000 square feet may be developed in the Sand Creek Focus Area within areas shown as Medium Low Density Residential and Low Density Residential in Figure 4.8. The anticipated population density for this land use type is fourteen to eighteen persons per acre developed with residential uses.
 - p. A total of 25 to 35 acres is to be reserved for multi-family housing to a maximum density of 20 du/ac. Areas devoted to multi-family housing should be located adjacent to the main transportation routes within the Focus Area, and in close proximity to retail commercial areas. The anticipated population density for this land use type is up to forty persons per acre developed with residential uses.
 - q. Age-restricted senior housing should be developed within the Focus Area as a means of expanding the range of housing choice within Antioch, while reducing the Focus Area's overall traffic and school impacts. Such senior housing may consist of Single Family Detached, Small Lot Single Family Detached, of Multi-Family Attached Housing, and may be developed in any of the residential areas of the Sand Creek Focus Area. Within areas identified in Figure 4.8 specifically for senior housing, limited areas of non-senior housing may be permitted where environmental or topographic constraints would limit development densities to a range more compatible with estate housing than with senior housing.
 - r. Areas identified as Public/Quasi Public and School in Figure 4.8 are intended to identify locations for new public and institutional uses to serve the future development of the Sand Creek Focus Area. Development within these areas is to be consistent with the provisions of the Public/Institutional land use category described in Section 4.4.1.4 of the Land Use Element.
 - s. Sand Creek, ridgelines, hilltops, stands of oak trees, and significant landforms shall be preserved in their natural condition. Overall, a minimum of 25 percent of the Sand Creek Focus Area shall be preserved in open space, exclusive of lands developed for golf course use.
 - t. Adequate buffer areas adjacent to the top of banks along Sand Creek to protect sensitive plant and amphibian habitats and water quality shall be provided. Adequate buffer areas shall also be provided along the edge of existing areas of permanently preserved open space adjacent to the Sand Creek Focus Area, including but not limited to the Black Diamond Mines Regional Park. Buffers established adjacent to existing open space areas shall be of an adequate width to minimize light/glare, noise, fire safety, and public safety, habitat, and public access impacts within the existing open

- space areas, consistent with the provisions of Section 10.5, Open Space Transitions and Buffers Policies of the General Plan.
- u. Because of the sensitivity of the habitat areas within the Sand Creek Focus Area, and to provide for mitigation of biological resources impacts on lands in natural open space, as well as for the long-term management of natural open space, a project-specific Resource Management Plan based on the Framework Resource Management Plan attached as Appendix A to this General Plan shall be prepared and approved prior to development of the Sand Creek Focus Area properties.
 - v. A viable, continuous grassland corridor between Black Diamond Mines Regional Preserve and Cowell Ranch State Park shall be retained using linkages in the southwestern portion of the Lone Tree Valley (within the Sand Creek drainage area), Horse Valley, and the intervening ridge. The primary goal of preserving such a corridor is to allow for wildlife movement between Black Diamond Mines Regional Preserve and Cowell Ranch State Park. Completion of such a corridor is contingent upon the cooperation with the City of Brentwood and Contra Costa County, each of whom may have land use jurisdiction over portions of this corridor.
 - To preserve this corridor and in view of other significant development constraints, certain lands in the southwestern portion of the Focus Area shall be designated as “Open Space,” as depicted in Figure 4.8. Limited future adjustments to the boundaries of this “Open Space” area may occur as part of the Specific Plan and/or project level environmental review processes, provided that such adjustments: (a) are consistent with the goals and policies outlined in the Framework for Resource Management set forth in Appendix A; (b) are based upon subsequently developed information and data relating to environmental conditions or public health and safety that is available at the Specific Plan stage, the project-level development plan stage, or during the permitting processes with federal, state or regional regulatory agencies; and (c) would not cause the “Open Space” area west of Empire Mine Road to be less than 65 percent of the total lands west of Empire Mine Road. Any open space and otherwise undeveloped areas west of Empire Mine Road that are within the area designated as “Hillside and Estate Residential” shall not count towards meeting this 65 percent minimum “Open Space” requirement.
 - All areas designated as “Open Space” within the Focus Area may be utilized for mitigation for loss of grassland and other project-level impacts by projects within the Focus Area.
 - Due to the varied and complex topography west of Empire Mine Road the exact boundary between the “Hillside Estate” residential area and “Estate” residential area shall be determined as part of the project-level entitlement process.
 - It is anticipated that there will be only minor adjustments to the boundary between the open space area and the hillside and estate residential area shown in Figure 4.8. Minor adjustments may be made to this boundary provided that such adjustments shall not create islands of residential development within the area designated open space in Figure 4.8.
 - In order to ensure adequate buffering of the Black Diamond Mines Regional Park from development in the Sand Creek Focus Area, no residential development shall be allowed north of the Sand Creek channel between the area designated “Hillside and Estate Residential” in Figure 4.8 west of Empire Mine Road and the existing Black Diamond Mines Regional Park boundary.
 - w. The construction of facilities necessary to ensure adequate public access across

- Sand Creek west of Empire Mine Road, including the bridging of Sand Creek, an appropriately sized parking lot and staging area, and any trails needed to ensure public access to Black Diamond Mines Regional Park shall be implemented as an infrastructure component of development in the Focus Area.
- x. To mitigate the impacts of habitat that will be lost to future development within the Focus Area, an appropriate amount of habitat shall be preserved on- or off-site per the compensatory provisions of the Framework Resource Management Plan prepared for the Sand Creek Focus Area (attached as Appendix A of the General Plan).
 - y. Ponds, wetlands, and alkali grassland associated with upper Horse Creek shall be retained in natural open space, along with an appropriate buffer area to protect sensitive plant and amphibian habitats and water quality. If impacts on the Horse Creek stream and riparian downstream are unavoidable to accommodate infrastructure, appropriate compensatory mitigation shall be required off-site per the provisions of the Resource Management Plan attached as Appendix A to this General Plan.
 - z. Chaparral, scrub, and rock outcrop community within the western portion of the Focus Area (west of Empire Mine Road), as well as adjacent grassland community that is suitable habitat for the Alameda whipsnake (*masticophis lateralis euryxanthus*) shall be retained in natural open space. Within other portions of the Focus Area, the chaparral, scrub, and rock outcrop shall be retained in natural open space contiguous to the required grassland linkage to function as a buffer and protect the grassland linkage south of the chaparral, scrub, and outcrop community.
 - aa. Within the western portion of the Focus Area (west of Empire Mine Road), the oak woodland and savanna community shall be preserved in natural open space. Within other portions of the Focus Area, the oak woodland and savanna community shall be preserved in natural open space where it overlaps the rock outcrop community.
 - bb. As appropriate and necessary to protect public health and safety, abandoned mines shall be included within required natural open space areas, along with appropriate buffer areas and measures to prevent unauthorized entry.
 - cc. Mass grading within the steeper portions or the Focus Area (generally exceeding 25 percent slopes) is to be avoided.
 - dd. Impacts of residential development on the Antioch Unified School District and Brentwood school districts will be mitigated pursuant to a developer agreement with the District.
 - ee. Project entry, streetscape, and landscape design elements are to be designed to create and maintain a strong identification of the Sand Creek Focus Area as an identifiable “community” distinct from Southeast Antioch.
 - ff. The Sand Creek Focus Area is intended to be “transit-friendly,” including appropriate provisions for public transit and non-motorized forms of transportation.
 - gg. subject to its financial feasibility (see Policy “m”), a golf course shall be provided within the Focus Area, designed in such a way as to maximize frontage for residential dwellings. The golf course may also be designed to serve as a buffer between development and open space areas set aside to mitigate the impacts of development.
 - The golf course shall be designed to retain the existing trail within Sand Creek.
 - The golf course and Sand Creek corridor shall function as a visual amenity from the primary access road within the Focus Area (Dallas Ranch Road/Sand Creek Road).
 - As part of the golf course clubhouse, banquet and conference facilities shall be provided.
 - hh. A park program, providing active and passive recreational opportunities is to be provided. In addition to a golf course and preservation of natural open space within Sand Creek and the steeper portions of

the Focus Area, the development shall meet the City's established park standards. A sports complex is to be developed.

A sports complex is to be developed. The sports complex is intended to be located within the Flood Control District's detention basin.

Neighborhood park facilities may be privately maintained for the exclusive use of project residents. The sports complex within the Sand Creek Detention Basin will be maintained by the City.

- ii. Development of an appropriate level of pedestrian and bicycle circulation throughout the community is to be provided, including pathways connecting the residential neighborhoods, as well as non-residential and recreational components of the community. Sand Creek Focus Area development should also provide recreational trail systems for jogging and bicycling, including areas for hiking and mountain biking. Trails along Sand Creek and Horse Valley Creek shall be designed so as to avoid impacting sensitive plant and amphibian habitats, as well as water quality.

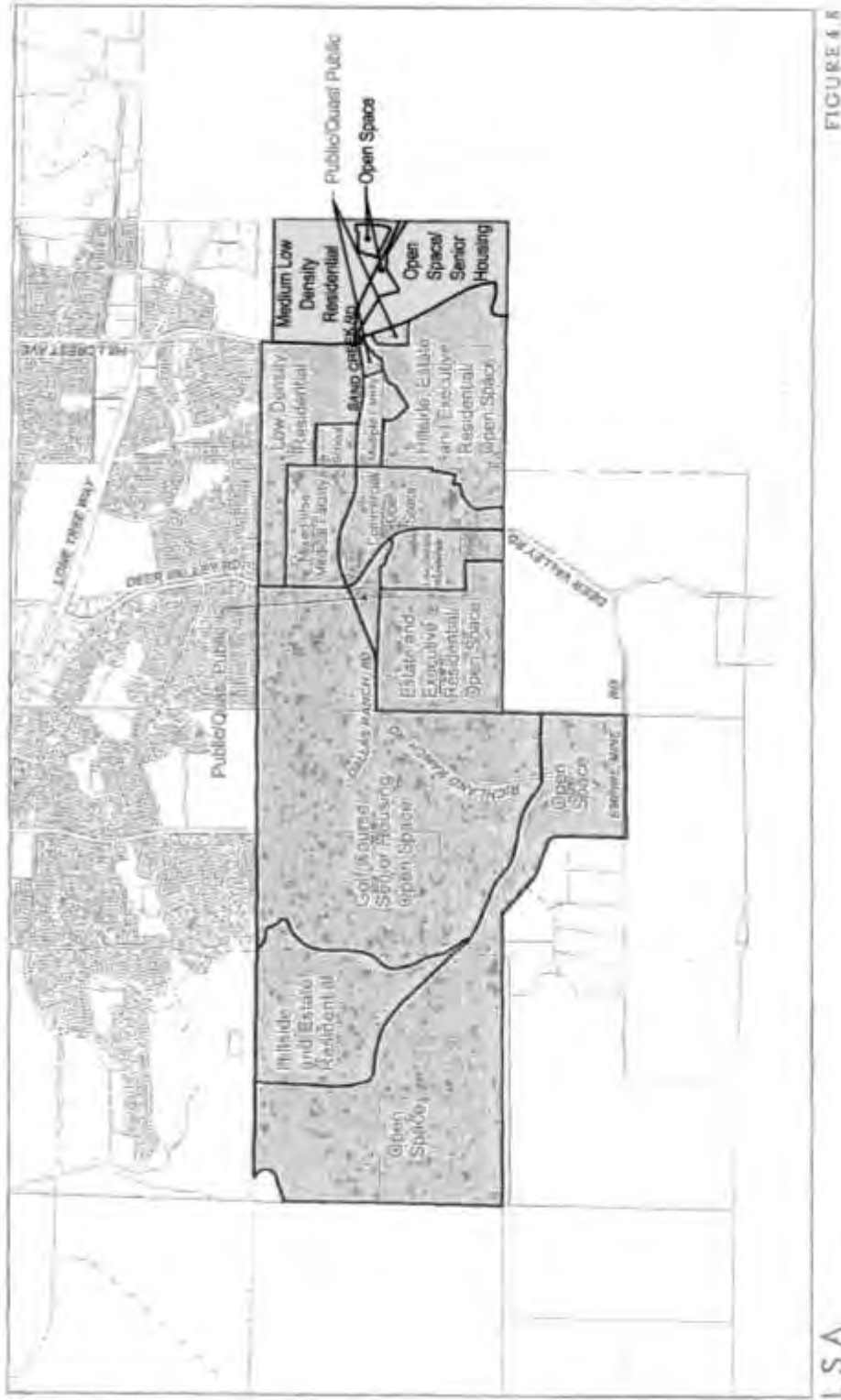


FIGURE 4.8
(REVISED BY CPG, 11/09/15)

City of Antioch
General Plan
Sand Creek Focus Area

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4.4.6.8 East Lone Tree Specific Plan Area.

The East Lone Tree Specific Plan Focus Area encompasses approximately 720 acres in the eastern portion of the City of Antioch. It is bounded by Lone Tree Way on the south, Empire Avenue and the Southern Pacific rail line on the east, the Contra Costa Canal on the north, and existing residential subdivisions on the west (Figure 4.9). The City's previous General Plan identified the East Lone Tree Specific Plan Area as "Future Urban Area 2." The alignment of the SR-4 bypass runs through the center of the Focus Area, with interchanges proposed at Lone Tree Way and at the extension of Laurel Road.

a. Purpose and Primary Issues. City General Plan policy has long held that the lands within the East Lone Tree Focus Area should be developed for employment-generating uses, with the majority of the area developed with suburban-type business parks, incorporating major office complexes and light industrial uses, all developed in accordance with high development standards. The SR-4 By-pass runs through the middle of the Focus area, along the base of rolling hills. The eastern portion of the area is relatively flat, while the western portion of the area consists of rolling hills.

The East Lone Tree Specific Plan was adopted by the City in May 1996. The Specific Plan supports long-standing General Plan goal of a new employment center by devoting the flat eastern portion of the Focus Area to employment-generating uses. At the heart of the employment center is a proposed retail nucleus of restaurants, shops, and service providers. The Specific Plan identifies the purpose of this retail nucleus as providing a "sense of vitality and urbanity to what is otherwise a low, spread-out campus of largely internalized workplaces." The Specific Plan also encourages a commuter rail station along the existing Southern Pacific rail line to link the proposed employment center with the proposed commuter rail system. The commuter rail station proposed in the Specific

Plan will actually be located to the east of the Specific Plan (see Figure 7.1).

The Specific Plan identifies three sites as being appropriate for regional retail development. A 30-acre site at the Lone Tree Way interchange along the SR-4 Bypass is reserved in the Specific Plan exclusively for regional retail use, while two other sites, encompassing 48 acres are identified for regional retail use, but may be used for employment-generating uses. These two sites are located at the Laurel Road interchange along the Bypass, and at the intersection of Lone Tree Way and Empire Road. The East Lone Tree Specific Plan dedicates the western portion of the area primarily to detached single-family development at a density of 4 to 6 units per acre. A system of open space, trails, and parks is planned throughout the residential portion of the area.

The East Lone Tree Specific Plan, with its frontage along the SR-4 Bypass, provides Antioch with substantial opportunities for expansion of the employment and retail bases. The 98 acres devoted to employment-generating uses in the Specific Plan could provide employment for up to 2,850 workers. An additional 2,275 jobs could be created within the 78 acres reserved by the Specific Plan for "Regional Focus Area Retail/Employment" uses, if that area were to be devoted to employment-generating use. Retail and service employment could be as high as 2,025.

b. Policy Direction. The East Lone Tree Specific Plan implements General Plan policies aimed at establishing Antioch as a balanced community, providing a broad range of employment and shopping opportunities for its residents. The eastern portion of the Focus Area, east of the SR-4 Bypass, is to be devoted to employment-generating and commercial land uses, while the area west of the Bypass will be devoted to residential and open space uses, with supporting neighborhood commercial development and public uses. The eastern portion of the Focus

Area was included by ABAG in its "Shaping



Residential uses are also envisioned in specific locations, as depicted in the Specific Plan, Housing Element and Figure 4-9.

Our Future” program¹.

Along with the provisions of the Specific Plan, the following land use policies shall apply.

a. The maximum development intensity for the East Lone Tree Specific Plan area shall be as follows:

- Single-Family Residential: 1,100 dwelling units, developed within the areas shown as “Residential/Open Space in Figure 4.9, subject to the provisions of the Low and/or Medium Low Density Residential land use category described in Section 4.4.1.1 of the Land Use Element.
- Multi-Family Residential: 250 dwelling units, developed within the areas shown as “Residential/Open Space in Figure 4.9, subject to the provisions of the High Density Residential land use category described in Section 4.4.1.1 of the Land Use Element.
- Commercial/Office: 1,135,000 square feet, developed within the areas shown as “Office/Retail,” “Regional Retail,” or “Regional Retail/ Employment Generating Lands in Figure 4.9. Such development may include a mix of uses that comply with the provisions of the Regional Retail land use category described in Section 4.4.1.2 or the Office land use category described in Section 4.4.1.3 of the Land Use Element.
- Business Park/Industrial: 2,152,300 square feet, developed within the areas shown as “Regional

Retail/Employment Generating Lands” in Figure 4.9. Such development may include a mix of uses that comply with the provisions of the Business Park or Light Industrial land use categories described in Section 4.4.1.3 of the Land Use Element.

- b. Land uses within the area shown as Open Space/Public in Figure 4.9 may include a mix of uses that comply with the provisions of the Open Space or Public/Institutional land use category described in Section 4.4.1.4 of the Land Use Element.
- c. If a regional mall can be attracted to the East Lone Tree Specific Plan area, the land area devoted to regional retail may be expanded as necessary to accommodate this use.
- d. Should the Antioch Unified School District not purchase land within the East Lone Tree Focus Area for a new high school as provided in State law, the area may be developed consistent with the East Lone Tree Focus Area Residential/Open Space designation.
- e. The physical extent of the office/retail area along in the southwest quadrant of the Laurel Road interchange may be expanded, should the market support additional office/commercial development.
- f. With implementation smart growth principles and the introduction of a rail transit stop in the vicinity of the Focus Area, the Commercial/Employment area located adjacent to the transit stop, may be developed as a mixed-use area, incorporating high intensity, residential, commercial, and office uses. Such development could occur at densities as high as an FAR of 1.0 for non-residential uses and mixed-use buildings, up to 20 units per acre for residential areas. Residential development should incorporate residential village themes, providing identifiable neighborhood areas within the Focus Area. The identity of individual neighborhoods should be reinforced with differing architectural styles and location within the community.

Additional housing opportunity sites identified in the Housing Element

¹ “Shaping Our Future” is sponsored by 45 organizations in the Bay Area in an attempt to achieve consensus on comprehensive approaches to growth and change in Contra Costa County. The program aims to define a “smarter way to grow”, including “efficient” design of development along the edges of the metropolitan area. Planning principles being followed in Shaping Our Future include reducing single occupant vehicle trips through mixed use development at “efficient” densities, developing new transit centers and focusing new development around those centers, and preserving open space and agricultural lands.

- g. Development of an appropriate level of pedestrian and bicycle circulation throughout the community is to be provided, including pathways connecting the each residential neighborhood, as well as non-residential and recreational components of the community. Development of the East Lone Tree Specific Plan area should also provide recreational trail systems for jogging and bicycling, including areas for hiking and mountain biking.
- h. Public services and facilities, including needed on-site and off-site facilities, shall be provided and financed by the project as needed to meet the public services performance standards set forth in the Growth Management Element for each increment of project development.
- i. Project development shall provide full mitigation of impacts on school facilities to the Antioch Unified School District, Brentwood Union School District, and Liberty Union High School District to offset demands for new school facilities created by future development within each district
- j. Project entry, streetscape, and landscape design elements are to be designed to create and maintain a strong identification of the East Lone Tree Specific Plan area as an identifiable “community.”

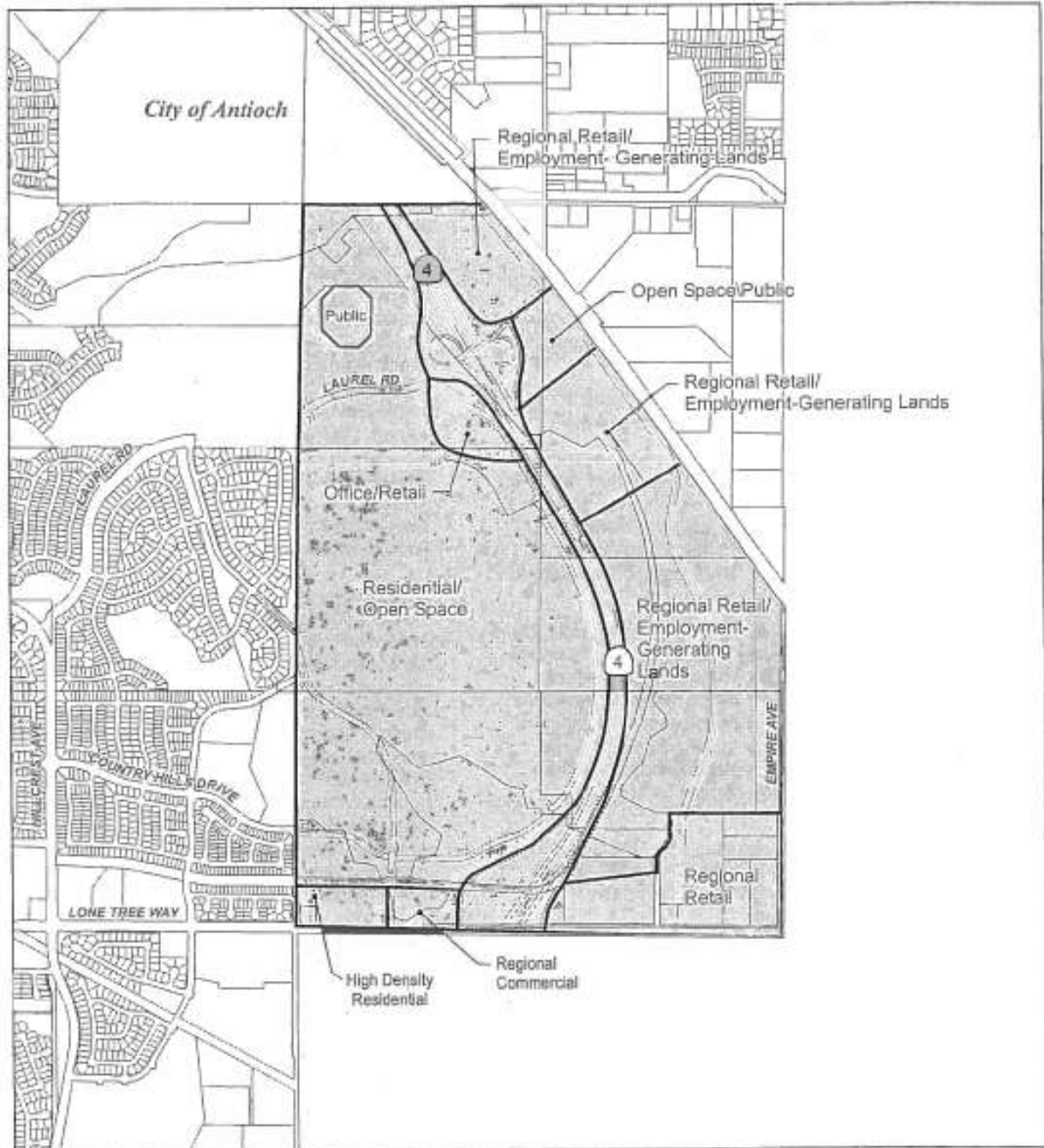


FIGURE 4.9

LSA



City of Antioch
General Plan
East Lone Tree Focus Area

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4.4.6.9 Roddy Ranch. Roddy Ranch is located in the southerly portion of the General Plan study area, within unincorporated territory. A portion of Roddy Ranch is inside the Voter-Approved Citywide Urban Limit Line (Figure 4.12). This Focus Area encompasses over 2,100 acres of rolling land used for grazing and ranching. Other existing land uses include a golf course, clubhouse, and open space. As a condition of approval for the golf course, development rights on 875 acres of land were dedicated to the County in 1998. These lands will be retained in permanent Open Space.

a. Purpose and Primary Issues. The striking natural beauty of the Roddy Ranch area, along with its large size and single ownership, represent both a significant opportunity and a substantial challenge. Roddy Ranch provides Antioch with the opportunity to establish a unique high-end, recreation-oriented planned community. Because of the site's natural setting and relative isolation, it should be possible to create an "exclusive" community identity for Roddy Ranch, which is the intent of the General Plan. Consistent with Policy 4.3.2f, through 2020, development within Roddy Ranch that is outside of the Voter-Approved Urban Limit Line as it was approved by the voters of the City may be limited to uses consistent with the General Plan.

Key issues in the development of Roddy Ranch will be preservation of natural open space areas, financing the development of new infrastructure to serve the site, and managing project-related traffic. Roddy Ranch is currently devoid of the services needed to support urban and suburban development of the type envisioned in the long-term for this Focus Area. Water, sewer, drainage, and other utility systems will need to be developed essentially "from scratch." Roddy Ranch most likely will not generate sufficient students to support its own elementary, middle or high schools.

Currently, two-lane rural roads serve Roddy Ranch. Development of this Focus Area will require not only the development of an extensive on-site roadway system, but also widening of off-site roadways within existing developed and undeveloped areas.

b. Policy Direction. As noted in Land Use Element Policy 4.3.2, the General Plan recognizes the Voter-Approved Urban Limit Line as a means of phasing urban and suburban development preserving open space, and maintaining a compact urban form.

It is the intent of the Antioch General Plan that Roddy Ranch be developed as a master planned enclave nestled in the rolling hills south of the present City of Antioch. The visual character of Roddy Ranch should be defined principally by suburban density residential development clustered within natural and

recreational open spaces, along with the preservation of the steeper natural hillsides and the canyon bottoms containing riparian resources within the site. The existing golf course, as a major recreational amenity, should be the central focus of the planned community.

The following policies shall guide development of the Roddy Ranch Focus Area, pursuant to the Voter-Approved Urban Limit Line provisions of Policy 4.3.2f.

- a. Prior to approvals of any development applications, a Final Development Plan for the Roddy Ranch Focus Area is to be prepared and approved. Such Final Development Plan shall provide detailed guidance for project-related land use, provision and financing of required public services and facilities, open space preservation, community design, recreational amenities, and community improvements. Development within the Roddy Ranch shall be predicated upon extension of infrastructure from the north through the Sand Creek Focus Area.
- b. Residential development within Roddy Ranch shall not exceed a maximum of 700 dwelling units within the portion of Roddy Ranch located generally on lands not committed to open space and having steep slopes or significant environmental constraints, which lands shall not exceed 500 acres within the Voter-Approved Urban Limit Line (6-9 persons per developable acre on average) consistent with Policy 4.3.2f. Of these 700 units, all or substantially all shall be Estate

- Residential and the balance shall be Multi-Family Attached residential product types (as defined in Table 4.A) in a resort-style setting.
- c. Residential neighborhoods within Roddy Ranch should be designed to provide high quality housing attractive to a broad spectrum of buyers, including upper end housing that provides “move-up” opportunities for local residents. Multifamily, for-rent housing should be limited to a central “town center” location within the site, adjacent to commercial uses and along the golf course.
 - d. Residential development should incorporate residential village themes, providing identifiable neighborhood areas within the planned community. The identity of individual neighborhoods should be reinforced with differing architectural styles and location within the community.
 - e. Commercial uses within Roddy Ranch are intended to serve local neighborhood needs (e.g., supermarket, drug store, and personal services), and are to be limited to that which can be supported by residential and recreational uses within Roddy Ranch (10 to 20 acres, approximately 100,000 to 225,000 square feet of gross leasable area).
 - f. Visitor-serving commercial uses (e.g., hotel and restaurants) may also be developed within Roddy Ranch. Such visitor-serving uses would be oriented toward the golf course. The hotel may include a maximum of 250 rooms with ancillary retail, conference, restaurant, and recreational uses. Visitor-serving commercial uses may occupy a total of 20 acres at a maximum building intensity of 0.50.
 - g. Primary access to Roddy Ranch is to be from both Deer Valley Road and Empire Mine Road, with secondary connections to Balfour Road and Sand Creek Road.
 - h. Development of an appropriate level of pedestrian and bicycle circulation throughout the community is to be provided, including pathways connecting each residential neighborhood, as well as non-residential and recreational components of the community. Roddy Ranch development should also provide recreational trail systems for jogging and bicycling, including areas for hiking and mountain biking.
 - i. Development of the Roddy Ranch shall provide such on- and off-site road improvements on City of Antioch streets as to ensure that applicable performance standards set forth in the Growth Management Element are met.
 - j. Public services and facilities, including needed on site and off site facilities, shall be provided and financed by the project as needed to meet the public services performance standards set forth in the Growth Management Element for each increment of project development.
 - k. Performance standards for emergency response services (police and fire) are to be met at the time the first increment of development is occupied and for each subsequent increment of development.
 - l. Project development shall provide full mitigation of impacts on school facilities to affected school districts.
 - m. The timing of new development shall be correlated with the installation of water, sewer, electrical, and natural gas utility systems, provision of municipal services (including emergency services), and project open space and amenities with land development in a manner that is economically feasible and that ensures adequate service to uses within the site starting with the time the first increment of development is occupied.
 - n. Project entry, streetscape, and landscape design elements are to be designed to create and maintain a strong identification of Roddy Ranch as an identifiable “community.”
 - o. Development of an attractive, but natural-appearing landscape is to be provided with groves of trees, earth tone wall colors, and drifts of flowering shrub materials.
 - p. A central open space area, which may include the golf course, is to be provided to serve as the dominant visual feature of

the Roddy Ranch, as well as to provide recreational opportunities.

- q. Because of the sensitivity of the habitat areas within the Roddy Ranch Focus Area, preparation and approval of a Resource Management Plan to provide for mitigation of biological resources impacts, as well as for the long-term management of natural open space, shall be required prior to development of the Roddy Ranch Focus Area. The Resource Management Plan shall provide for appropriate habitat linkages consistent with General Plan policies and Resource Management Plan provisions for the Sand Creek Focus Area.

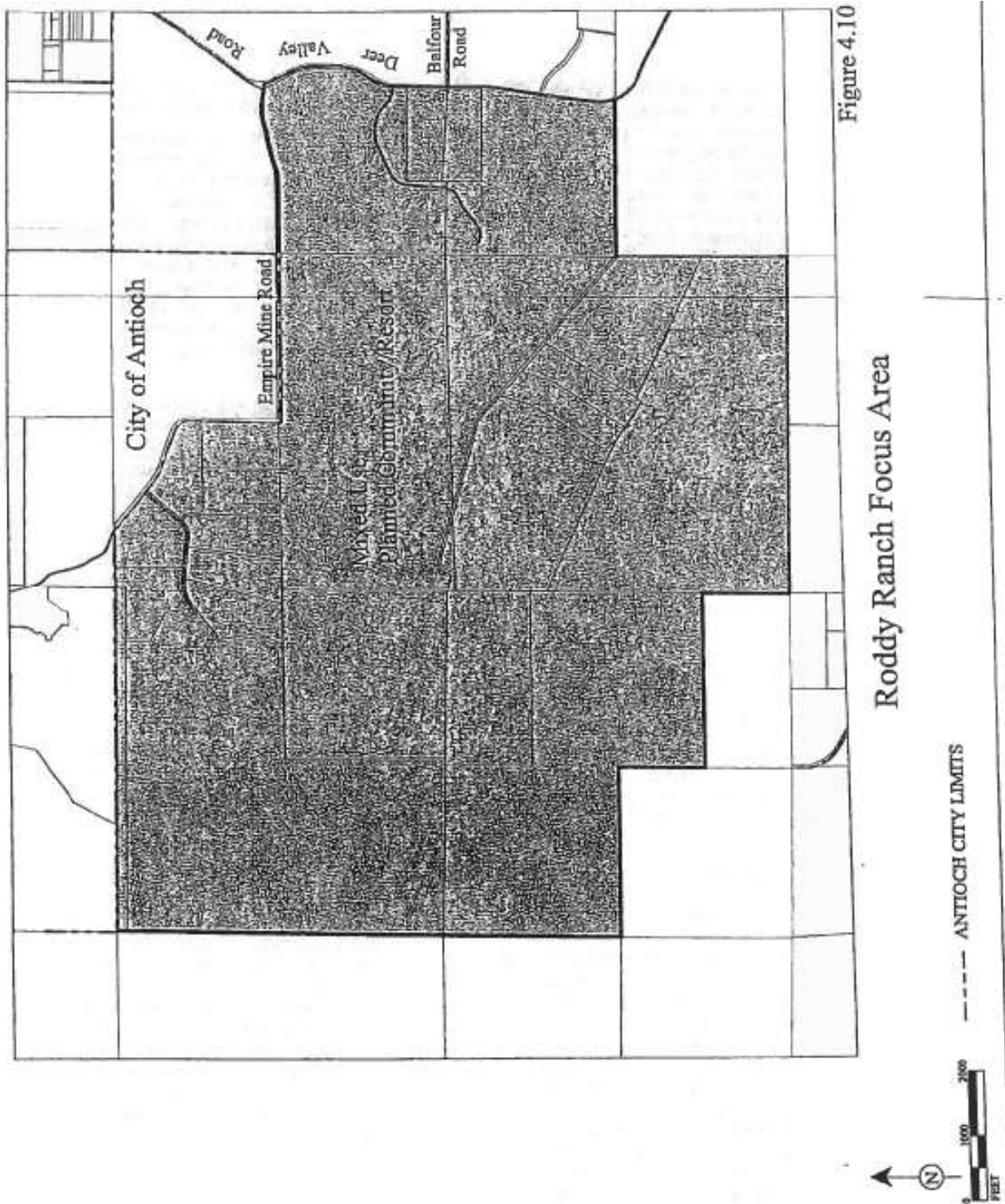


Figure 4.10

Roddy Ranch Focus Area

4.4.6.10 Ginochio Property. The Ginochio Property is located in the southerly portion of the General Plan study area, within unincorporated territory (Figure 4.11). This Focus Area encompasses nearly 1,070 acres of rolling lands and canyon areas. The site is currently vacant. A portion of Ginochio Property is located within the Voter-Adopted Urban Limit Line (Figure 4.12).

a. Purpose and Primary Issues. The Ginochio Property presents Antioch with similar opportunities and challenges, as does Roddy Ranch. Within the Ginochio Property is the opportunity to establish a high-end planned community, which is the intent of the General Plan.

Key issues in the development of the Ginochio Property will be preservation of natural open space areas, financing the development of new infrastructure to serve the site, and managing project-related traffic. Water, sewer, drainage, and other utility systems will need to be developed essentially “from scratch” to support long-term suburban development of the Ginochio Property. If family-oriented housing is development, new school facilities will be needed; however, development of the Ginochio Property might not support development of its own new schools, necessitating students to travel to distant locations for school. As was the case for Roddy Ranch, the Ginochio Property is served by winding two-lane rural roads, which will require substantial widening along with development of an extensive on-site roadway system.

b. Policy Direction. Urban development within the Ginochio Property is limited to property within the Voter-Approved Urban Limit Line as a means of phasing urban and suburban development preserving open space, and maintaining a compact urban form. Thus, the policy direction that follows is predicated on compliance with the provisions of Policy 4.3.2f.

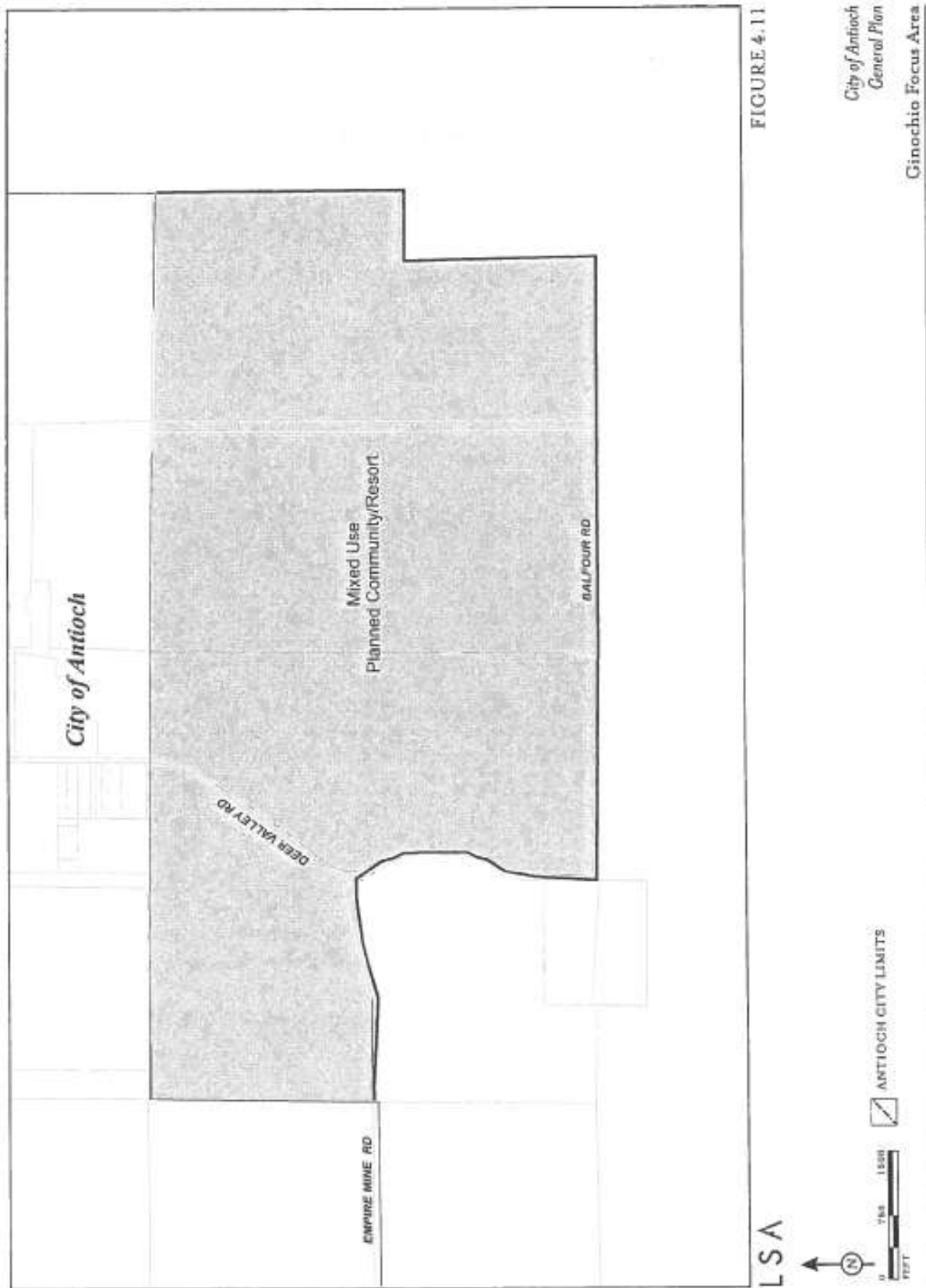
It is the intent of the Antioch General Plan that the Ginochio Property be developed as a master planned enclave nestled in the rolling hills south of the present City of Antioch. The visual character of the Ginochio Property should be defined principally by suburban density residential development within the northerly portion of the Focus Area, and

preservation of large, unbroken blocks of open space in the southern portion of the site. A major recreational amenity should be developed as the central focus of the planned community.

The following policies shall guide development of the Ginochio Property, pursuant to the Urban Limit Line provisions of Policy 4.3.2.

- a. Prior to approvals of any development applications, a Final Development Plan for the Ginochio Property Focus Area is to be prepared and approved. Such Final Development Plan shall provide detailed guidance for project-related land use, provision and financing of required public services and facilities, open space preservation, community design, recreational amenities, and community improvements.
- b. While it is in force, development shall be consistent with the City’s boundary agreement with the City of Brentwood.
- c. Residential development within the Ginochio Property shall not exceed a maximum of 2.0 dwelling units per developable acre (6 persons per developable acre) with the permitted development area set forth in Policy 4.3.2f, and shall include a range of Single-Family Detached and Multi-Family Attached residential product types (as defined in Table 4.A) in a resort-style development within the northern portion of the site. Large Lot Residential development consisting of custom home sites on five and ten acre parcels is appropriate, provided that the maximum density is not exceeded. Senior, age-restricted residential development is anticipated to be an important component of the Ginochio Property’s residential development. For purposes of determining density within the Ginochio Property focus area, a “developable acre” shall be defined as lands not committed to open space and having steep slopes or other significant environmental constraints. These lands will be mapped in the Final Development Plan. Development may occur on lands with steep slopes at a maximum density of one dwelling unit per 10 acres (1 du/10ac). The mapping of

-
- such lands will occur as part of the Final Development Plan.
- d. Residential neighborhoods within the Ginochio Property should be designed to provide high quality housing attractive to a broad spectrum of families and retirees, including upper end housing that provides “move-up” opportunities for local residents. Multifamily, for-rent housing should be limited to a central “town center” location within the site, adjacent to commercial uses.
 - e. Residential development should incorporate residential village themes, providing identifiable neighborhood areas within the planned community. The identity of individual neighborhoods should be reinforced with differing architectural styles and location within the community.
 - f. Primary access to the Ginochio Property is to be from an extension of Hillcrest Avenue, with secondary connections to Balfour Road and Sand Creek Road.
 - g. Development of an appropriate level of pedestrian and bicycle circulation throughout the community is to be provided, including pathways connecting each residential neighborhood, as well as non-residential and recreational components of the community. Development of the Ginochio Property should also provide recreational trail systems for jogging and bicycling, including areas for hiking and mountain biking.
 - h. Along with the development of on-site roadways required to meet the applicable Growth management Element performance standards, new development shall provide the off-site road improvements to City Antioch needed to meet applicable performance standards for each increment of project development.
 - i. Public services and facilities, including needed on site and off site facilities, shall be provided and financed by the project as needed to meet the public services performance standards set forth in the Growth Management Element for each increment of project development.
 - j. Performance standards for emergency response services (police and fire) are to be met at the time the first increment of development is occupied and for each subsequent increment of development.
 - k. Project development shall provide full mitigation of impacts on school facilities to the Brentwood Elementary School District and the Liberty Union High School District.
 - l. The timing of new development shall be correlated with the installation of water, sewer, electrical, and natural gas utility systems, provision of municipal services (including emergency services), and project open space and amenities with land development in a manner that is economically feasible and that ensures adequate service to uses within the site starting with the time the first increment of development is occupied.
 - m. Project entry, streetscape, and landscape design elements are to be designed to create and maintain a strong identification of the Ginochio Property as an identifiable “community.”
 - n. Development of a natural-appearing style of landscaping is to be provided with groves of trees, earth tone wall colors, and drifts of flowering shrub materials.
 - o. A central open space area, which may include a golf course, is to be provided to serve as the dominant visual feature of the Ginochio Property, as well as to provide active or recreational opportunities.
 - p. Because of the sensitivity of the habitat areas within the Ginochio Property Focus Area, preparation and approval of a Resource Management Plan to provide for mitigation of biological resources impacts, as well as for the long-term management of natural open space, shall be required prior to development of the Ginochio Property Focus Area. The Resource Management Plan shall provide for appropriate habitat linkages consistent with General Plan policies and Resource Management Plan provisions for the Sand Creek Focus Area.
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4.4.7. Voter-Approved Urban Limit Line.

Pursuant to the City of Antioch Growth Control, Traffic Relief, Voter-Approved Urban Limit Line, and Roddy Ranch Development Reduction Initiative, the voters amended the General Plan to establish the urban limit line as shown on Figure 4.12. This Voter-Approved Urban Limit Line establishes a line through the Roddy Ranch and Ginochio Property Focus Areas beyond which the

General Plan land use designations cannot be amended to allow uses other than open space uses. Until December 31, 2020, the location of the Voter-Approved Urban Limit Line may be amended only by the voters of the City. The City shall oppose any annexation to the City of any land outside of the Voter-Approved Urban Limit Line.

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EXHIBIT B

GENERAL PLAN TEXT AMENDMENTS TO TABLE 4.A APPROPRIATE LAND USES



Table 4.A – Appropriate Land Use Types

	Estate Residential	Low Density Residential	Medium Low Density Residential	Medium Density Residential	High Density Residential	Convenience Commercial	Neighborhood/Community Comm.	Regional Commercial	Somersville Road Commercial	SR-4/SR-160 Frontage Comm.	Marina/Support Services	Rivertown Commercial	“ A ” Street Commercial/Office	Mixed Use	Mixed Use Medical Facility	Office	Business Park	Eastern Waterfront Business Park	Light Industrial	Rail-Served Industrial	General Industrial	E. Lone Tree Employment-Generating	Residential TOD	Office TOD	Town Center Mixed Use	Community Retail	Public/Institutional	Open Space
Large Lot Residential. This residential type typically consists of single-family detached units on lots of 0.5 acre or more. Residential developments of this type shall be designed as large suburban parcels within subdivisions within the Urban Limit Line and as rural residential uses outside of the Urban Limit Line.	✓																											
Single-Family Detached. These areas typically consist of suburban residential subdivisions of single family, detached dwellings on lots ranging from 7,000 to 20,000 square feet.		✓	✓	✓										✓								✓						
Small Lot Single Family Detached. These dwelling unit types are typically located within a specific plan or other type of “planned development,” and consist of single family, detached dwellings on lots smaller than 7,000 square feet. In exchange for development on small residential lots, amenities such as permanent open space and private recreation facilities are required to be provided specifically for the use of residents of the development.			✓	✓										✓								✓						
Multi-Family Attached. Attached for-sale or rental dwelling units, designed either as townhouse units or as stacked flats, characterize these areas. Amenities such as common open space and recreation facilities specifically for the use of residents of the development are required.				✓	✓							✓ ⁶	✓	✓				✓				✓						
Mobile Homes. Areas of mobile home development typically consist of subdivisions wherein individual mobile homeowners also own their own lots in fee and mobile home parks wherein mobile homeowners rent or lease the space upon which their mobile home is placed. Typically, mobile home subdivisions and parks provide open space and/or recreational amenities for the use of their residents.				✓	✓																							
Group Residential. Activities typically include the use of a dwelling unit as a residence by a group or groups of persons without the provision of medical care, supervision, or medical assistance. Typical uses include boarding houses, convents, and religious retreats.					✓									✓	✓													
Residential Care Facilities. While largely residential in character, residential care facilities are distinguished from other residential use types in that care facilities combine a variety of medical care, supervision, or					✓	✓								✓	✓													

	Estate Residential	Low Density Residential	Medium Low Density Residential	Medium Density Residential	High Density Residential	Convenience Commercial	Neighborhood/Community Comm.	Regional Commercial	Somersville Road Commercial	SR-4/SR-160 Frontage Comm.	Marina/Support Services	Rivertown Commercial	"A" Street Commercial/Office	Mixed Use	Mixed Use Medical Facility	Office	Business Park	Eastern Waterfront Business Park	Light Industrial	Rail-Served Industrial	General Industrial	E. Lone Tree Employment-Generating	Residential TOD	Office TOD	Town Center Mixed Use	Community Retail	Public/Institutional	Open Space
medical assistance services with housing. State law exempts certain small residential care facilities from local regulation, and can locate anywhere permitted by law.																												
Commercial Infill Housing. As defined by the Antioch Municipal Code.				✓	✓									✓	✓													
Administrative and Professional Offices. Activities typically include, but are not limited to, executive management, administrative, or clerical uses of private firms and public utilities. Additional activities include the provision of advice, design, information, or consultation of a professional nature. Uses typically include, but are not limited to, corporate headquarters; branch offices; data storage, financial records, and auditing centers; architect's; lawyer's; insurance sales and claims offices; financial planners; and accountant's offices.						✓ ⁷	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓						
Amusement Centers/Arcades. Any structure (or portion thereof) in which four or more amusement devices (either coin- or card-operated) are installed, such as photography machines, video games, muscle testers, fortune telling machines, laser tag, electronic or "County fair" style games, rides or similar uses, and other games of skill or science, but not including games of chance or other similar devices. Included is any place open to the public, whether or not the primary use of the premises is devoted to operation of such devices. Sales of prepared foods and beverages is also included as an ancillary use of the site.							✓	✓	✓		✓	✓	✓															
Automotive Uses. Activities typically include, but are not limited to the, sales and servicing of motor vehicles, recreational vehicles, boats, and trailers.						✓ ²	✓	✓ ²	✓	✓		✓	✓	✓			✓ ²	✓ ⁴	✓ ⁴			✓						
Banks and Financial Services. Activities typically include, but are not limited to banks and credit unions, home mortgage, and other personal financial services.						✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					✓						
Business Support Services. Activities typically include, but are not limited to, services and goods generally provided to support other businesses.						✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					✓						

	Estate Residential	Low Density Residential	Medium Low Density Residential	Medium Density Residential	High Density Residential	Convenience Commercial	Neighborhood/Community Comm.	Regional Commercial	Somersville Road Commercial	SR-4/SR-160 Frontage Comm.	Marina/Support Services	Rivertown Commercial	"A" Street Commercial/Office	Mixed Use	Mixed Use Medical Facility	Office	Business Park	Eastern Waterfront Business Park	Light Industrial	Rail-Served Industrial	General Industrial	E. Lone Tree Employment-Generating	Residential TOD	Office TOD	Town Center Mixed Use	Community Retail	Public/Institutional	Open Space
Funeral Services. Activities typically include services involving the care, preparation, or disposition of human dead.						✓	✓	✓				✓ ⁸	✓															
General Merchandise. Activities typically include, but are not limited to, the retail sales from premises, including incidental rental and repair services.						✓	✓	✓	✓	✓		✓	✓	✓														
Health Clubs and Spas. Activities typically include, but are not limited to, sport and health-related activities performed either indoors or outdoors.						✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓											
Lodging and Visitor Services. Activities typically include, but are not limited to, providing overnight accommodations and related banquet and conference facilities.							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ ⁵	✓ ⁵									
Indoor Recreational Facilities. Activities typically include, but are not limited to, commercial recreation uses conducted within enclosed buildings, such as bowling alleys, skating facilities, racquet clubs, and indoor shooting and archery ranges.							✓	✓	✓				✓	✓														
Outdoor Recreational Facilities. Activities typically include, but are not limited to, commercial recreation activities conducted outside of enclosed buildings, such as miniature golf, batting cages, tennis clubs, etc.							✓	✓	✓				✓	✓														✓
Personal Services. Activities typically include establishments primarily engaged in the provision of services for the enhancement of personal appearance, cleaning, alteration of garments, and similar non-business or non-professional services.						✓	✓	✓	✓	✓		✓	✓															
Personal Instruction. Activities typically include instruction in artistic, academic, athletic or recreational pursuits within an enclosed structure.						✓	✓	✓	✓	✓		✓ ⁷	✓	✓	✓													
Recreational Vehicle Park. Activities typically include, but are not limited to, providing overnight accommodations for visitors in recreational vehicles.											✓	✓						✓										✓ 10
Theaters. Includes structures where the primary use is the exhibition of live or prerecorded theatrical, musical, comedic or other performances. Sale of prepared foods and beverages is permitted ancillary to the primary use.							✓	✓		✓	✓	✓	✓															
Light Manufacturing and Assembly. Activities typically include, but are not limited to, the mechanical or chemical transformation of raw or semi-finished materials or substances into new products, including manufacture of products, assembly of component parts (including required packaging for retail sale), and treatment and fabrication operations. Light													✓			✓	✓	✓	✓	✓	✓	✓						

	Estate Residential	Low Density Residential	Medium Low Density Residential	Medium Density Residential	High Density Residential	Convenience Commercial	Neighborhood/Community Comm.	Regional Commercial	Somersville Road Commercial	SR-4/SR-160 Frontage Comm.	Marina/Support Services	Rivertown Commercial	"A" Street Commercial/Office	Mixed Use	Mixed Use Medical Facility	Office	Business Park	Eastern Waterfront Business Park	Light Industrial	Rail-Served Industrial	General Industrial	E. Lone Tree Employment-Generating	Residential TOD	Office TOD	Town Center Mixed Use	Community Retail	Public/Institutional	Open Space
manufacturing is conducted wholly within an enclosed building. Light manufacturing activities do not produce odors, noise, vibration, or particulates, which would adversely affect uses within the same structure or on the same site. Also included are watchman's quarters.																												
General Manufacturing and Assembly. Activities typically include, but are not limited to, the mechanical or chemical transformation of raw or semi-finished materials or substances into new products, including manufacture of products; assembly of component parts (including required packaging for retail sale); blending of materials such as lubricating oils, plastics, and resins; and treatment and fabrication operations. Uses requiring massive structures outside of buildings such as cranes or conveyer systems, or open-air storage of large quantities of raw or semi-refined materials are also included within this land use type. Also included are watchman's quarters.																				✓	✓							
Research and Development. Activities typically include, but are not limited to, scientific research and theoretical studies and investigations in the natural, physical, or social sciences. Also included is engineering, fabrication, and testing of prototypes developed with the objective of creating marketable end products; and the performance of physical and environmental testing and related activities by or under the supervision of professional scientists and highly trained specialists. Watchman's quarters are included as an ancillary use.														✓	✓		✓	✓	✓	✓	✓							
Operable Vehicle Storage. Activities typically include, but are not limited to the parking and/or storage of operable vehicles. Typical uses include, but are not limited to fleet storage of automobiles and trucks, storage lots, and recreational vehicle and boat storage.											✓								✓		✓							
Personal Storage. Activities typically include, but are not limited to storage services and facilities primarily for personal and business effects and household goods with enclosed storage areas having individual access. Typical uses include, but are not limited to mini-warehouses.																		✓	✓		✓							
Storage and Distribution – Light. Activities typically include, but are not limited to, wholesaling, storage, and warehousing services conducted entirely within enclosed buildings. Also included are watchman's quarters.														✓			✓	✓	✓	✓	✓	✓						
Storage and Distribution – General. Activities																	✓	✓	✓	✓	✓	✓						

	Estate Residential	Low Density Residential	Medium Low Density Residential	Medium Density Residential	High Density Residential	Convenience Commercial	Neighborhood/Community Comm.	Regional Commercial	Somersville Road Commercial	SR-4/SR-160 Frontage Comm.	Marina/Support Services	Rivertown Commercial	"A" Street Commercial/Office	Mixed Use	Mixed Use Medical Facility	Office	Business Park	Eastern Waterfront Business Park	Light Industrial	Rail-Served Industrial	General Industrial	E. Lone Tree Employment-Generating	Residential TOD	Office TOD	Town Center Mixed Use	Community Retail	Public/Institutional	Open Space
typically include, but are not limited to, warehousing, storage, freight handling, shipping, trucking services; storage and wholesaling from the premises of unfinished, raw, semi-refined products requiring further processing, fabrication, or manufacturing. Outdoor storage is permitted subject to applicable screening requirements. Also included are watchman's quarters as an ancillary use.																			✓	✓	✓	✓						
Building Contractor's Offices and Yards. Activities typically include, but are not necessarily limited to, offices and storage of equipment, materials, and vehicles for contractors in the trades involving construction activities. Storage yard uses may include, but should not be limited to, the maintenance and outdoor storage of large construction equipment such as earthmoving equipment, and screened outdoor storage of building materials.																			✓	✓	✓							
Boating and Related Activities. Activities typically include, but are not limited to, establishments and facilities engaged in the provision of sales or services directly related to the commercial or recreational use of waterways. Included in this category are construction, repair, and maintenance of boats; boat sales; anchorage and docking facilities, including temporary slip rentals; services for commercial boating and fishing, including retail fish sales, but not including fish processing; sale of marine equipment; and harbor-related services, such as indoor and outdoor dry boat storage, bait sales, fuel docks, and yacht clubs.											✓								✓		✓							
Civic Administration. Activities typically include, but are not limited to, management, administration, clerical, and other services performed by public and quasi-public agencies.						✓	✓	✓				✓	✓	✓	✓	✓											✓	
Cultural Facilities. Activities typically include, but are not limited to, those performed by public and private museums and art galleries, public and private libraries and observatories.							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓											✓	
Day Care Centers. Day care centers consist of facilities defined in California Health and Safety Code Section 1596.76, providing day care and supervision for more than 12 children less than 18 years of age for periods of less than 24 hours per day. Also included are facilities for the care and supervision of seniors for periods of less than 24 hours per day.						✓	✓	✓	✓	✓		✓	✓	✓	✓	✓											✓	
Open Space. Activities typically include, but are not limited to, preservation of lands in their natural																												

	Estate Residential	Low Density Residential	Medium Low Density Residential	Medium Density Residential	High Density Residential	Convenience Commercial	Neighborhood/Community Comm.	Regional Commercial	Somersville Road Commercial	SR-4/SR-160 Frontage Comm.	Marina/Support Services	Rivertown Commercial	"A" Street Commercial/Office	Mixed Use	Mixed Use Medical Facility	Office	Business Park	Eastern Waterfront Business Park	Light Industrial	Rail-Served Industrial	General Industrial	E. Lone Tree Employment-Generating	Residential TOD	Office TOD	Town Center Mixed Use	Community Retail	Public/Institutional	Open Space
condition to protect environmental resources or the public health and safety, agriculture, and active or passive recreation. Recreation areas may include recreational structures such as play equipment, but do not generally include structures for human occupancy.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓
Religious Assembly. Activities typically include religious services and assembly such as customarily occurs in churches, synagogues, and temples.	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁			✓ ₁	✓	✓	✓	✓ ₁											✓	
Schools, Public and Private. Typical activities include educational facilities for K-8 students provided by public agencies or private institutions.	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁	✓ ₁			✓ ₁		✓		✓ ₁											✓	

Notes to Table 4.A:

1. Permitted subject to the provisions of Land Use Element policy 4.4.2.2b.
2. Automotive sales are not permitted within areas designated Convenience Commercial, Regional Commercial, or Business Park, except that Automotive sales may be allowed within areas designated Business Park that also have frontage on Auto Center Drive.
3. Bars are not permitted within areas designated Convenience Commercial.
4. Automotive uses are limited to sites adjacent to a freeway interchange. Auto sales are not permitted within areas designated Light Industrial or Eastern Waterfront Business Park.
5. Eating and drinking establishments, as well as Lodging and Visitor Service uses, within the Light Industrial and Eastern Waterfront Business Park designations are limited to sites adjacent to a freeway interchange.
6. Multi-Family uses are permitted within the Rivertown Commercial designation above the ground floor only.
7. Administrative and Professional Office and Personal Instruction uses are permitted within the Rivertown Commercial designation above the ground floor only, except along Fourth Street and the area between Fourth Street and Fifth Street, where they may occupy ground floor space.
8. Funeral Services within the Rivertown Commercial designation are limited to "J" Street, Fourth Street and the area between Fourth Street and Fifth Street.
9. Auto sales within the Hillcrest Station Focus Area are limited to sites adjacent to the SR-4 and SR-160 freeways.
10. Limited to locations that are compatible with resource protection needs.
11. Commercial infill housing is allowed only within the Commercial Infill Housing Overlay District.

EXHIBIT C

TABLE OF GENERAL PLAN LAND USE MAP AMENDMENTS

EXHIBIT 4.1 TABLE OF CHANGES TO LAND USE DESIGNATION

Site No.	APN	Address	Existing General Plan Land Use	Proposed General Plan Land Use Amendment
1	051-061-001	1650 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
2	051-061-002	1700 Viera Ave Antioch CA	Medium Density Residential	High Density Residential
3	051-061-003	1730 Viera Ave Antioch CA	Medium Density Residential	High Density Residential
4	051-062-004	1839 Stewart Ln	Medium Density Residential	High Density Residential
5	051-062-005	1829 Stewart Ln Antioch CA	Medium Density Residential	High Density Residential
6	051-062-006	1705 Viera Ave Antioch CA	Medium Density Residential	High Density Residential
7	051-062-010	1853 Stewart Ln Antioch CA	Medium Density Residential	High Density Residential
8	051-071-001	1524 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
9	051-071-002	1550 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
10	051-071-003	1560 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
11	051-071-004	1574 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
12	051-071-005	1600 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
13	051-071-006	1606 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
14	051-071-008	1588 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
15	051-071-011	1636 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
16	051-071-012	1628 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
17	051-072-005	1537 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
18	051-072-006	1540 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
19	051-072-007	1554 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
20	051-072-013	1549 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
21	051-072-014	1565 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
22	051-072-015	1863 Bown Ln Antioch CA	Medium Low Density Residential	High Density Residential
23	051-072-016	1877 Bown Ln Antioch CA	Medium Low Density Residential	High Density Residential
24	051-072-017	1568 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
25	051-072-018	1580 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
26	051-073-001	1605 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
27	051-073-002	1601 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
28	051-073-003	1837 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential

EXHIBIT 4.1 TABLE OF CHANGES TO LAND USE DESIGNATION

29	051-073-004	1845 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
30	051-073-005	1859 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
31	051-073-006	1867 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
32	051-073-007	1881 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
33	051-073-008	1897 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
34	051-073-009	1905 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
35	051-073-011	1965 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
36	051-073-012	1585 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
37	051-073-014	1537 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
38	051-073-015	1523 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
39	051-073-016	1551 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
40	051-073-017	1927 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
41	051-073-018	1945 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
42	051-073-019	1567 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
43	051-073-020	1559 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
44	051-074-001	1966 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
45	051-074-002	1954 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
46	051-074-003	1936 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
47	051-074-005	1898 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
48	051-074-006	Vine Ln & Viera Ave, Antioch CA	Medium Low Density Residential	High Density Residential
49	051-074-007	1870 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
50	051-074-008	1854 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
51	051-074-009	1836 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
52	051-074-010	1633 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
53	051-074-011	1908 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
54	051-074-012	1920 Vine Ln Antioch CA	Medium Low Density Residential	High Density Residential
55	051-081-001	1400 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
56	051-081-002	1410 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
57	051-081-003	1428 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
58	051-081-004	1452 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential

EXHIBIT 4.1 TABLE OF CHANGES TO LAND USE DESIGNATION

59	051-081-006	1470 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
60	051-081-007	1490 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
61	051-081-008	1500 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
62	051-082-002	1497 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
63	051-082-003	1473 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
64	051-082-004	1957 Santa Fe Ave Antioch CA	Medium Low Density Residential	High Density Residential
65	051-082-005	1915 Santa Fe Ave Antioch CA	Medium Low Density Residential	High Density Residential
66	051-082-006	1887 Santa Fe Ave Antioch CA	Medium Low Density Residential	High Density Residential
67	051-082-007	1859 Santa Fe Ave Antioch CA	Medium Low Density Residential	High Density Residential
68	051-082-008	1831 Santa Fe Ave Antioch CA	Medium Low Density Residential	High Density Residential
69	051-082-009	1429 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
70	051-082-010	Walnut Av & Santa Fe Av, Antioch CA	Medium Low Density Residential	High Density Residential
71	051-082-011	1939 Santa Fe Ave Antioch CA	Medium Low Density Residential	High Density Residential
72	051-082-012	Santa Fe Av & Viera Ave, Antioch CA	Medium Low Density Residential	High Density Residential
73	051-082-013	1503 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
74	051-082-014	1515 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
75	051-083-001	1528 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
76	051-083-002	1506 Walnut Ave Antioch CA	Medium Low Density Residential	High Density Residential
77	051-083-004	1866 Santa Fe Ave Antioch CA	Medium Low Density Residential	High Density Residential
78	051-083-005	1834 Santa Fe Ave Antioch CA	Medium Low Density Residential	High Density Residential
79	051-083-006	1471 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
80	051-083-009	1509 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
81	051-083-010	1487 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
82	051-083-012	1495 Viera Ave Antioch CA	Medium Low Density Residential	High Density Residential
83	051-100-022	2101 E 18th St Antioch CA	Medium Low Density Residential	High Density Residential
84	051-120-020	1650 Trembath Ln Antioch CA	Medium Low Density Residential	High Density Residential
85	051-120-021	1710 Trembath Ln Antioch CA	Medium Low Density Residential	High Density Residential
86	051-120-024	1450 Trembath Ln Antioch, CA	Medium Low Density Residential	High Density Residential
87	051-120-025	1550 Trembath Ln Antioch CA	Medium Low Density Residential	High Density Residential
88	051-130-001	1305 St Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential

EXHIBIT 4.1 TABLE OF CHANGES TO LAND USE DESIGNATION

89	051-130-002	1277 Saint Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential
90	051-140-001	1705 Trembath Ln Antioch CA	Medium Low Density Residential	High Density Residential
91	051-140-003	1625 Trembath Ln Antioch CA	Medium Low Density Residential	High Density Residential
92	051-140-006	1501 Trembath Ln Antioch CA	Medium Low Density Residential	High Density Residential
93	051-140-007	1425 Trembath Ln Antioch CA	Medium Low Density Residential	High Density Residential
94	051-140-012	1613 St Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential
95	051-140-013	1525 St Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential
96	051-140-014	1423 St Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential
97	051-140-015	1420 St Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential
98	051-140-019	88 Mike Yorba Way Antioch CA	Medium Low Density Residential	High Density Residential
99	051-140-020	1675 Trembath Ln Antioch CA	Medium Low Density Residential	High Density Residential
100	051-140-025	1620 St Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential
101	051-140-026	1520 St Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential
102	051-140-027	1651 St Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential
103	051-140-028	1715 St Claire Dr Antioch CA	Medium Low Density Residential	High Density Residential
104	051-140-035	1575 Trembath Ln Antioch CA	Medium Low Density Residential	High Density Residential
105	051-200-076	Holub Ln & E 18th St, Antioch CA	Convenience Commercial	High Density Residential
106	051-200-037	1841 Holub Ln, Antioch CA	Convenience Commercial	High Density Residential
111	052-042-044	3901 Hillcrest Ave Antioch CA	Open Space	High Density Residential
112	052-342-010	Wildflower Dr & Hillcrest Av, Antioch CA	Low Density Residential	High Density Residential
116	055-071-106	Lone Tree Way & Country Hills Dr, Antioch CA	Business Park	High Density Residential
117	055-071-107	Lone Tree Way & Country Hills Dr, Antioch CA	Business Park	High Density Residential
118	055-071-108	Lone Tree Way & Deer Valley Rd, Antioch CA	Business Park	High Density Residential
119	055-071-113	Lone Tree Way & Country Hills Dr, Antioch CA	Business Park	High Density Residential
120	056-130-014	5200 Heidorn Ranch Rd Antioch CA	Medium Low Density Residential	High Density Residential
121	056-130-011	5320 Heidorn Ranch Rd Antioch CA	Medium Low Density Residential	High Density Residential

EXHIBIT 4.1 TABLE OF CHANGES TO LAND USE DESIGNATION

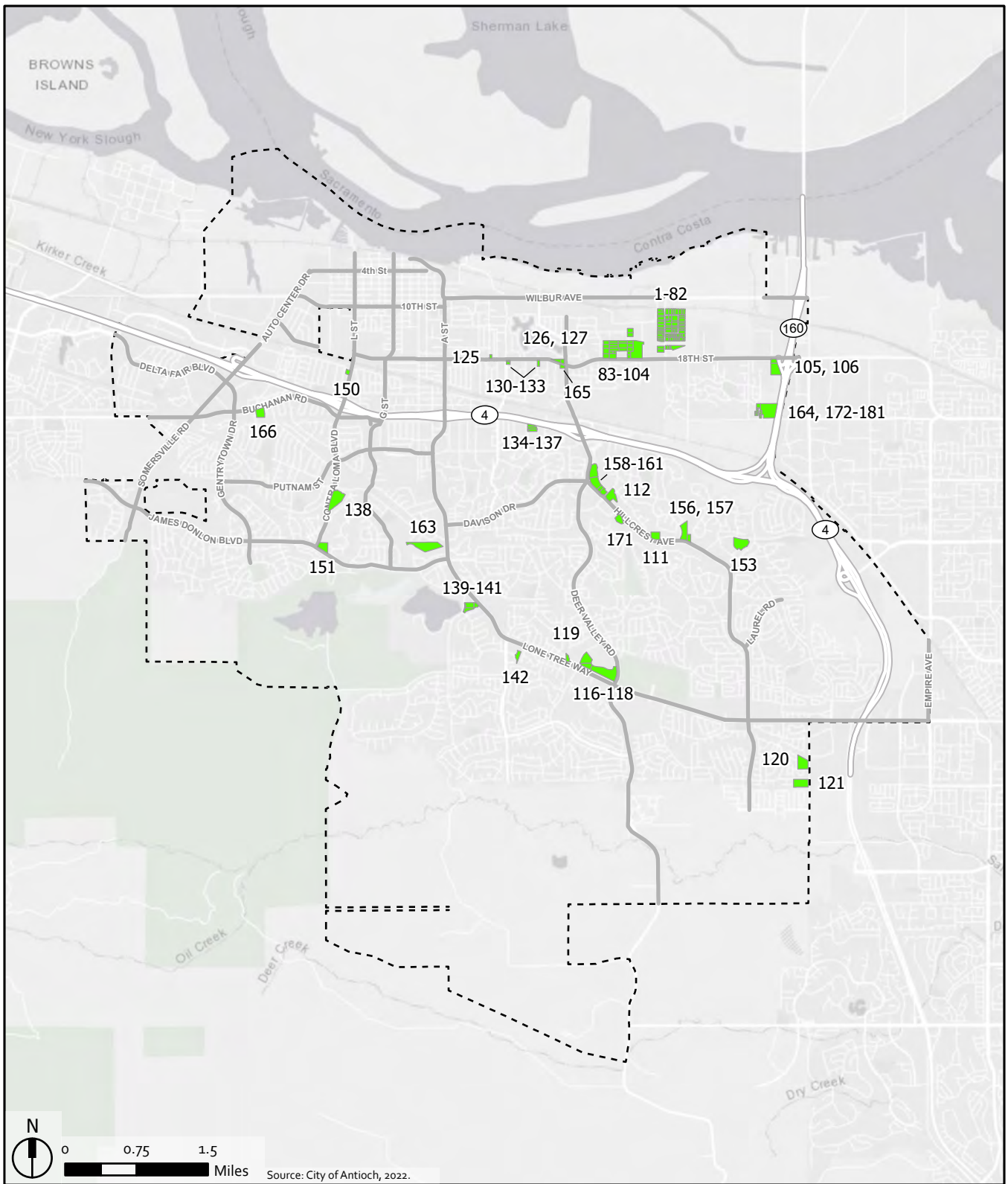
125	065-161-025	301 E 18th St Antioch CA	Medium Low Density Residential	High Density Residential
126	065-262-026	E 18th St & Blossom Dr, Antioch, CA	Neighborhood Community Commercial	High Density Residential
127	065-262-035	1015 E 18th St Antioch CA	Medium Low Density Residential	High Density Residential
130	068-051-015	1805 CAvallo Rd, Antioch CA	Medium Low Density Residential	High Density Residential
131	068-051-049	1801 CAvallo Rd Antioch CA	Neighborhood Community Commercial	High Density Residential
132	068-051-050	504 E 18th St, Antioch CA	Neighborhood Community Commercial	High Density Residential
133	068-082-057	Terrace Dr & E 18th St, Antioch CA	Neighborhood Community Commercial	High Density Residential
134	068-252-041	2721 Windsor Dr, Antioch CA	Medium Low Density Residential	High Density Residential
135	068-252-042	Windsor Dr & Iglesia Ct, Antioch CA	Medium Low Density Residential	High Density Residential
136	068-252-043	Windsor Dr & Iglesia Ct, Antioch CA	Medium Low Density Residential	High Density Residential
137	068-252-045	2709 Windsor Dr, Antioch CA	Medium Low Density Residential	High Density Residential
138	071-370-026	3351 Contra Loma Blvd, Antioch CA	Public/Institutional	High Density Residential
139	072-400-036	Cache Peak Dr & Golf Course Rd, Antioch CA	Convenience Commercial	High Density Residential
140	072-400-039	4655 Golf Course Rd, Antioch CA	Convenience Commercial	High Density Residential
141	072-400-040	Cache Peak Dr & Golf Course Rd, Antioch CA	Convenience Commercial	High Density Residential
142	072-450-013	Dallas Ranch Rd, Antioch CA	Office	High Density Residential
150	074-343-034	2100 L St, Antioch CA	Convenience Commercial	High Density Residential
151	075-460-001	James Donlon Blvd & Contra Loma Blvd, Antioch CA	Office	High Density Residential
153	052-061-053	4325 Berryessa Ct Antioch CA	Low Density Residential	High Density Residential
156	052-061-014	4215 Hillcrest Ave Antioch CA	Open Space	High Density Residential
157	052-042-037	4201 Hillcrest Ave Antioch CA	Open Space	High Density Residential
158	052-140-013	Wildflower Drive	Mixed Use	High Density Residential
159	052-140-014	Wildflower Drive	Mixed Use	High Density Residential
160	052-140-015	Wildflower Drive	Mixed Use	High Density Residential





EXHIBIT 4.1 TABLE OF CHANGES TO LAND USE DESIGNATION

161	052-140-016	Wildflower Drive	Mixed Use	High Density Residential
163	072-011-052	3950 Lone Tree Way	Medium Density Residential	High Density Residential
164	051-200-065	3415 Oakley Rd	Public/Institutional	High Density Residential
165	068-091-043	1018 E 18th St	Neighborhood Community Commercial	High Density Residential
166	076-231-007	1919 Buchanan Rd	Public/Institutional	High Density Residential
171	052-370-009	Hillcrest Ave	Office	High Density Residential
172	051-390-006	3301 Jessica Ct	Medium Density Residential	High Density Residential
173	051-390-005	3305 Jessica Ct	Medium Density Residential	High Density Residential
174	051-390-004	3309 Jessica Ct	Medium Density Residential	High Density Residential
175	051-390-003	3313 Jessica Ct	Medium Density Residential	High Density Residential
176	051-390-002	3317 Jessica Ct	Medium Density Residential	High Density Residential
177	051-390-001	3321 Jessica Ct	Medium Density Residential	High Density Residential
178	051-390-016	3325 Jessica Ct	Medium Density Residential	High Density Residential
179	051-390-011	3329 Jessica Ct	Medium Density Residential	High Density Residential
180	051-390-010	3333 Jessica Ct	Medium Density Residential	High Density Residential
181	051-390-009	3345 Oakley Rd	Medium Density Residential	High Density Residential

EXHIBIT D

DIAGRAM OF GENERAL PLAN LAND USE MAP AMENDMENTS



-  City Limit
-  Highways
-  Major Roads
-  Proposed Land Use Amendments

Land Use Diagram Map
City of Antioch Housing Element

EXHIBIT E
ENVIRONEMNTAL HAZARDS ELEMENT UPDATE

11.0 Environmental Hazards

11.1 INTRODUCTION

The Environmental Hazards Element contains an evaluation of natural and ~~manmade~~human-caused conditions which may pose certain health and safety hazards to life and property in Antioch, ~~along with and includes~~ a comprehensive program to mitigate ~~these identified~~ hazards. ~~Inherent in~~ This Element ~~is a determination of~~identifies “acceptable risk.” This determination is based on defining how “safe” is “safe enough,” i.e., balancing the severity of the hazard~~hazards~~, costs, and feasibility of hazard mitigation, ~~and as well as~~ expected benefits. In most cases, the level of acceptable risk is widely shared throughout the State and nation. For example, the standard for protection from flooding is a national standard. Standards for the protection of structures from earthquake damage are based on the provisions of the Uniform California Building Code. ~~The Environmental Hazards~~ This Element addresses constraints to development from environmental hazards including geologic and seismic conditions, ~~noise, wildland fire,~~ flooding, wildfire, noise, and hazardous materials. To ensure compliance with new requirements, the Element also addresses concerns associated with climate change adaptation and disaster response.

The Environmental Hazards Element includes the following sections:

- **Section 11.2 - Goals of the Environmental Hazards Element.**
- **Section 11.3 - Regulatory Framework** presents the applicable requirements relating to safety elements.
- **Section 11.4 - Geology and Seismicity Hazards** presents information on seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, slope instability leading to mudslides and landslides, subsidence liquefaction, and other seismic hazards. This section also provides goals, policies, and implementation programs to minimize property damage and personal injury posed by seismic and geologic hazards.
- **Section 11.5 - Flood Protection** includes information on flood hazards, flood hazard zones, flood insurance rate maps, levees, historical flooding, dam failure, identification of state, local and federal agencies with responsibility for flood protection, identification of goals, policies, objectives, and implementation measures for the protection of the community from the unreasonable risk of flooding.
- **Section 11.6 - Fire Hazards** provides information regarding fire hazards, including wildland fire, fire hazard severity zones, identification of local state and federal agencies with responsibility for fire protection, and identification of goals, policies, objectives, and implementation measures for the protection of the community from unreasonable risk of wildland fire and wildfire hazards.
- **Section 11.7 - Climate Change Adaptation and Resilience** describes the impacts of a warming climate on Antioch, including increased risk of extreme heat events, more frequent and intense storms, sea level rise, wildfire, and includes goals, policies, and programs to reduce and adapt to the impacts from climate change.
- **Section 11.8 - Noise** describes auditory impacts and sounds that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.
- **Section 11.9 - Hazardous Materials** includes information relating to risks associated with hazardous materials, transportation and storage, and goals, policies, and implementation

programs to reduce risks to life, property and the environment resulting from the use, storage, transportation, and disposal of these materials.

- Section 11.10 - Disaster Response presents information on the city's Emergency Operations Plan (EOP), including goals, policies, and implementation programs to provide effective emergency response.
- Section 11.11 - Evacuation analyzes evacuation routes throughout and around the city which are utilized in the movement of people that are at risk of being impacted by a disaster to a safer location.

11.2 GOALS OF THE ENVIRONMENTAL HAZARDS ELEMENT

To provide for a sustained high quality of life, it is the goal of the Environmental Hazards Element to accomplish the following:

- Minimize the potential for loss of life injury, property damage, and economic and social disruption resulting from natural and ~~manmade~~human-caused hazards in the community.

~~One of Antioch's fundamental values is that people's lives and properties will be safe from natural and manmade hazards.~~ While there is a practical limit to the level of protection that can be provided in a community, Antioch is committed to minimizing the community's vulnerability to natural and ~~manmade~~human-caused hazards. In accomplishing this goal, the city seeks to offer assurance to those who wish to invest in Antioch, whether as a resident or business owner, that their protection and that of their ~~properties has a high priority in~~property is prioritized by the city. This priority is encompassed in the Safety Element by:

- Incorporating safety considerations into the land use planning and development review process;
- Identifying and mitigating hazards faced by existing and new development;
- Facilitating the strengthening of existing codes, project review, and permitting processes; and
- Strengthening disaster planning and post-disaster response policies.

11.3 REGULATORY FRAMEWORK

The Environmental Hazards Element must be consistent with the relevant portions of the California Government Code. The following apply to this element:

California Government Code 65302(g)(1). California Government Code Section 65302(g)(1) establishes the legislative framework for California's safety elements. This framework consolidates the requirements from relevant federal and state agencies, ensuring that all jurisdictions are compliant with the numerous statutory mandates. These mandates include:

- Protecting against significant risks related to earthquakes, tsunamis, seiches, dam failure, landslides, subsidence, flooding, and fires as applicable.
- Including maps of known seismic and other geologic hazards.
- Addressing evacuation routes, military installations, peak-load water supply requirements, and minimum road widths and clearances around structures as related to fire and geologic hazards, where applicable.
- Identifying areas subject to flooding and wildfires.

- Avoiding locating critical facilities within areas of high risk.
- Assessing the community's vulnerability to climate change.
- Including adaptation and resilience goals, policies, objectives, and implementation measures.

California Government Code Sections 8685.9 and 65302.6. California Government Code Section 8685.9 (also known as Assembly Bill 2140 or AB 2140) limits California's share of disaster relief funds paid out to local governments to 75 percent of the funds not paid for by federal disaster relief efforts. However, if the jurisdiction has adopted a valid hazard mitigation plan consistent with Disaster Mitigation Act (2000) and has incorporated the hazard mitigation plan into the jurisdiction's General Plan, the State may cover more than 75 percent of the remaining disaster relief costs. California Government Code Section 65302.6 indicates that a community may adopt a Local Hazard Mitigation Plan (LHMP) into its safety element if the LHMP meets applicable state requirements.

Contra Costa County Hazard Mitigation Plan. The Contra Costa County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) was developed in accordance with the Disaster Mitigation Act of 2000 and followed FEMA's Local Hazard Mitigation Plan guidance. The MJHMP incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. The implementation of these mitigation actions, which include both short and long-term strategies, involve planning, policy changes, programs, projects, and other activities. The plan covers the unincorporated county, 25 special purpose districts, and 10 municipalities, including the city of Antioch. The City adopted Volume 1 and the Antioch portion of Volume 2 of the 2018 MJHMP on February 27, 2018, which is referenced pursuant to the requirements of Government Code 65302.6.

California Government Code 65302 (G) 3 Adopted Through SB 1241 (Effective 2014/ Adopted 2012). California Government Code Section 65302 (g) 3 requires the Safety Element to identify and update mapping, information, and goals and policies to address wildfire hazards. As part of this requirement, any jurisdiction that includes State Responsibility Areas or Very High Fire Hazard Severity Zones in the Local Responsibility Areas (LRA), as defined by the California Board of Forestry and Fire Protection (Board), is required to transmit the updated element to the Board for review and approval. The city does not have Very High Fire Hazard Severity Zones within the Local Responsibility Area, therefore compliance with 65302 (g)3 is not required

California Government Code 65302 (G) 4 Adopted Through SB 379 (Effective 2017/ Adopted 2015). California Government Code Section 65302 (g) 4 requires the Safety Element to address potential impacts of climate change and develop potential strategies to adapt/mitigate these hazards. Analysis of these potential effects should rely on a jurisdiction's LHMP or an analysis that includes data and analysis from the State of California's Cal-Adapt website. This Section, 11.0, Environmental Hazards Element of the city's General Plan provides an overview of climate change risks to Antioch and goals, policies, and programs to address these vulnerabilities. The incorporation of the city's Hazard Mitigation Plan into this element fully addresses the requirements of Government Code section 65302(g)(4).

California Government Code 65302 (G) 5 Adopted Through SB 99 (Effective 2020/ Adopted 2019). California Government Code Section 65302 (g) 5 requires the Safety Element to identify evacuation constraints associated with residential developments, specifically focused on areas served by a single roadway.

11.4 GEOLOGY AND SEISMICITY ~~OBJECTIVE AND POLICIES~~ ~~HAZARDS~~

Seismicity. Eastern Contra Costa County, as well as the San Francisco Bay Area as a whole, is ~~located~~ in one of the most seismically ~~active~~ regions in the United States. Major earthquakes have occurred in the vicinity of Antioch in the past, and can be expected to occur again in the near future. The 1999 Working Group on California Earthquake Probabilities estimated that there is a 70 percent probability of at least one magnitude 6.7 or greater earthquake to occur on one of the major faults within the San Francisco Bay region before 2030. Furthermore, they determined that there is a 30 percent chance of one or more magnitude 6.7 or greater earthquakes occurring somewhere along the Calaveras, Concord-Green Valley, Mount Diablo Thrust, and Greenville Faults before 2030.

Although no known active faults are located within the Planning Area, several major faults are located within a few miles. Historically active faults (exhibiting evidence of movement in the last 200 years) in Contra Costa County include the Hayward, Calaveras, Concord-Green Valley, and Marsh Creek-Greenville faults. The San Andreas Fault is the largest regional fault, ~~the San Andreas Fault, and~~ is located ~~approximately~~approximately 45 miles west of Antioch. Figure 11-1 shows the locations of these faults.

The intensity of ground shaking that ~~would~~could occur in Antioch as a result of an earthquake in the surrounding Bay Area is partly related to the size of the earthquake, its distance from the city, and the response of the geologic materials within the Planning Area. As a general rule, the earthquake magnitude and ~~the closer~~proximity to the fault rupture to the site, ~~the greater~~increase the intensity of ground shaking. The Association of Bay Area Governments (ABAG) has mapped the distribution of ground shaking intensity. Ground shaking intensity is described using the Modified Mercalli Intensity (MMI) Scale, which ranges from I (not felt) to XII (widespread devastation). When various earthquake scenarios are considered, ground shaking intensities will reflect both the effects of strong ground accelerations and the consequences of ground failure. ~~Possible earthquake intensities are described below. A large earthquake on the Concord-Green Valley fault is projected to produce the maximum ground shaking intensities in Antioch with Modified Mercalli intensity IX in Bay Mud deposits along the Suisun Bay, north of SR 4. Modified Mercalli intensity IX is associated with damage to buried pipelines and partial collapse of poorly built structures. Strong ground shaking of Mercalli intensity VII would occur locally along creek beds in inland portions of Antioch; however, the major portion of the Planning Area is projected to experience ground shaking of intensity VII on the Modified Mercalli scale, which is associated with non-structural damage. A large earthquake on the Hayward fault is projected to produce ground shaking intensities of Mercalli VIII along the Suisun Bay, north of SR 4, and less intense ground shaking in Upland Areas.~~

A large earthquake on the Concord-Green Valley Fault is projected to produce ground shaking intensities in Antioch of IX on the MMI Scale, which translates to damage to buried pipelines and partial collapse of poorly built structures. The most intense shaking is expected in Bay Mud deposits along the Suisun Bay, north of SR 4. Aside from some isolated areas along drainages within the city, the majority of the Planning Area is projected to experience ground shaking intensity VII on the MMI Scale. This intensity is often associated with non-structural damage. A large earthquake on the Hayward Fault is projected to produce less intense shaking, due to the distance from the fault.

Since the 1970s, the Uniform Building Code (UBC) in California has incorporated standard response spectra as a basis for structural design. The response spectra establish the minimum standards for which a building must be designed. The UBC considers primary lateral seismic forces and general soil type; incorporation of vertical forces into code design requirements is currently being considered. The objective of the UBC is to protect the life safety of building occupants and the public. For large

earthquakes, the UBC primarily ensures that the building will not collapse, but some structural and non-structural damage may be expected.

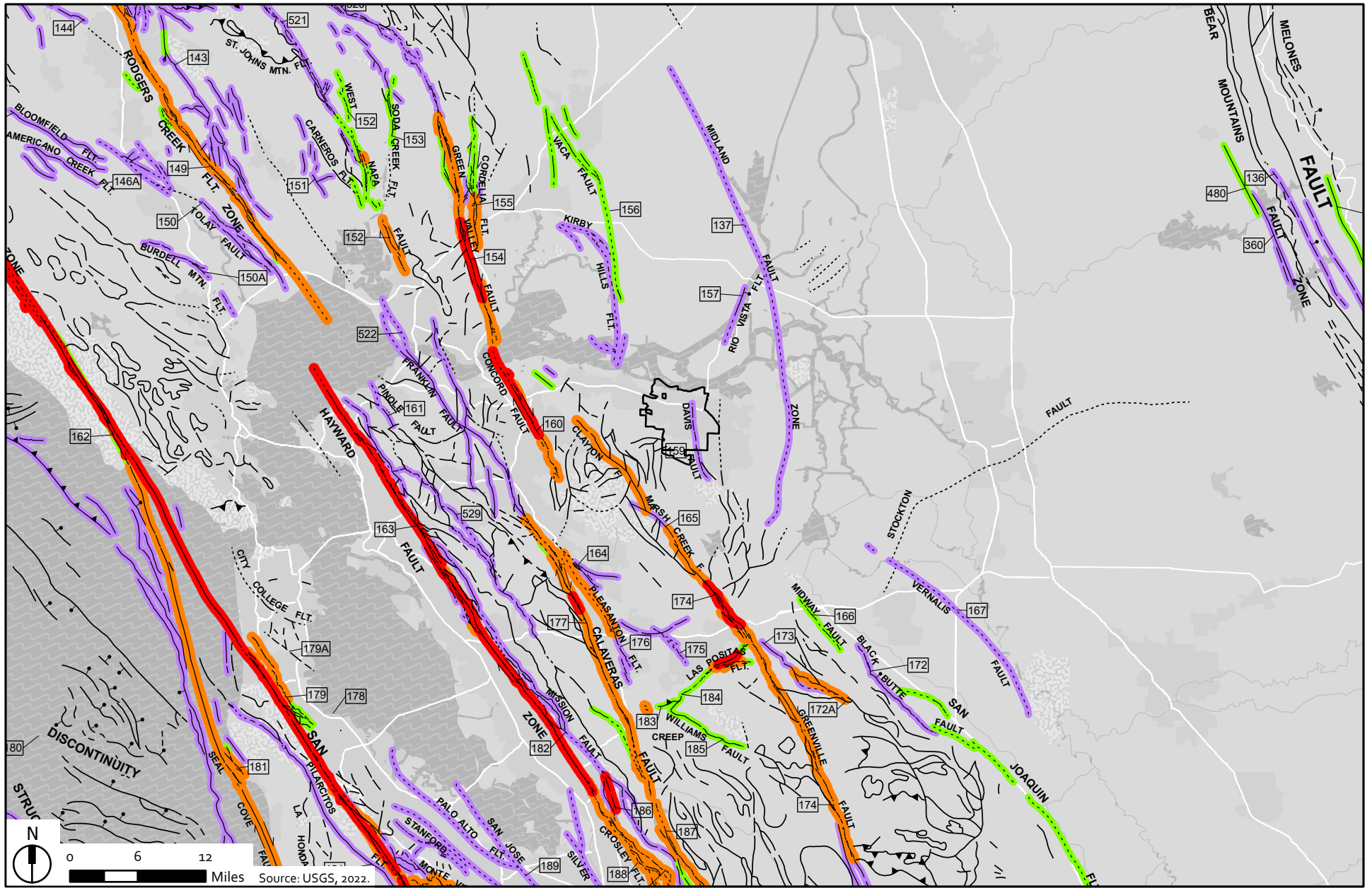
Buildings constructed prior to code revisions in the 1970s generally would not meet current design provisions for earthquake forces ~~of the UBC~~. Expected damage to different types of buildings ~~is described below~~ may include:

- **Unreinforced Masonry.** Unreinforced masonry buildings constructed of brick or concrete block present the most severe hazards. Under strong intensity ground shaking, many of these structures may be expected to collapse or require demolition. The city has developed a list of unreinforced masonry buildings.
- **Older Steel/Concrete Frame Buildings.** Other types of buildings that may also be severely damaged are older buildings of steel and concrete framing that were not designed to resist earthquake vibrations and older reinforced brick and masonry structures.
- **Light Wood-Frame/Sheet Metal.** Light wood-frame, such as most residential structures, and sheet metal buildings would be expected to have moderate damage in most conditions.
- ~~Steel frame structures designed to resist earthquake vibrations have an excellent record in earthquakes.~~

New construction in Antioch is required to meet the requirements of the California Building Code ~~(CBC), which incorporates the UBC~~. Buildings of special occupancy are required by the State to meet more stringent design requirements than the ~~UBC~~ CBC. Special occupancy buildings include hospitals, schools, and other structures that are important to protecting health and safety in the community.

Liquefaction. Liquefaction is the rapid transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake ground shaking. Liquefaction has resulted in substantial loss of life, injury, and damage to property. In addition, liquefaction increases the hazard of fires because of explosions induced ~~when due to~~ underground gas ~~lines breakline breaks~~, and ~~because the breakage off~~ water ~~mains substantially reduces line ruptures which can reduce~~ fire suppression ~~capability~~. ~~The area capacity.~~ Figure 11-2 illustrates the locations within Antioch that have the potential for liquefaction to occur. Lowland areas directly adjacent to the San Joaquin River ~~has and tributaries have~~ a high to very high potential for liquefaction, ~~while~~ upland areas ~~away from the river have a exhibit~~ very low to moderate ~~potential for~~ liquefaction potential.

Landsliding-Landslides. The strong ground motions that occur during earthquakes are capable of inducing landslides, generally where unstable slope conditions already exist. Figure 11-2 illustrates the locations within Antioch prone to earthquake induced landslides. The United States Department of the Interior Geologic Survey Regional Slope Stability Map of the Northeastern San Francisco Bay Region California indicates that landslide hazards exist primarily in the hilly portions of the southwestern part of the Planning Area. ~~Most of the southwest corner of the~~ This Planning Area is ~~susceptible~~ susceptible to landslides with the majority of slopes considered to be moderately unstable. To the east, the Lone Tree Valley has little susceptibility ~~to~~ of landslides with stable to generally stable slopes. However, the area south of Lone Tree Valley is prone to landslides with moderately unstable and unstable slopes. The area to the north of Lone Tree Valley is generally not prone to landslides with slopes that are generally stable to marginally stable. However, a few small areas have unstable slopes susceptible to landslides, including an area to the north of Contra Loma Reservoir, and an area to the west of the intersection of the Contra Costa Canal and SR 4. **Contra Loma dam went through a major maintenance program, which resulted in lowering of water levels.**



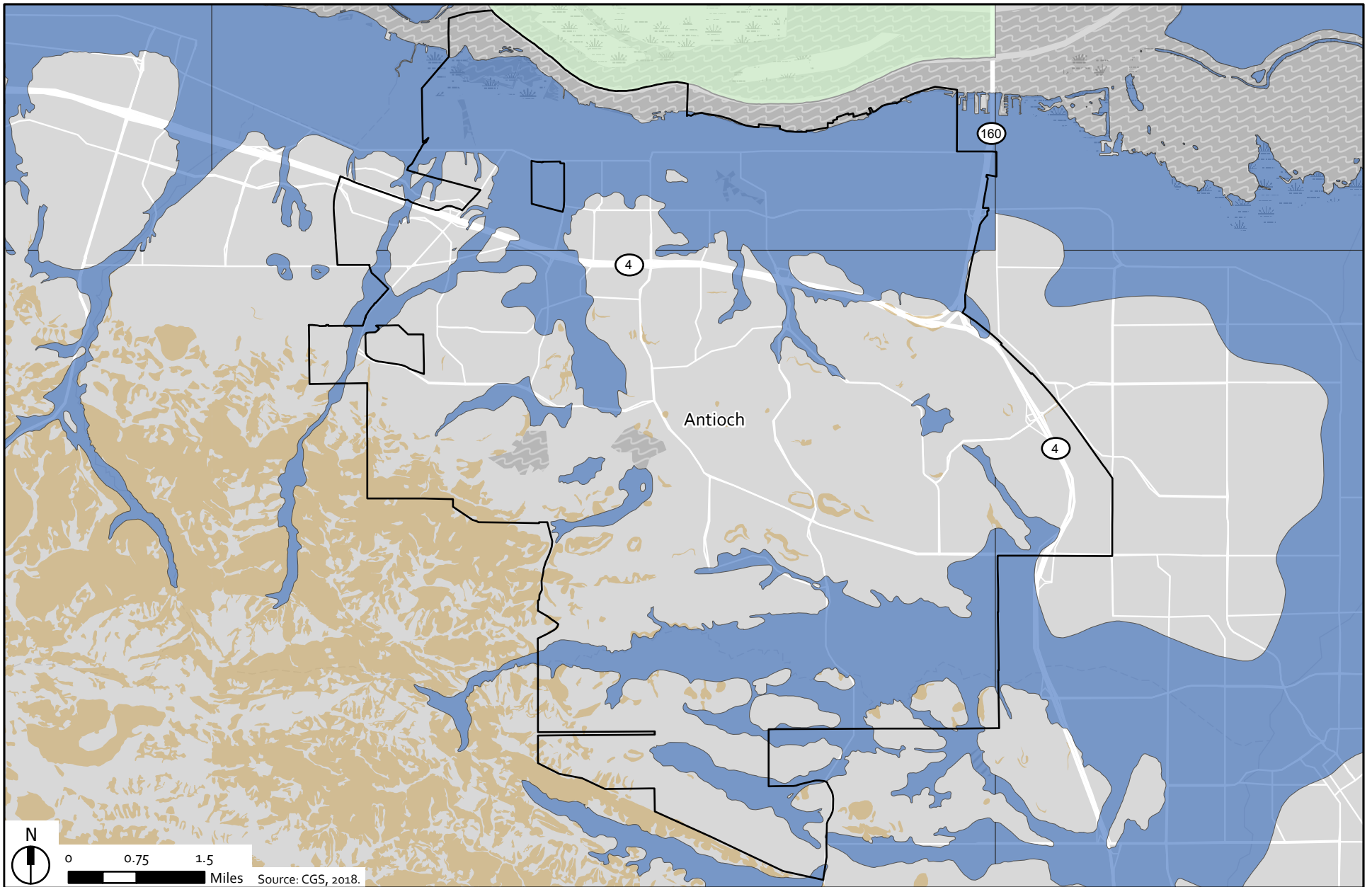
-  City Boundary
- Fault Classification**
-  Historic
-  Holocene
-  Late Quaternary
-  Quaternary

Figure 11-1
Regional Faults

Inundation From Seiche and Tsunami. Earthquakes can cause tsunamis (“tidal waves”) and seiches (oscillating waves in enclosed water bodies). There are no enclosed bodies of water in the vicinity of the Planning Area that would be affected by seiches. Low-lying portions of the city adjacent to the San Joaquin River could be affected by a tsunami. However, projected wave height and tsunami run-up is expected to be small ~~in and limited to~~ the interior portions of the San Francisco Bay and the Delta. Some coastal inundation and damage could occur in Antioch if a tsunami coincided with very high tides or an extreme storm.

Historic Mineral Extraction. Coal mining in the southwestern portion of the General Plan study area resulted in the excavation of mining tunnels over a relatively large area, including the Sand Creek Focus Area and the Black Diamond Mines Regional Preserve. ~~The U.S. Bureau of Mines closed six ventilation shafts in the southwestern portion of the Sand Creek Focus Area in 1981 and 1982.~~ These mines, abandoned in the late 1800s, present a possible risk of collapse and surface subsidence that could compromise the integrity of buildings developed overlying the mine tunnels. Ultimately, the potential for mine collapse is dependent upon the type of mining that was conducted, the size and dimensions of the mined area, the bearing strength of the materials bounding the mined area, depth of mining, and the length of time since the mining was discontinued. ~~The U.S. Bureau of Mines closed six ventilation shafts in the southwestern portion of the Sand Creek Focus Area in 1981 and 1982.~~

The ~~southern~~southeast portion of the General Plan study area is within the outer, western, margin of the Brentwood Oil Field. The California ~~Department of Conservation Oil, Gas, and Geothermal Resources~~ Geologic Energy Management Division (CalGEM) online database of production wells indicates that ~~52 wells have been operated within the Brentwood oil field. All but there are currently~~ three active oil/gas wells, and approximately 70 plugged wells that are considered inactive. Most of these wells ~~have been plugged and capped~~ are located outside of the city limits.



- City Boundary
- Liquefaction Zone
- Landslide Zone
- No Evaluation of Seismic Hazards

Figure 11-2
CGS Seismic Hazard Zones

City of Antioch Environmental Hazards Element

11.34.1 Geology and Seismicity Objective

~~Minimize the potential for loss of life, physical injury, property damage, and social disruption resulting from~~ Ensure Antioch residents and businesses are better prepared and protected from the threat of seismic ~~groundshaking~~ ground shaking and other geologic events.

11.34.2 Geology and Seismicity Policies*Seismicity*

- a. Require geologic and soils reports to be prepared for proposed development sites, and incorporate the findings and recommendations of these studies into project development requirements. As determined by the City of Antioch Building Division, a site-specific assessment shall be prepared to ~~ascertain~~ determine potential ground shaking impacts on new development. The site-specific ground shaking assessment shall incorporate up-to-date data from government and non-government sources and may be included as part of any site-specific geotechnical investigation. The site-specific ground shaking assessment shall include specific measures to reduce the significance of potential ground shaking hazards. This site-specific ground shaking assessment shall be prepared by a licensed geologist and shall be submitted to the City of Antioch Building Division for review and approval prior to the issuance of building permits. For purposes of this policy, "development" applies to new structures and existing structures or facilities that undergo expansion, remodeling, renovation, refurbishment, or other modification. This policy does not apply to ~~second~~ accessory dwelling units or accessory buildings.
- b. Provide information and establish incentives for property owners to rehabilitate existing buildings using updated construction techniques to protect against seismic hazards.
- c. Encourage the purchase of earthquake insurance by residents and businesses.
- d. Encourage continued investigation by State agencies of geologic conditions within the Bay Area to update knowledge of seismic hazards and promote public awareness.
- e. Provide expedited review of any seismic-related revisions to the California Building Code/ Uniform Building Code proposed by the State.
- f. Work with PG&E, pipeline companies, and industrial uses to implement measures to safeguard the public from seismic hazards associated with high voltage transmission lines, caustic and toxic gas and fuel lines, and flammable storage facilities.
- g. Require that engineered slopes be designed to resist seismically ~~-~~induced failure.
- h. Require that parcels overlying both cut and fill areas within a grading operation be over-excavated to mitigate the potential for seismically ~~-~~induced differential settlement.

Other Geologic Conditions

- i. Limit development in those areas, which, due to adverse geological conditions, will be hazardous to the overall community and those who will inhabit the area.
- j. Require evaluations of potential slope stability for developments proposed within hillside areas, and incorporate the recommendations of these studies into project development requirements.

-
- k. Require specialized soils reports in areas suspected of having problems with potential bearing strength, expansion, settlement, or subsidence, including implementation of the recommendations of these reports into the project development, such that structures designed for human occupancy are not in danger of collapse or significant structural damage with corresponding hazards to human occupants. Where structural damage can be mitigated through structural design, ensure that potential soils hazards do not pose risks of human injury or loss of life in outdoor areas of a development site.
 - l. Where development is proposed within an identified or potential liquefaction hazard area (as determined by the city), adequate and appropriate measures such as (but not limited to) designing foundations in a manner that limits the effects of liquefaction, the placement of an engineered fill with low liquefaction potential, and the alternative siting of structures in areas with a lower liquefaction risk, shall be implemented to reduce potential liquefaction hazards. Any such measures shall be submitted to the City of Antioch Building Division for review prior to the approval of the building permits.

Historic Mineral Extraction

- m. As appropriate and necessary to protect public health and safety, abandoned mines shall be placed in natural open space areas, with appropriate buffer areas to prevent unauthorized entry.
 - n. Within areas of known historic mining activities, site-specific investigations shall be undertaken prior to approval of development to determine the location of any remaining mine openings, the potential for subsidence or collapse, and necessary measures to protect public health and safety, and prevent the collapse or structural damage to structures intended for human occupancy due to mine-related ground failure or subsidence. Such measures shall be incorporated into project approvals.
 - o. All identified mine openings shall be effectively sealed.
 - p. Construction of structures for human occupancy shall be prohibited within areas found to have a high probability of surface collapse or subsidence, unless foundations are designed that would not be affected by such surface collapse or subsidence, as determined by site-specific investigations, and engineered structural design.
 - q. The locations of all oil or gas wells on proposed development sites shall be identified in development plans. Project sponsors of development containing existing or former oil or gas wells shall submit documentation demonstrating that all abandoned wells have been properly abandoned pursuant to the requirements of the ~~California Department of Conservation Oil, Gas, and Geothermal Resources~~ CalGEM.
-

11.45 FLOOD PROTECTION ~~OBJECTIVE AND POLICIES~~

The National Flood Insurance Act of 1968 called for the identification and mapping of flood plain hazard areas prone to flooding in major storm events. These flood hazard maps, known as Flood Insurance Maps (FIRMS), are used by the Federal Emergency Management Agency (FEMA) to determine eligibility areas for inclusion in the federal flood insurance program. Portions of the city are located within the 100-year and 500-year flood hazards zones as mapped by FEMA, and are defined by FEMA as “flood prone.” Except for small areas located within the 100- and 500-year flood hazard zones, the majority of Antioch is defined by outside of a FEMA as being flood zone and subject to minimal or no flooding. Antioch’s FEMA flood hazard areas are shown in Figure 11-3 and reflect the most recent FEMA mapping as of July 2010 Flood Insurance Rate Maps (FIRM) as of September 2015 for portions along the San Joaquin River and June 2009 for inland portions of the city.

Areas subject to flooding are mainly found adjacent to the San Joaquin River and tributary creeks. Within the City of Antioch Planning Area, a 100-year flood hazard zone runs adjacent to the San Joaquin River. In the western portion of the Planning Area, a 100-year flood hazard zone begins at the San Joaquin River and encompasses the area bounded by the Planning Area border to the west; the BNSF Railroad to the south; and the area to the east of the mouth of West Antioch Creek. A 100-year flood hazard zone also is located adjacent to West Antioch Creek, and has its widest point at the Creek’s mouth. ~~In the vicinity of~~ Near B Street, the 100-year flood hazard zone extends from the San Joaquin River south across the BNSF railroad, and then spans East Antioch Creek until the Creek reaches SR 4. This flood zone is widest, spanning a width of approximately 1,600 feet, just south of the railroad. Just north of Lake Alhambra, the flood hazard zone spans an area of similar width. In the southern portion of the Planning Area, flood hazard zones are intermittently located adjacent to East Antioch Creek on its west and main branch. A 100-year flood zone also is located adjacent to Markley Creek, Los Medanos Wasteway, and Sand Creek. Many of these drainages also include 500-year flood zone areas in low lying areas adjacent to the 100-year flood zone.

~~Dams.~~ ~~Dams.~~ Three dams are located within the city and surrounding areas that could impact the city, which includes:

- ~~Contra Loma Dam – owned by the US Bureau of Reclamation, is a 2,500 AF reservoir with a safety classification of satisfactory by the US Bureau of Reclamation.~~ The Bureau of Reclamation Division of Dam Safety conducted a safety analysis of the Contra Loma Reservoir in 1983 and determined that “safe” performance of the dam can be expected under all anticipated loading conditions, including the maximum credible earthquake and probable maximum flood events.” ~~The overall safety classification of the dam is registered as satisfactory.~~
- ~~Sand Creek Dam – owned by the Contra Costa County Flood Control and Water Conservation District, is an 895 AF detention basin that has an extremely high downstream hazard potential and is considered to be in satisfactory condition by the California Division of Safety of Dams.~~
- ~~Antioch Reservoir – owned by the City of Antioch this 722 AF reservoir has an extremely high downstream hazard potential and is considered to be in satisfactory conditions by the California Division of Safety of Dams.~~

Potential dam failure inundation areas for these facilities are shown in Figure 11-4.

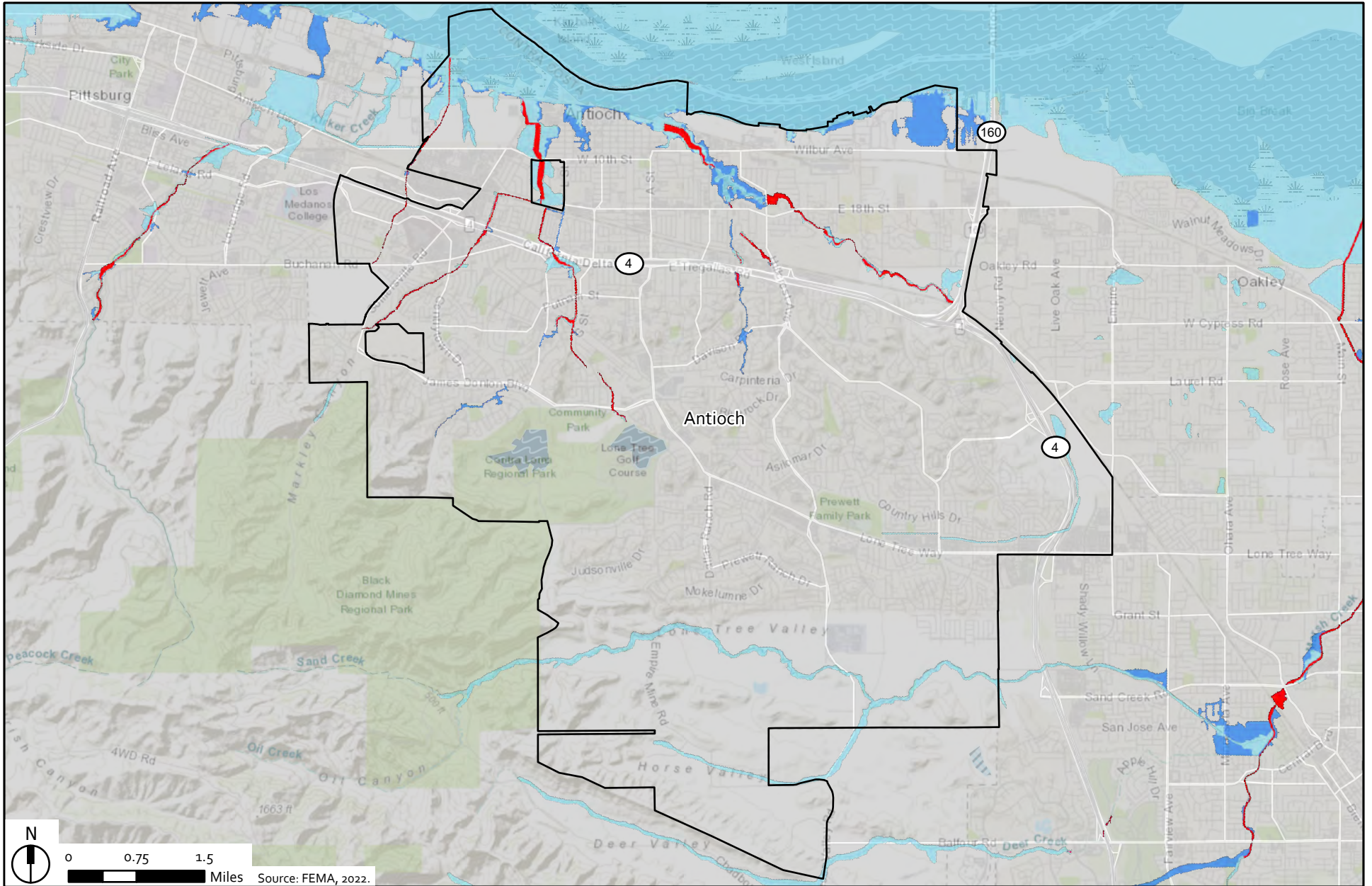
11.5.1 Flood Protection Objective

~~Minimize the potential for loss of life, physical injury, property damage, and social disruption resulting from flooding.~~

~~Ensure flooding impacts in Antioch are minimized or eliminated wherever possible.~~

11.45.2 Flood Protection Policies

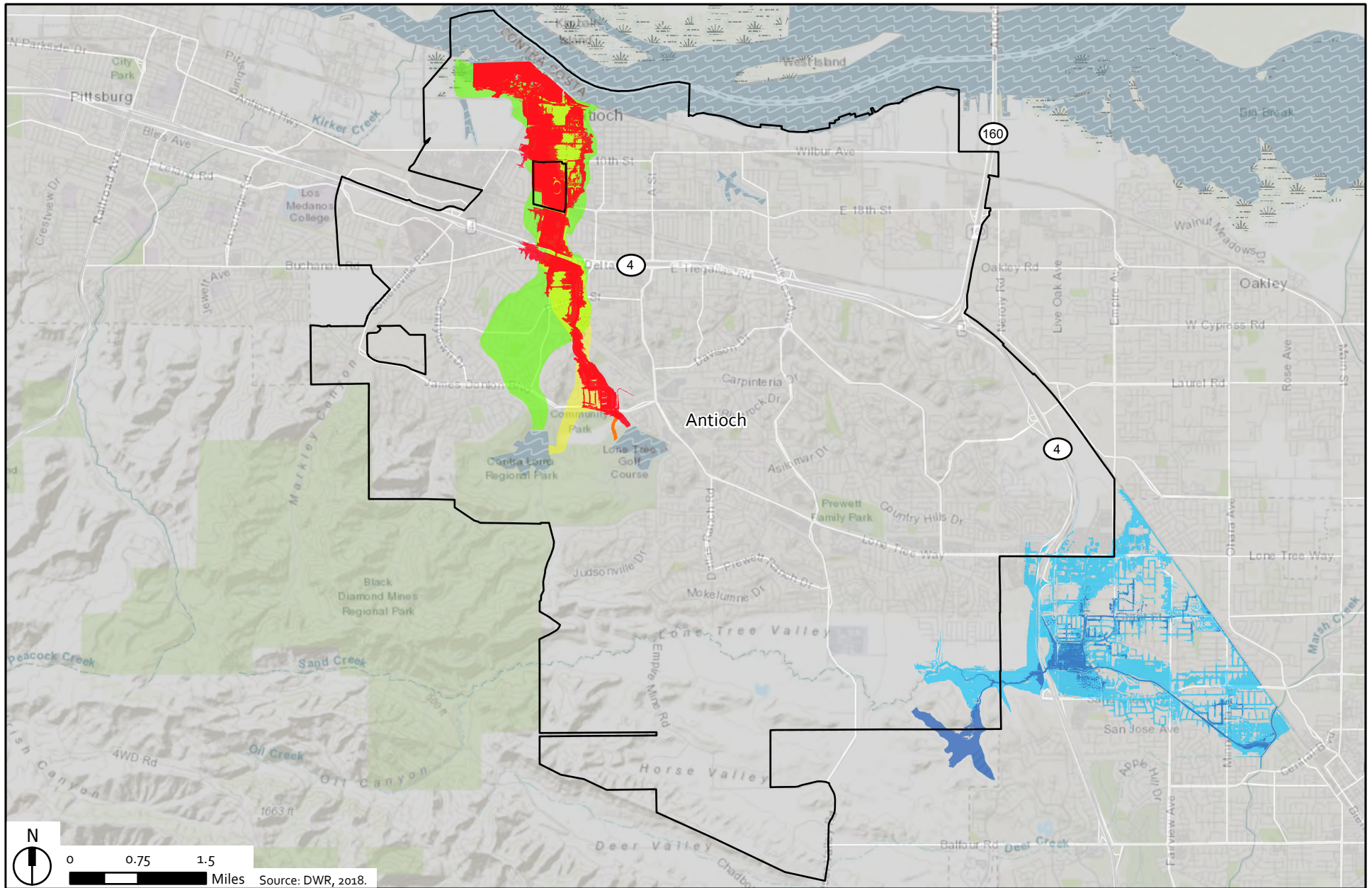
- a. Prohibit all development within the 100-year floodplain, unless mitigation measures consistent with the National Flood Insurance Program are provided.
- b. Minimize encroachment of development adjacent to the floodway ~~in order~~ to convey flood flows without property damage and risk to public safety. Require such development to ~~the~~be capable of withstanding flooding and ~~to~~ minimize the use of fill.
- c. Prohibit alteration of floodways and channelization of natural creeks if alternative methods of flood control are technically and financially feasible. ~~The intent of this policy is to~~
- e.d. Ensure flooding solutions balance the need for protection devices with land use solutions, recreation needs, and habitat preservation.
- d.e. Require new development to prepare drainage studies to assess storm runoff impacts on the local and regional storm drain and flood control system, along with implementation of appropriate detention and drainage facilities to ensure that the community's storm drainage system capacity will be maintained, and peak flow limitations will not be exceeded.
- e.f. Where construction of a retention basin is needed to support new development, require the development to provide for the perpetual funding and ongoing maintenance of the basin.
- f.g. Eliminate hazards caused by local flooding through improvements to the area's storm drain system or creek corridors as resources allow.



- City Boundary
- 100-Year Flood Zone
- 500-Year Flood Zone
- Regulatory Floodway

Figure 11-3
FEMA Flood Hazard Zones

City of Antioch Environmental Hazards Element



- Antioch Main Dam
- Antioch Spillway
- Contra Loma Dike
- Contra Loma Dam
- Sand Creek Main Dam
- Sand Creek Saddle Dam
- City Boundary

Figure 11-4
Dam Failure Inundation

City of Antioch Environmental Hazards Element

11.56 FIRE HAZARDS ~~OBJECTIVE AND POLICIES~~

~~Overall,~~ The risk of both urban and wildland fires exists within the Antioch Planning Area. The level of fire risk ~~in a given area~~ results from a variety of factors, including type and amount of vegetation and groundcover, combustibility of building materials, adequacy of access for ~~fire fighting~~~~firefighting~~ equipment and ~~manpower~~~~staffing~~, water supply and pressure, and weather conditions. The most common source of urban fires is home heating systems and electrical appliances.

As Antioch expands into hillside areas, urban development will begin to encroach into areas of more rugged topography with flammable indigenous vegetation. Over time, all of California's wildlands will burn, as they are naturally prone to do. However, various human factors (~~recreation activities, encroachment, expanded use~~) increase risks for fire occurrence, and ~~that~~ wildland fires will be larger, more intense and damaging, cost more to fight, and ~~will~~ take a larger toll (in economic and non-economic terms) than would otherwise occur naturally. ~~According to the 2018 Contra Costa County MJHMP over 51 wildfires have occurred in Contra Costa County since the 1950s resulting in loss of lives, property, and natural resources. This equates to an average of three fires every four years, with the most recent fire was the SCU Lightning Complex Fire that burned in the Diablo Range in August and September 2020. This fire impacted Contra Costa County as well as surrounding counties burning over 393,000 acres. Prior to this, the largest recent fire in Contra Costa County was the 3,111-acre Morgan Fire in Mt. Diablo State Park in 2013. The last fire that occurred close to the City of Antioch was the 2015 Loma Fire Incident which burned 533 acres of the Contra Loma Regional Park.~~

~~11.5.1 Fire Hazards Objective~~

~~Minimize the~~ In the event of a fire emergency, the Contra Costa County Fire Protection District (CCCFPD) provides fire and emergency services to the residents of the City of Antioch and the adjacent unincorporated areas. Contra Costa County fire stations 81, 82, 83, and 88 are in Antioch.

Prevention through implementation of ordinances and standards is the best way to minimize Antioch area fire hazards. CCCFPD's ordinances and standards cover topics such as location of fire hydrants, provision of sprinklers, roadway widths, and provide the basis for both the rural fire prevention capital facilities standards and response time performance standards specified in the city's Environmental Hazards Update. The city has ratified the CCCFPD Fire Code, which adopts by reference the 2019 California Fire Code (California Code of Regulations, Title 24, Part 9) as amended by the changes, additions, and deletions set forth in the ordinance adopting the CCCFPD Fire Code.

The Contra Costa Fire Protection District has entered into mutual aid agreements with other fire departments through the California State Master Mutual Aid Agreement that is administered by the State Office of Emergency Services as well as through the Contra Costa County Fire Chiefs' Mutual Aid Plan. The District is also party to multiple automatic aid agreements with fire agencies that are generally in close proximity.

Figure 11-5 illustrates the CalFire fire hazard severity zones for Antioch. As shown in Figure 11-5 no portion of the city's Local Responsibility Area is located within the Very High Fire Hazard Severity Zone, however a small portion of the city's Planning Area (south of Empire Mine Road and Starmine Trail) is located within the Moderate and High Fire Hazard Severity Zones within the State Responsibility Area. The Contra Loma Reservoir Contra Loma regional Park in Antioch is within a Federal Responsibility Area. According to the Contra Costa County MJHMP, no buildings or people are located within a wildfire hazard zone within the city.

The Contra Costa County Wildfire Protection Plan (WPP), first adopted by the Diablo Fire Safe Council (DFSC) in 2009, provides an analysis of wildfire hazards and risk in the wildland-urban interface (WUI) in Contra Costa County. In 2019, the DFSC and project partners worked with residents, representatives of federal, regional, state, and local agencies, and community organizations to update the Plan. Updates to the WPP were approved in May 2020. The goal of the WPP is to reduce hazard related to wildfires through increased information and education about wildfires, hazardous fuels reduction, actions to reduce structure ignitability, and other recommendations to assist emergency preparedness and fire suppression efforts. The plan also facilitates a coordinated effort between stakeholders to reduce the threats and vulnerabilities associated with wildfire hazards.

Development and growth facilitated by the General Plan will result in additional residents and businesses in the city, including new residential, commercial office, and industrial uses. This additional growth will result in increased demand for public service, including fire protection and emergency services. As demand for service increases, there will likely be a need to increase staffing and equipment to maintain acceptable service ratios, response times, and other performance standards. New or expanded structures may be required to accommodate adequate staffing, equipment, and services. The Growth Management Element includes Goal GM-6 for the compliance with applicable levels of service. Policies GM-P-6.1 and GM-P-6.2 support this goal by requiring new development to contribute to and maintain adopted performance standards for police, fire and emergency medical response and services, and by requiring new growth to pay its share of the costs associated with that growth.

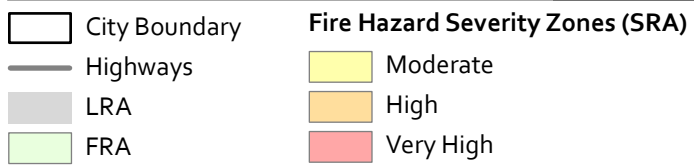
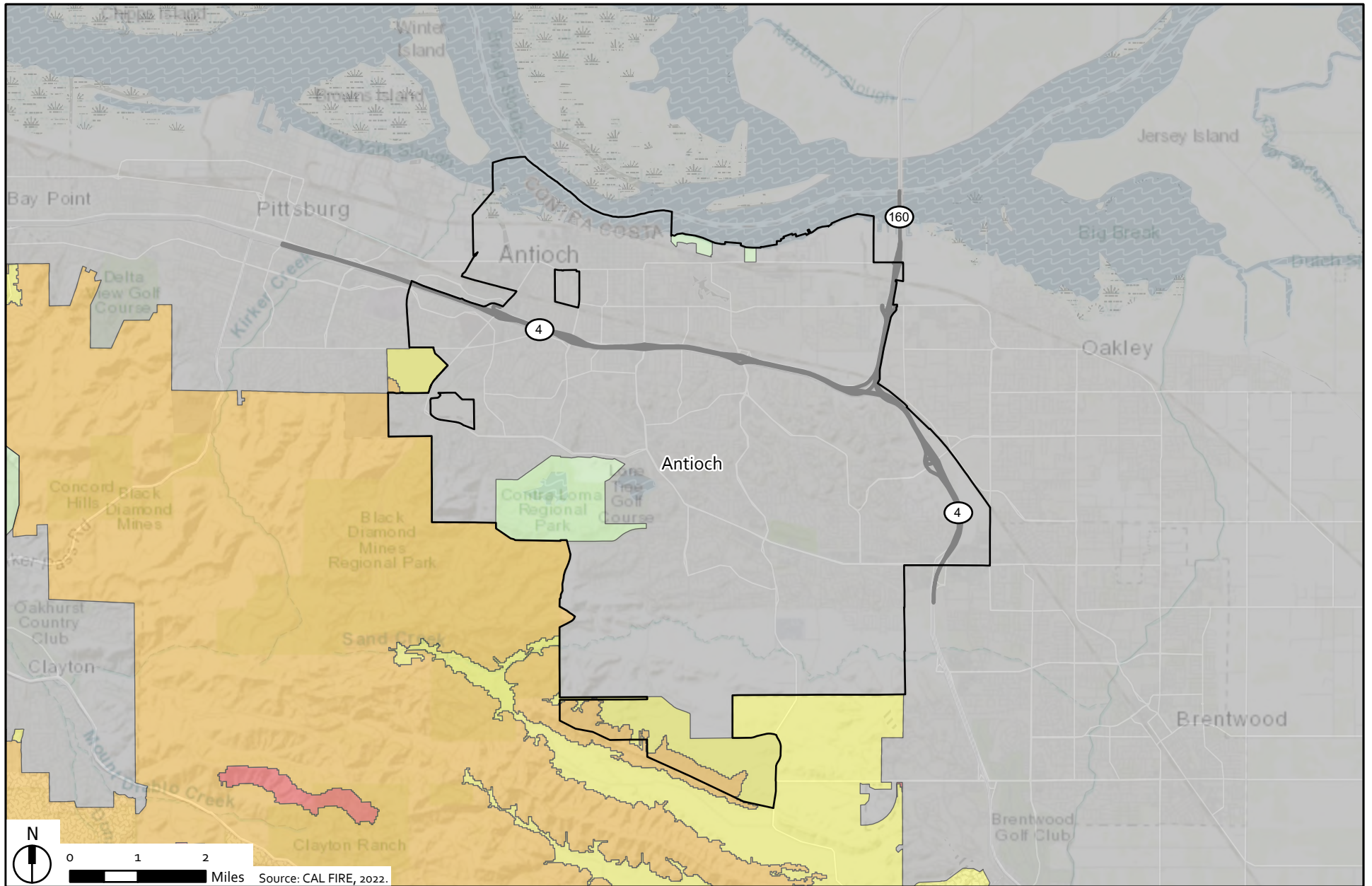


Figure 11-5
Fire Hazard Severity Zones

11.6.1 Fire Hazards Objective

Meet anticipated needs and demands that address hazards associated with wildland and urban fire.

11.6.2 Fire Hazards Policies

- a. Perform necessary maintenance on open space brush areas that are susceptible to burning.
- b. Prevent the invasion of grassland by Baccharis (a genus of perennials and shrubs that are highly flammable) by retaining grazing on publicly owned rangelands and integrating grazing practices within developed areas.
- c. Coordinate with Contra Costa County Fire Protection District on projects that make Antioch more resilient to fire hazards.
- d. Work with Contra Costa County Fire Protection District to promote public awareness of fire hazards and safety measures, including outreach to at-risk populations, and identification of low-risk areas for temporary shelter and refuge during wildfire events
- e. Review, amend and update, at regular intervals, relevant city codes and ordinances to incorporate the most current knowledge and highest standards for fire safety.
- f. Encourage the use of fire-retardant vegetation for landscaping, especially in high fire hazard areas.
- g. Require fire safe construction practices, such as fire preventive site design, landscaping and building materials, and installation of sprinklers on new development and redevelopment projects.
- h. Encourage landscaping maintenance programs to reduce potential for loss of life, physical injury, fire hazards in the hills, wildland areas, and urban interface.
- a.i. Reduce fire hazard risks in existing developments by ensuring that private property damage, and social disruption resulting from wildland fires is maintained to minimize vulnerability.

~~11.5.2 Fire Hazards Policies~~

- j. Work with the Contra Costa Fire Protection District to ensure adequate fire suppression resources in the local responsibility areas, and coordination with CALFIRE for state responsibility areas where wildfires may affect both areas.
- k. Require new development to incorporate design measures that enhance fire protection in Fire Hazard Severity Zones as identified in Figure 11-5. This shall include but is not limited to incorporation of fire-resistant structural design, use of fire-resistant landscaping, and fuel modification around the perimeter of structures.
- l. Prioritize development in areas with sufficient water supply infrastructure and road networks that provide adequate fire equipment access and multiple evacuation routes.
- m. Maintain existing water supply infrastructure for firefighting and plan for adequate future water supplies.
- n. Establish mitigations for properties in Fire Hazard Severity Zones with restricted and single points of access including parking restrictions and investigating the feasibility of establishing special assessment districts to improve road capacity, and adequate water supply.

~~b.o.~~ Where new development borders wildland areas, require appropriate fuel modification and use of fire-retardant building materials per the requirements of the Contra Costa County Fire Protection District. Fuel modification may be permitted to extend beyond the boundaries of the site for which wildland fire protection is being provided only if the adjacent owner provides written permission, the proposed fuel modification is consistent with the management practices of the agency controlling such land (if it is in permanent open space), and the off-site fuel modification activity will not significantly impact sensitive habitat areas.

~~e.p.~~ Require that adequate fire protection be available at initial project occupancy, whenever feasible. Thus, stations should be constructed and manned at the outset of new development. If the Contra Costa Fire Protection District finds that a lag time between initial occupancy and operation of new stations cannot be avoided, ~~the city may consider requiring sprinklers in new homes as an alternative.~~ Alternative strategies acceptable to the fire code official may be proposed.

11.7 CLIMATE CHANGE ADAPTATION

The Earth's climate is warming, mostly due to human activities such as changes in land cover and emissions of certain pollutants. Greenhouse gases (GHGs) are the major human-induced drivers of climate change. These gases warm the Earth's surface by trapping heat in the atmosphere.

Global surface temperatures have increased approximately 1.6 °F relative to average temperatures from 1951-1980. In addition, 17 of the 18 warmest years in the 136-year record have occurred since 2001. Consistent with global observations, annual average air temperatures have increased by approximately 1.8 °F in California, with temperatures rising at a faster rate beginning in the 1980s.

As temperatures continue to rise, California will face serious climate impacts, including:

- More intense and frequent heat waves.
- More intense and frequent drought.
- More severe and frequent wildfires.
- More severe storms and extreme weather events.
- Greater riverine flows.
- Shrinking snowpack and less overall precipitation.
- Accelerating sea level rise.
- Ocean acidification, hypoxia, and warming.

The State of California Cal Adapt has developed modeling software that is used to make predictive projections for weather scenarios, such as extreme heat days and extreme precipitation events. These are created by using emission scenarios. An emissions scenario is a representation of future GHG emissions and resulting atmospheric concentrations through time. These emission scenarios are projected using what are called representative concentration pathways (RCPs). Each RCP represents a standardized set of assumptions about the human influenced GHG emissions and the trajectory in the coming years. Relying on the Cal Adapt tool, the following climate projections and RCPs were used:

- RCP 4.5 - GHG emissions peak around 2040 and then decline.
- RCP 8.5 GHG emissions continue to rise strongly through 2050 and plateau around 2100.

Both projections are considered possible depending on how successful the world is at reducing atmospheric carbon dioxide emissions. The following are potential effects that may impact the city.

Average Maximum Temperatures. Overall temperatures are projected to rise substantially throughout this century. According to the CAL-Adapt snapshot tool, the historical (1961-1990) annual maximum mean temperature for Antioch is 72.7 °F. Under the RCP 4.5 scenario, the maximum mean temperature in Antioch is expected to rise 4 °F by 2064 and 5.4 °F by 2099. Under the RCP 8.5 scenario, the maximum mean temperature is projected to rise nearly 8.3 °F to 81 °F by 2099.

Warmer temperatures will increase the demand for air conditioning and cooling systems. A common proxy used to understand the demand for energy needed to cool buildings is Cooling Degree Days (CDD). A CDD is defined as the number of degrees by which a daily average temperature exceeds a reference temperature over a given period of time. Using 65 °F over a period of 30 years, which loosely represents the average daily temperature above which space cooling is needed, the average number

of CDD, under the RCP 4.5 scenario, increases from a historical annual average of 35.1 to 58.1 between 2035-2064 and 66.5 between 2070-2099. Under the RCP 8.5 scenario this figure increases to 88.1 by the end of the century.

Average Minimum Temperatures. The historical annual minimum mean temperature for Antioch is 48.5°F. Under the RCP 4.5 scenario, the minimum mean temperature could increase 3.6 °F by 2064 and 4.9 °F by 2099. Under the RCP 8.5 scenario, the minimum mean temperature is projected to rise 8.1 °F by the end of the century.

Warmer temperatures should reduce the demand for energy for space heating. Using the Cal- Adapt Heating Degree Days (HDD) tool, the city is expected to see a reduction in HDD. An HDD is defined as the number of degrees by which a daily average temperature is below the reference temperature over a given period of time, the same parameters as the CDD's. The historical annual average number of HDD in Antioch is 88.3. Under the RCP 4.5 scenario, the annual average number is projected to decrease to 65 by 2064 and 57.5 by 2099. Under the RCP 8.5 scenario, the number of annual average HDD declines to 41.5 by the end of the century.

Overall, the models project an increase in the annual average by about 31.4 CDD and an annual average decrease of approximately 20 HDD by mid-century under the RCP 4.5 scenario.

Extreme Heat Days¹. As the climate changes, some of the more serious threats to public health may stem from more frequent and intense extreme heat days and longer heat waves. Extreme heat events are likely to increase the risk of mortality and morbidity due to heat-related illness, such as heat stroke and dehydration, and exacerbation of existing chronic health conditions.

In Antioch, the extreme heat threshold is 100.8 °F. Between 1961-1990, there was an average of 4 days above 100.8 °F. By 2064 this average is projected to increase to 16 days under the RCP 4.5 scenario. By the end of the century, the average number of extreme heat days is expected to increase to 21 days under the RCP 4.5 scenario and as many as 36 days under the RCP 8.5 scenario.

Those most at risk and vulnerable to heat-related illness are the elderly, individuals with chronic conditions such as heart and lung disease, diabetes, and mental illnesses, infants, the socially or economically disadvantaged, and those who work outdoors. This increased risk and vulnerability comes from a lack of adaptive capacity by these groups to endure extreme heat conditions or the need for reliance on outside assistance (cooling centers, healthcare services, mental health services) during times of elevated stress. In Antioch, approximately 12 percent of the city's population is age 65 and older, which is expected to increase to 22 percent by 2040 (ABAG 2018 Projections). Additionally, approximately 15 percent of the city's population identifies as having a disability per U.S. Census Bureau, American Community Survey 5-Year Data (2015-2019); and approximately 31% of households are considered "low-income" considered their household incomes are at or less than 50% of Area Median Income (AMI)².

¹ An extreme heat day is defined as a day in April through October where the maximum temperature exceeds the 98th historical percentile of maximum temperatures based on daily temperature data between 1961-1990.

² U.S. Department of Housing and Urban Development (HUD), Comprehensive Housing Affordability Strategy (CHAS) ACS tabulation, 2013-2017 release

Rainfall. The historical annual mean rainfall for Antioch is 15.1 inches. Under the RCP 4.5 scenario, annual mean rainfall is expected to increase and peak at 16.4 inches by 2064 before leveling off towards the end of the century, at 16.2 inches by 2099. Under the RCP 8.5 scenario annual mean rainfall is anticipated to increase to 16.5 inches by 2064 and 18.1 inches by 2099. Based on these projections, the city anticipates an increase in the frequency and intensity of extreme storms brought on by atmospheric river storms in northern California. These storms will have the tendency to produce more frequent and severe flooding, along with prolonged periods of drought. The expected increase in rainfall and storm activity may exacerbate local flooding and could create flooding in areas where it has not previously occurred. While the projected increase in rainfall may mean that local water resources will not be negatively impacted over the long run, prolonged periods of drought may require greater short-term water-saving efforts.

Sea Level Rise. The San Francisco Bay is vulnerable to a range of natural hazards, including storms, extreme high tides, and rising sea levels resulting from global climate change. Flooding already poses a threat to communities along the Bay and there is compelling evidence that these risks will increase in the future. As temperatures rise globally, sea levels are rising mainly because ocean water expands as it warms, and water from melting of major stores of land ice and glaciers flow into the ocean. In the past century, average global sea level has increased by 7 to 8 inches. Sea level at the San Francisco tide gauge has risen by about 7 inches since 1900.

Rising seas put new areas at risk of flooding and increase the likelihood and intensity of floods in areas that are already at risk. The State's Sea Level Rise Guidance Document (2018) projects a "likely" (66 percent probability) increase in sea level at the San Francisco tide gauge of 10 inches by 2040. By the end of the century, sea levels are likely to rise by 2.4 feet under the RCP 4.5 scenario and 3.4 feet under the RCP 8.5 scenario. Flooding will be more severe when combined with storm events.

In 2014 the Adapting to Rising Tides (ART) program conducted a sea-level rise vulnerability, assessment and adaptation project along the west and central Contra Costa County shoreline extending from Richmond to Bay Point. This project analyzed and modeled a series of sea level rise scenarios in order to build a comprehensive understanding of climate vulnerability and develop effective and equitable responses. In 2017, the Delta Stewardship Council (DSC) engaged ART to complete a study extending from Pittsburg to the eastern border of Contra Costa County. This effort included preparing different flood modeling scenarios for the Delta, apart from what was modeled for the Bay. Between 2018 and 2020 the City participated in the East Contra Costa County ART Project by providing information, and assisting with the identification of relevant vulnerabilities, consequences and issues pertinent to the study area. The objectives of the program include understanding how current and future coastal and riverine flooding may impact transportation and utility networks, industrial facilities, employment sites, residential neighborhoods, community facilities, levees protecting Delta islands, and shoreline park and recreation facilities.

The final report evaluated both current and future flooding that is either temporary or permanent. Temporary flooding usually occurs when there are storms over the Pacific Ocean during the winter, when high tide coincides with strong winds, or when significant rainfall occurs over short durations causing creeks and rivers to rise over their banks. Permanent inundation occurs if an area is exposed to regular daily flooding. As sea level rises, higher water levels will become more frequent, increasing the extent, depth, and duration of temporary flooding and expanding the area that is permanently inundated. However, sea level rise affects the Delta Shoreline differently than the Bay. The Delta is influenced by both daily tides coming through the Golden Gate and freshwater flowing into the Delta from the Sacramento and San Joaquin Rivers. Modeling of sea level rise in the Delta suggests increased water heights at the Golden Gate Bridge may not translate into the same increases in water heights everywhere within the estuary (e.g., one foot of sea level rise at the Golden Gate may not mean

one foot of sea level rise in the Delta). This is especially true east of the Benicia Bridge where freshwater inflows from rivers interact with tides in complex ways. As sea levels rise, the tidal creeks and the Delta are also impacted. As the Bay rises, water levels in tidal creeks and in the Delta will also rise, pushing the extent of tidal influence further upstream, potentially making riverine flooding that already occurs worse. As a result, the report considers a range of possible futures that modeled both temporary and permanent flooding for ten climate scenarios summarized in Table 11-1.

Table 11-1 ART East Contra Costa Ten Climate Scenarios

<u>Permanent Flooding Scenarios</u>	<u>Permanent + Temporary Flooding Scenarios</u>
<u>MHHW*</u>	<u>MHHW* + 100-year storm**</u>
<u>12 inches</u>	<u>12 inches + 100-year storm</u>
<u>24 inches</u>	<u>24 inches + 100-year storm</u>
<u>36 inches</u>	<u>36 inches + 100-year storm</u>
<u>83 inches</u>	<u>83 inches + 100-year storm</u>

* MHHW = Mean Higher High Water. This is the average water height of the highest tides. All other sea level rise scenarios are added to the MHHW. For example, 12inches of sea level rise is 12inches + MHHW.

** Current Temporary flooding is modeled through the 100-year storm event on top of today's high tide.

For each scenario, the report included an exposure analysis for flood risks and detailed vulnerability assessment of how these flood risks will affect 34 asset categories across 11 sectors including business and industry, communities, critical facilities and services, and people. In addition to identifying areas that could flood in each scenario, the report also identifies where specific vulnerabilities in current flood protection are located.

Some key areas and assets of concern include downtown Antioch, and piers along the Antioch Bridge that are at risk at 83 inches sea level rise (SLR) or the 100-year storm event plus 12 inches of SLR. One hazardous waste facility is located within the current 100-year storm floodplain. Combined flooding from a 100-year storm event with 83 inches SLR could impact up to 10 hazardous waste facilities across the city. The Antioch Police Department and Antioch Detention Facility are exposed to flood risk at 83 inches of SLR and/or 36 inches SLR plus a 100-year storm event. Prospects High School becomes exposed to flood risk at 83 inches SLR plus a 100-year storm. The Antioch City Marina is currently located in a 100-year storm event area and is exposed to future sea level rise starting at 12 inches SLR. There are six census tracts on or near the coast, with a total population of 30,203 persons according to the 2020 census, that are exposed to flooding with a current 100-year storm event, or at 24 inches of SLR. Within these eight census blocks, there is a specifically high number (90th percentile of Bay-Delta area residents) of children under 5, very low-income households, people with disability, single-parent households, people with limited English proficiency, people without a high school degree, severely housing cost burdened households, renters, and people over 65 living alone. Overall, of the 36,149 residential units in Antioch¹, a 100-year storm affects 107 households currently, 156 households at 12 inches of SLR, 499 at 24 inches of SLR, 728 at 36 inches of SLR, and 1,217 at 83 inches of SLR.

¹ State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2021-2022. Sacramento, California, May 2022.

Sea level rise alone impacts 96 households at 24 inches of SLR, 102 households at 36 inches of SLR, and 786 households at 83 inches of SLR.

The ART report provides extensive analyses and maps and a comprehensive set of adaptation responses that will help the city to build resilience and adapt to rising sea level. Figure 11-6 shows areas that could be impacted by a 100-year storm event currently, and at 12 inches, 24 inches, 36 inches, and 83 inches of sea level rise. Figure 11-6 shows the areas that would be impacted by sea level rise alone at 12 inches, 24 inches, 36 inches, and 83 inches of sea level rise.

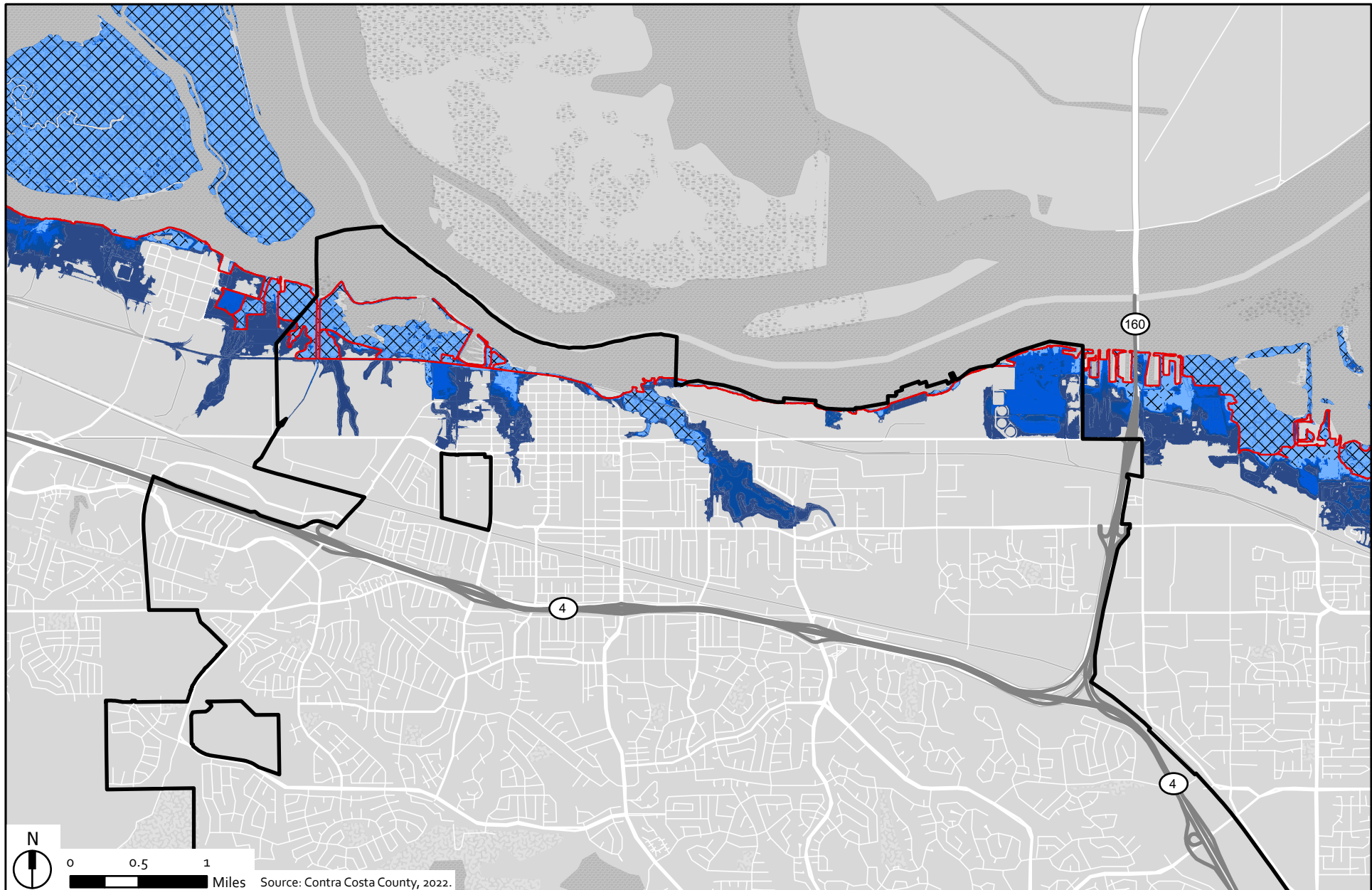
The Antioch City Council adopted the Climate Action and Resilience Plan in May 2020 and began preparing the community for hazards shocks that are expected to intensify in the future and to reduce the City's reliance on carbon-based energy sources. The document provides another resource for the community to understand climate risks and explores policies and programs that can help the community prepare for more natural hazards.

Wildfire. Wildfire is a serious hazard in California. Several studies have indicated that the risk of wildfire will increase with climate change. According to Cal-Adapt, the historical annual average area burned by wildfire in Antioch is over 283.7 acres. That amount is expected to increase to 297 acres by mid-century and then decrease to 273.8 acres by the end of the century. Cal-Adapt projections show the risk for wildfire in Contra Costa County increasing by approximately 10 percent under both the RCP 4.5 and RCP 8.5 scenarios. Although Contra Costa residents may not experience increased risk from wildfire directly, secondary impacts, such as poor air quality, may increase.

Prolonged and more severe drought may exacerbate wildfire conditions by increasing the potential for ignitions and spread of wildfire. An expected increase in wildfire intensity and extent will increase public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, vegetation conversions, and habitat fragmentation throughout California.

Adaptive Capacity. Adaptive capacity is the current ability of a community to address the potential impacts of climate change. The Contra Costa County MJHMP (Volume 1) and City of Antioch Annex (Volume II) serves as the city's local hazard mitigation plan. This plan analyzes the city's adaptive capacity for climate change and contains actions for adapting to climate change, including flooding and sea level rise.

Antioch has existing policies, plans, programs, resources, and institutions already in place to adapt to climate change and reduce potential impacts. The city's Climate Action Resilience Plan (CARP), adopted in 2020, contains actions to reduce GHG emissions and mitigate the likely impacts of climate change. In addition, the 2018 ART Project provides information and strategies for adapting to sea level rise and building resiliency. Resources to address flooding and storm events are provided in Section 11.5 of this Environmental Hazards Element, and resources for fire prevention and protection are covered in Section 11.6. In addition, the City has adopted an Emergency Operations Plan, described in Section 11.10, which can be activated for a variety of emergency situations, including flooding, wildfires, and extreme weather events.



- City Boundary
- Highways
- Shoreline
- Current 100-year flood Inundation
- 12" SLR and 100-Year Flood Inundation
- 24" SLR and 100-Year Flood Inundation
- 36" SLR and 100-Year Flood Inundation
- 83" SLR and 100-Year Flood Inundation

Figure 11-6
Sea Level Rise

11.7.1 Climate Change Adaptation Objective

Incorporate the changing risks associated with climate change into the protection of life, property, the economy, and the environment.

11.7.2 Climate Adaptation Policies

- a. Prepare for and respond to the expected impacts of climate change.
- b. Consider climate change implications, including sea level rise, when approving new projects and planning for growth, facilities, and infrastructure improvements in areas potentially affected by climate change.
- c. Develop incentive programs to encourage property owners to retrofit their homes/businesses against climate-related hazards such as extreme weather, flooding, wildfire (New) Improve city staff understanding of how climate change may disproportionately affect vulnerable community members, including senior citizens, low-income persons, and persons with disabilities.
- d. Coordinate with regional, state, and federal agencies to monitor the indicators and impacts of climate change.
- e. Climate Action Design Elements. Require new residential, commercial, and retail land use developments to demonstrate compliance with the Bay Area Air Quality Management District's (BAAQMD) recommended design elements to support long-term climate action goals, as feasible or modify the city's climate action plans to meet the criteria under State CEQA Guidelines Section 15183.5(b) and identify community-wide measures that can be implemented to achieve the statewide GHG emissions targets of 40 percent below 1990 levels by 2030 and support the State's goal of achieving carbon neutrality by 2045. The updated climate action plans should include a checklist to help future development projects demonstrate how they will support long-term climate action goals. The GHG reduction measures identified in the updated climate action plans would supersede the Bay Area Air Management District's recommended design elements described below:
 - The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
 - The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
 - Achieve a reduction in project-generated vehicle miles travelled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
 - Residential projects: 15 percent below the existing VMT per capita.
 - Office projects: 15 percent below the existing VMT per employee.
 - Retail projects: no net increase in existing VMT.

-
- Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.
 - f. Develop incentive programs to encourage property owners to retrofit their homes/businesses against climate-related hazards such as extreme weather, flooding, and wildfire.
 - g. Climate Action and Resilience Plan. Require new development to incorporate strategies identified in the city's current Climate Action and Resilience Plan to ensure increased community resilience from anticipated natural hazard events associated with climate change, such as flooding, drought, and extreme heat.
 - h. The city shall support solutions to ensure the sustainability of community water supplies.
 - a. Participate in the implementation and update of Groundwater Sustainability Plans to ensure the future water resources are available to support city growth and development
 - i. Encourage the development and maintenance of innovative water treatment systems to clean and disinfect water.
 - j. Continue to enhance and modify Section 6-5.10 of the City's Municipal Code, which outlines and defines waste of water and Section 6-10.05 which outlines and defines excessive use of water, and the subsequent penalties for violations.
 - a. Implement a leak detection inspection program to aid in water conservation and encourage retrofits, where feasible.
 - b. Develop incentive programs to encourage the use of water saving devices, such as high efficiency toilets, high efficiency appliances, low flow shower heads, drip irrigation systems, etc.
 - k. Water resources shall be planned and managed in a way that relies on sound science, data, and public participation.
 - l. Current climate change data shall be taken into consideration when the expansion of water infrastructure and water source location is considered for new development.
-

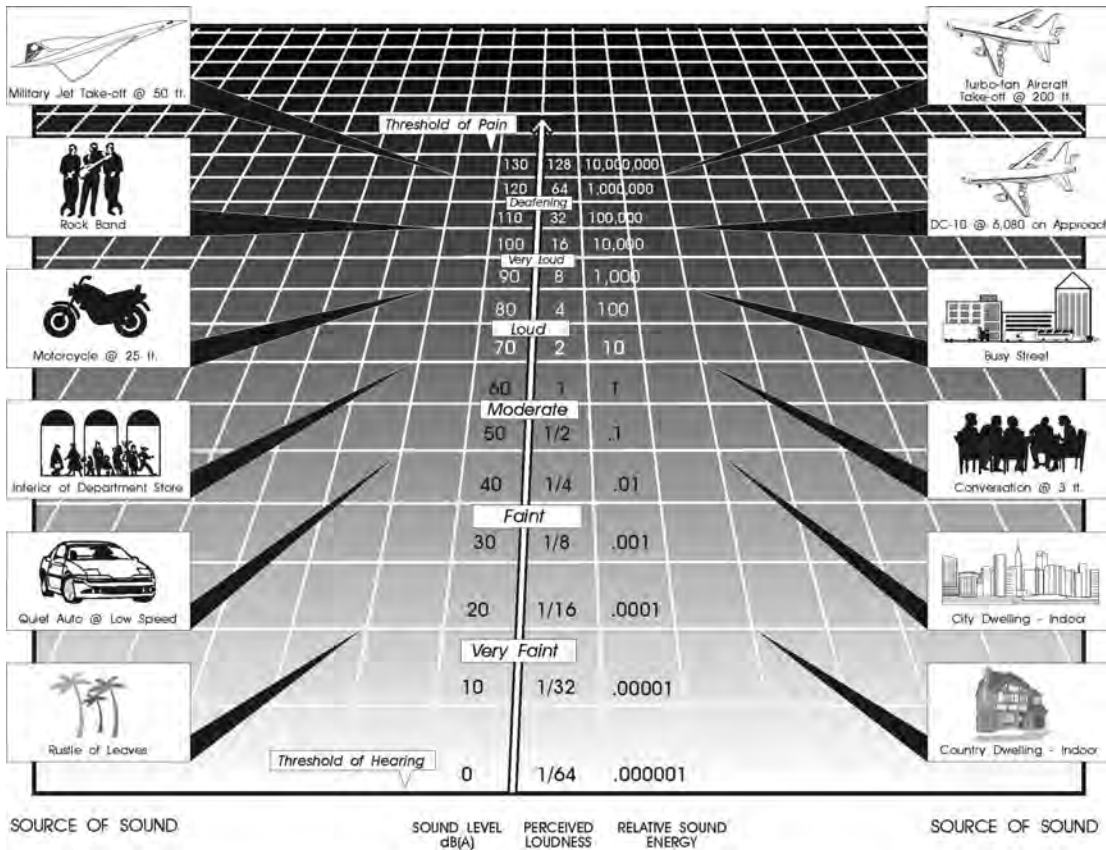
11.8 NOISE OBJECTIVE AND POLICIES

Introduction to “Noise.”—Noise is usually defined as “unwanted sound,” and consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

Sound levels are measured in decibels (dB), typically through an “A-weighted” scale, which emulates human hearing. Unlike linear units such as inches or pounds, decibels (dBA) are measured on a logarithmic scale, representing points on a sharply rising curve. In this scale, an increase of 10 dBA represents a ten times increase in sound energy, and is perceived by the human ear as a doubling of loudness (see Figure 11-4). Thus, a noise at 70 dBA has 10 times the sound energy as a 60 dBA noise, and will be perceived as being twice as loud.

Except under special conditions, changes in sound levels of less than 1.0 dBA cannot be perceived by the human ear. Audible increases in noise levels generally refer to a change of 3.0 dBA or more, since this level has been found to be barely perceptible in typical exterior environments. A 5.0 dBA change in noise levels is generally the threshold at which a noticeable change in community response occurs.

Figure 11-7 Measurement of Noise



¹ All sound levels in the General Plan are A-weighted, unless specified otherwise.

For environmental and land use planning purposes, several methods of expressing the average noise level over a given period of time have been developed. The predominant average noise measurement scale in California are the Equivalent-Continuous Sound Level (L_{eq}) and the Community Noise Equivalent Level (CNEL), both of which are based on A-weighted decibels (dBA). L_{eq} is the total sound energy of time-varying noise over a given sample period. CNEL is the average sound level occurring over a 24-hour period, with a weighting factor of 5.0 dBA applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours), and 10 dBA adjustment for events occurring between 10:00 p.m. and 7:00 a.m. (defined as sleeping hours). The noise adjustments are added to the noise events occurring during the ~~more-quiet~~quieter evening and nighttime hours to compensate for the added intrusiveness that noise has during these hours.

Other noise rating scales of importance when assessing annoyance factor include the maximum noise level (L_{max}), which is the highest exponential-time-averaged sound level that occurs during a stated time period, and noise standard in terms of percentile exceedance noise levels (L_n). L_{max} reflects peak operating conditions, and addresses the annoying aspects of intermittent noise. The percentile exceedance noise levels are the levels exceeded during a stated period of time. For example, an L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level (exceeded 50% percent of the time). The L_{90} noise level represents the noise level exceeded 90 percent of the time, and is considered the lowest noise level experienced during a monitoring period. It is normally referred to as the background or ambient noise level.

Physical damage to human hearing occurs with prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire human body, with prolonged noise exposure in excess of 75 dBA increasing tension, and thereby affecting blood pressure, functions of the heart, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear. ~~Table~~Figure 11-A-7 above lists acoustical term definitions, and ~~Table 11.B~~ identifies common sound levels and their sources.

~~Noise in Antioch~~—Major noise sources within Antioch include “mobile sources” such as traffic along ~~State Route SR 4~~ and ~~State Route SR 160~~ freeways, rail lines, and major arterial roadways. Significant “stationary” sources of noise within Antioch include heavier industrial development in the northern portion of the Planning Area, commercial development, where it backs up against residential neighborhoods and construction activities.

Traffic noise depends primarily on the speed of traffic and percentage of trucks along the route. Traffic volume has a lesser influence on highway noise levels.

11.68.1 Noise Objective

Achieve and maintain exterior noise levels appropriate to planned land uses throughout Antioch, as described below:

- Residential
 - Single Family: 60 dBA CNEL within rear yards*
 - Multi-Family: 60 dBA CNEL within interior open space*

- Schools
Classrooms: 65 dBA CNEL
Play and sports areas: 70 dBA CNEL
- Hospitals, Libraries: 60 dBA CNEL
- Commercial/Industrial: 70 dBA CNEL at the front setback.

11.68.2 Noise Policies

Noise Compatible Land Use and Circulation Patterns

- a. Implementation of the noise objective contained in Section 11.68.1 and the policies contained in Section 11.68.2 of ~~the~~this Environmental Hazards Element shall be based on noise data contained in Section 4.9 of the General Plan EIR, unless a noise analysis conducted pursuant to the city's development and environmental review process provides more up-to-date and accurate noise projections, as determined by the city.
- b. Maintain a pattern of land uses that separates noise-sensitive land uses from major noise sources to the extent possible, and guide noise-tolerant land uses into the noisier portions of the Planning Area.
- c. Minimize motor vehicle noise in residential areas through proper route location and sensitive roadway design.
- d. Provide planned industrial areas with truck access routes separated from residential areas to the maximum feasible extent.
- e. Where needed, provide traffic calming devices to slow traffic speed within residential neighborhoods.

Noise Analysis and Mitigation

- f. Where new development (including construction and improvement of roadways) is proposed in areas exceeding the noise levels identified in the General Plan Noise Objective, or where the development of proposed uses could result in a significant increase in noise, require a detailed noise attenuation study to be prepared by a qualified acoustical engineer to determine appropriate mitigation and ways to incorporate such mitigation into project design and implementation.
- g. When new development incorporating a potentially significant noise generator is proposed, require noise analyses to be prepared by a qualified acoustical engineer. Require the implementation of appropriate noise mitigation when the proposed project will cause new ~~exceedences~~exceedances of General Plan noise objectives, or an audible (3.0 dBA) increase in noise in areas where General Plan noise objectives are already exceeded as the result of existing development.
- h. In reviewing noise impacts, utilize site design and architectural design features to the extent feasible to mitigate impacts on residential neighborhoods and other uses that are sensitive to noise. In addition to sound barriers, design techniques to mitigate noise impacts may include, but are not limited to:
 - Increased building setbacks to increase the distance between the noise source and sensitive receptor.

- Orient buildings which are compatible with higher noise levels adjacent to noise generators or in clusters to shield more noise sensitive areas and uses.
 - Orient delivery, loading docks, and outdoor work areas away from noise-sensitive uses.
 - Place noise tolerant use, such as parking areas, and noise tolerant structures, such as garages, between the noise source and sensitive receptor.
 - Cluster office, commercial, or multi-family residential structures to reduce noise levels within interior open space areas.
 - Provide double glazed and double paned windows on the side of the structure facing a major noise source, and place entries away from the noise source to the extent possible.
- i. Where feasible, require the use of noise barriers (walls, berms, or a combination thereof) to reduce significant noise impacts.
- Noise barriers must have sufficient mass to reduce noise transmission and high enough to shield the receptor from the noise source.
 - To be effective, the barrier needs to be constructed without cracks or openings.
 - The barrier must interrupt the line of sight between the noise source and noise receptor.
 - The effects of noise “flanking” the noise barrier should be minimized by bending the end of the barrier back from the noise source.
 - Require appropriate landscaping treatment to be provided in conjunction with noise barriers to mitigate their potential aesthetic impacts.
- j. Continue enforcement of California Noise Insulation Standards (Title 25, Section 1092, California Administrative Code).

Temporary Construction

- k. Damage Due to Construction Vibration. Where new development is proposed in areas adjacent to any vibration-sensitive land uses or adjacent to vibration-sensitive activities, require a screening level vibration analysis. If a screening level analysis shows that the project has the potential to result in damage to structures or where vibration could substantially interfere with normal operations, require a detailed vibration impact assessment prepared by a structural engineer or other appropriate professional to determine appropriate design means and methods of construction to avoid the potential damage, if feasible.
- k.l. Ensure that construction activities ~~are regulated as to and permitted~~ hours of operation ~~are regulated~~ in order to avoid or mitigate noise impacts on adjacent noise-sensitive land uses.
- l.m. Require proposed development projects adjacent to occupied noise sensitive land uses to implement a construction-related noise mitigation plan. This plan would depict the location of construction equipment storage and maintenance areas, and document methods to be employed to minimize noise impacts on adjacent noise sensitive land uses.
- m.n. Require that all construction equipment utilize noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.
- n.o. m. Prior to the issuance of any grading plans, the city shall ~~condition approval~~ include a Condition of Approval for subdivisions and non-residential development adjacent to any

developed/occupied noise-sensitive land uses **by** requiring applicants to submit a construction-related noise mitigation plan to the city for review and approval. The plan should depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of the project through the use of such methods as:

- The construction contractor shall use temporary noise-attenuation fences, where feasible, to reduce construction noise impacts on adjacent noise sensitive land uses.
- During all project site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- The construction contractor shall limit all construction-related activities that would result in high noise levels to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday. No construction shall be allowed on Sundays and public holidays.

e.p.n. — The construction-related noise mitigation plan required shall also specify that haul truck deliveries be subject to the same hours specified for construction equipment. Additionally, the plan shall denote any construction traffic haul routes where heavy trucks would exceed 100 daily trips (counting those both to and from the construction site). To the extent feasible, the plan shall denote haul routes that do not pass sensitive land uses or residential dwellings. Lastly, the construction-related noise mitigation plan shall incorporate any other restrictions imposed by the city.

11.79 HAZARDOUS MATERIALS ~~OBJECTIVE AND POLICIES~~

The term “hazardous materials” includes a full spectrum of substances from pre-product materials to waste. Pre-product materials are considered to have value, and are used in, or represent the purpose of the manufacturing process. These materials solvents, paints, acids, and other chemicals, which, because they have value, are subject to proper transportation, storage, and use procedures. “Hazardous waste” refers to the valueless by-products of manufacturing processes and other use of materials. Hazardous waste requires proper disposal.

The California Department of Toxic Substances Control identifies two (2) sites within Antioch where surface ~~an~~and/or sub-surface contamination has occurred due to the potential release of hazardous materials or wastes. Those sites include the GBF/Pittsburg Dumps, located at the intersection of Somersville Road and James Donlon Boulevard, and the former Hickmott Cannery site at the intersection of 6th and “A” streets.

Pursuant to State law, Antioch has adopted by reference Contra Costa County’s Hazardous Waste Management Plan. This Plan establishes a comprehensive approach to management of hazardous wastes in the County, including siting criteria for new waste management facilities, educational and enforcement efforts to minimize and control the hazardous waste stream in the County, and policies to maintain a unified data base on businesses generating hazardous wastes.

11.79.1 Hazardous Materials Objective

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

11.79.2 Hazardous Materials Policies

- a. Promote the reduction, recycling, and safe disposal of household hazardous wastes through public education and awareness.
- b. Implement the provisions of the Contra Costa County Hazardous Waste Management Plan, including, but not limited to, provisions for pretreatment and disposal, storage, handling, and emergency response.
- c. Require businesses generating hazardous wastes to pay necessary costs for local implementation of programs specified in the Contra Costa County Hazardous Waste Management Plan, as well as costs associated with emergency response services for a hazardous materials release.

Source Reduction

- d. Require new and expanding hazardous materials users to reduce the amount of hazardous waste generated.

- Require submittal of a waste minimization plan with any use permit application for a **new** large **new** facility or expansion of an existing large facility creating additional hazardous wastes.¹
 - Encourage existing large facilities to prepare waste minimization plans.
 - Require new large hazardous waste-producing facilities to provide **onsiteon-site** treatment of recycling of wastes generated to the maximum extent feasible. This will minimize the amount of hazardous waste being transferred **offsiteoff-site** for treatment or disposal.
 - Require all hazardous waste generators to recycle wastes to the maximum extent feasible.
- e.** Encourage reductions in the amount of hazardous wastes being generated within Antioch through incentives and other methods.
- Provide educational and technical assistance to all hazardous materials users and waste generators to aid in their source reduction efforts (e.g., substitution of less hazardous products and modifications to operating procedures). These services will primarily be provided by through the County.
 - Provide public recognition to hazardous materials users and waste generators who meet or exceed source reduction goals.
 - Provide penalties for facilities failing to meet minimization objectives, and place funds from these penalties in a revolving account for use in educational and emergency services efforts.

Facilities Siting

- f.** Locate hazardous materials facilities in areas reserved for compatible uses.
- Permit large hazardous waste users and processors only in areas designated for “heavy industrial” use. Smaller generators and medical facilities (e.g., service stations) may be sited in other industrial and commercial areas, consistent with applicable General Plan policies and zoning regulations. The compatibility of small facilities will be determined by the types and amounts of hazardous materials involved and the nature of the surrounding area.
 - Require use permits for all operations handling hazardous materials to ensure compatibility with the surrounding area.
- g.** Maintain adequate siting criteria to determine appropriate locations for hazardous material facilities.
- Maintain a “Hazardous Materials” section in the Antioch zoning ordinance to define siting criteria to be used for various types of facilities, requirements for application submittal, and required findings for approval.
 - **The siting criteria shall prohibit locating hazardous materials facilities in 100-year Flood Hazard Zones and areas susceptible to flooding from storm surge and/or sea level rise unless the proposed design accounts for potential flooding by appropriately elevating and/or floodproofing all areas, including exterior areas, where hazardous materials would be stored and handled.**

¹ Large facilities are those routinely generating more than 1,000 kilograms of solid hazardous waste month or 275 gallons of liquid hazardous waste per month.

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- h. Locate hazardous materials facilities at a sufficient distance from populated areas to reduce potential health and safety impacts.
- Require risk assessment studies to determine potential health impacts for all proposed hazardous waste processors and large generators as part of permit application submittals.
 - Require a 2,000-foot buffer zone around all new hazardous waste processors within which no residences, schools, hospitals, or other immobile populations, existing proposed, or otherwise, would be located, unless evidence is presented in the risk assessment study that a larger buffer is needed.
- i. Permit hazardous waste processors based on their relative need in conjunction with the “fair share” approach to facilities siting contained in the Contra Costa County Hazardous Waste Management Plan.
- Require a needs assessment as part of use permit applications for a waste processor, demonstrating the proposed facility will serve a need that cannot be better met in any other manner (e.g., source reduction) or at any other location.
 - Discourage proposed hazardous waste facilities processing materials similar to those treated or stored at existing facilities within the County, unless the need for the new facility can be adequately demonstrated.
- j. Carefully review and require appropriate mitigation for pipelines and other channels for hazardous materials.

Facilities Management

- k. Ensure adequate provision is made for emergency response to all crises involving hazardous materials.
- Require emergency response plans for all hazardous waste processors and large generators to be submitted as part of Use Permit applications. The emergency response plans shall include procedures for minimizing the potential release of hazardous materials due to flooding such as shutting down operations, securing hazardous materials containers and other objects to prevent them from floating, closing valves/sealing openings on containers/pipelines/tanks, and moving hazardous materials away from flood prone areas ahead of predicted flooding events.
 - As a standard condition of approval, require training of employees of all facilities in emergency procedures, and that they be acquainted with the properties and health effects of the hazardous materials involved in the facilities’ operations.
- l. Promote the safest possible transport of hazardous materials through Antioch.
- Maintain formally designated hazardous material carrier routes to direct hazardous materials away from populated and other sensitive areas.
 - Restrict all processors and new large generators to access only along established hazardous material carrier routes.
 - Locate hazardous waste processors as near to waste generators as possible, in order to minimize the need for transport.
 - Require transportation analyses for all ~~new~~ large ~~new~~ generators and processors to determine the effect of each facility on Antioch’s transportation system, and assess and provide mitigation for potential safety impacts associated with hazardous materials transported to and from the site.
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- Prohibit the parking of vehicles transporting hazardous materials on city streets.
 - Require that new pipelines and other channels carrying hazardous materials avoid residential areas and other immobile populations to the greatest extent possible.
- m. Require that hazardous materials facilities within Antioch operate in a safe manner.
- As a Condition of Approval for new hazardous materials facilities, require access for vehicles carrying hazardous materials to be restricted to hazardous materials carrier routes.
 - Undertake inspections of hazardous materials facilities as needed (e.g., when an unauthorized discharge into city sewers is made) and assist Contra Costa Health Services in their inspections as requested.
 - Require that water, sewer, and emergency services be available consistent with the level of service standards set forth in the Growth Management Element. Work with LAFCO to require that that sites for proposed hazardous materials facilities annex into the city before necessary municipal services are provided.
- n. Require appropriate design features be incorporated into each facility's layout to increase safety and minimize potential adverse effects on public health.
- Require the provision of spill containment facilities and monitoring devices in all facilities.
 - Ensure that pipelines and other hazardous waste channels are properly designed to minimize leakage and require above ground pipelines to be surrounded by spill containment basins.
 - Give priority to underground storage of hazardous materials, unless this method is shown to be infeasible.
 - Require hazardous materials storage areas to be located as far from existing pipelines and electrical transmission lines as possible.
- o. Maintain a high priority on clean-up of the GBF landfill, Hickmott Cannery, and other contaminated sites.
- Maintain communication with the Department of Toxic Substances Control, Contra Costa Health Services, and other responsible agencies to complete clean-up of the GBF landfill and Hickmott Cannery sites as rapidly and thoroughly as possible.
 - Participate in task forces with County and State agencies for remediation of the GBF landfill and Hickmott Cannery sites.

Public Education/Outreach

- p. Require that new large hazardous materials users and/or processors maintain communication lines within the community by establishing a Communication and Information Panel. Encourage existing large users and processors to form similar panels.
- q. Facilitate public awareness of hazardous materials by preparing and distributing in conjunction with Contra Costa Health Services public information regarding uniform symbols used to identify hazardous wastes, Antioch's household hazardous waste collection programs, and hazardous waste source reduction programs.

Monitoring

- r. Monitor the progress and success of hazardous materials efforts, and modify these efforts as needed.
- s. Maintain data regarding the use and generation of hazardous materials within Antioch and its Planning Area.

Hazardous Building Materials

- t. Prior to the city issuing demolition permits for existing structures, a comprehensive Hazardous Building Materials Survey (HBMS) for the structure shall be prepared and signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials, lead containing paint, lead based paint, polychlorinated biphenyls (PCBs)-containing equipment and materials, and any other hazardous building materials. The HBMS shall include abatement specifications for the stabilization and/or removal of the identified hazardous building materials in accordance with all applicable laws and regulations. The demolition contractor shall implement the abatement specifications and submit to the city evidence of completion of abatement activities prior to demolition of the existing structures.

Hazardous Materials Contamination

- u. The following requirements related to potential hazardous materials contamination would not apply to properties where past land uses have included only residential or undeveloped open space (i.e., no previous agricultural, industrial, commercial, or transportation related use) and where placement of undocumented fill material has not occurred. Evidence of such past land use must be demonstrated to the city through historic aerial photos, maps, and/or building department records.
 - Prior to the city issuing demolition, grading, or building permits for a proposed redevelopment or development project that would disturb soil (except for residential renovations/additions), the project applicant shall prepare a Phase I Environmental Site Assessment (ESA) for the project site and shall submit the Phase I ESA it to the City for review. If any Recognized Environmental Conditions (RECs) or other environmental concerns are identified in the Phase I ESA, the project applicant shall prepare a Phase II ESA to evaluate the RECs or other environmental concerns and shall submit the Phase II ESA to the city for review and approval. Phase I and II ESA reports shall be prepared by a qualified environmental assessment professional and include recommendations for further investigation or remedial action, as appropriate, for hazardous materials contamination. Remedial actions may include but not necessarily be limited to the preparation and implementation of a Soil and Groundwater Management Plan, removal of hazardous materials containers/features (e.g., underground or aboveground storage tanks, drums, piping, sumps/vaults, hydraulic lifts, oil/water separators, or impoundments), proper destruction of water supply wells, removal and off-site disposal of contaminated soil or groundwater, in-situ treatment of contaminated soil or groundwater, or engineering/institutional controls (e.g., capping of contaminated soil, installation of vapor intrusion mitigation systems, and establishing deed restrictions). The project applicant shall implement the recommendations for additional investigation and/or remedial actions and shall submit to the city evidence of approvals from the appropriate federal, State, or regional oversight agency(ies) for any proposed remedial action prior to the city issuing demolition, grading, or building permits, and following completion of the remedial action and prior to the city issuing a certificate of occupancy.

- If the project applicant indicates that in their view regulatory agency oversight/approval is not required for the proposed project based on the findings of the Phase II ESA and/or the proposed remedial actions, then the Phase I and II ESAs and proposed remedial action plans shall be reviewed by a third party qualified environmental assessment professional selected by the city and funded by the project applicant. The third party qualified environmental assessment professional shall either approve of the proposed remedial actions or provide recommendations for further investigation, additional/alternative remediation actions, and/or regulatory agency oversight for the project site, and the recommendations of the third party qualified environmental assessment professional shall be implemented.

v. If any projects initiated under the proposed project would require the importation of soil to backfill any excavated areas, proper sampling of the soil shall be conducted to ensure that the imported soil is free of contamination according to DTSC's 2001 *Information Advisory Clean Imported Fill Material*, or more current guidance from DTSC

11.8—10 DISASTER RESPONSE

Antioch maintains an Emergency Operations Plan (EOP) addressing the response to disasters, including but not limited to earthquakes, floods, fires, hazardous spills or leaks, major industrial accidents, major transportation accidents, major storms, airplane crashes, environmental response, civil unrest, and national security ~~emergencies—emergencies~~. Emergency operations centers are maintained at the city's central police facility and at the City's water treatment plant.

The ~~emergency plan~~EOP indicates that Antioch would experience casualties, significant property damage, and utility service interruptions following a major Bay Area earthquake. The potentially catastrophic effects of an earthquake on the Hayward Fault would more than likely exceed the response capabilities of both the City of Antioch and the County.

The ~~plan~~EOP primarily outlines the general authority, organization, and response actions for city staff to undertake when disasters happen. ~~The City's plan is~~Recently updated in compliance2021, the EOP meets current statutory requirements and best practices, with ~~existing law~~. ~~The~~ the main objectives of ~~the plan are to reduce~~ reducing life, injury, and property losses through effective management of emergency forces, and accomplish the following:

- Identifies who is in charge during disaster response and clarifies who does what.
- Lists the necessary jobs for disaster response and what each person is to do.
- Ensures survivability and availability of government services, or the continuity of government.
- Helps to understand the City of Antioch's emergency organization.
- Provides guidance for disaster education and training.

11.810.1 Disaster Response Objective

Maintain a level of preparedness to adequately respond to emergency situations to save lives, protect property, and facilitate recovery with minimal disruption.

11.810.2. Disaster Response Policies

- a. Maintain and update the City's Emergency Response Operations Plan, as required by State law.
- b. Disseminate disaster preparedness information to local residents and businesses, describing how emergency response will be coordinated, how evacuation, if needed, will proceed, and what residents and businesses can do to prepare for emergency situations. Provide information to the public about:
 - Environmental hazards existing in Antioch;
 - The costs of doing nothing to mitigate these hazards;
 - Why governmental agencies can not eliminate all hazards;
 - What the city does to assist;
 - What the city cannot do;
 - What the public can do to protect itself.
- c. Maintain an effective and properly equipped emergency operations center, along with trained personnel, for receiving emergency calls, providing initial response and key support to major incidents, meeting the demands of automatic and mutual aid programs, and maintaining emergency incident statistical data.
- d. Maintain ongoing emergency response coordination with surrounding jurisdictions.
- e. Encourage private businesses and industrial uses to be self-sufficient in an emergency by:
 - Maintaining a fire control plan, including onsite fire fighting on-site firefighting capability and volunteer response teams to respond to and extinguish small fires; and
 - Identifying personnel who are capable and certified in first aid and CPR.
- f. Regularly review and clarify emergency evacuation plans for dam failure, fire, and hazardous materials releases.

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11.11 EVACUATION

Evacuation refers to the movement of people that are at risk of being impacted by a disaster to a safer location, using routes that do not pose a significant danger to the evacuees. Thus, both the destination and the route need to be scrutinized, preferably before the evacuation orders are issued. This involves deciding which of the potential temporary shelters in the city be opened, based on the shelters' locations relative to the impending disaster and their ease of accessibility from the safest identified routes. Evacuations in the city are conducted in cooperation between the Antioch Police Department and the Contra Costa County Fire Protection District (CCCFPD). Depending on the incident type, will depend on which city Department/Agency takes the lead in conducting evacuation procedures, however most incidents would default to the Antioch Police Department. To understand the areas of the city with potential evacuation constraints, the city conducted an analysis that identified the following:

- **Constrained Roadways** are segments of the roadway network that have a single point of connection with the rest of the roadway network. These could be cul-de-sacs or roadways with secondary connections that are not publicly accessible due to a gate or other constraint. Figure 11-8 identifies these roadways (in red) within the city.
- **Constrained Parcels** are areas of the city where at least 30 parcels are located along a constrained roadway. These parcel locations are accessible by one means of ingress/egress, which is consistent with Cal FIRE guidance regarding Public Resources Code Section 4290.5. Under this guidance, Cal Fire is concerned with subdivisions within the state that have 30 or more dwellings accessing a single roadway. Figure 11-8 identifies these areas (in blue and/or orange) within the city.

This analysis identified 19 locations where at least 30 parcels/dwellings meet the constrained parcel threshold. The concern regarding areas with constrained parcels is the ability to evacuate residents safely and effectively in the event of an emergency. Four (4) of these constrained parcel areas are located within or adjacent to Fire Hazard Severity Zones. Potential implementation actions should consider the possible future changes associated with fire hazard severity zone mapping, as well as identify and better understand these areas and the ramifications associated with evacuation.

The City of Antioch has identified a variety of evacuation routes to be used during a potential hazard event. The two primary routes out of the city are CA SR-4 and CA SR-160, allowing for evacuation to the east/ west and north/ south. Deer Valley Rd, Lone Tree Way, Hillcrest Ave, and Contra Loma Blvd, act as north/south collectors for these state routes. East 18th St, James Donlon Blvd, and West 10th St/Pittsburg Antioch Hwy act as east/west collectors. These routes may be changed during an evacuation, depending on the specific nature of the emergency. Figure 11-9 identifies the primary routes potentially used for evacuation purposes during a hazard event. While these are used as a general guide for future events, actual routes designated for evacuation purposes will be identified by the City based on real-world parameters and information that ensures evacuees are able to adequately travel to a safer location.

11.11.1 Evacuation Objective

Ensure that Antioch staff, residents, and businesses can effectively respond and evacuate during hazard events.

11.11.2 Evacuation Policies

- a. Ensure adequate evacuation capacity and infrastructure is available for existing and new development.
 - i. Develop Evacuation Master Plan that identifies routes, potential hazard incidents and criteria regarding capacity, safety, and viability.
- b. Coordinate with neighboring jurisdictions and Caltrans regarding transportation network constraints and improvements.
- c. Ensure all new development and redevelopment projects provide adequate ingress/egress for emergency access and evacuation.
- d. Identify and construct additional evacuation routes in areas of high hazard concern or limited circulation, where feasible.
- e. Ensure the city's transportation network allows for effective emergency response and evacuation activities.
- f. Develop evacuation standards and metrics for constrained neighborhoods and alternative evacuation plans, where necessary.
- g. Monitor changes to hazard conditions and vulnerabilities to ensure the accessibility or viability of evacuation routes in the future.
- h. Enhance the city's existing education and outreach program, "A Citizen Guide to Disaster Preparedness," with potential evacuation scenarios and the activities that residents and businesses can do to protect their properties and prepare for potential events.
- i. In areas with inadequate access or without at least two evacuation routes provide adequate mitigation actions to address the deficiencies required by the Fire Code and State law.

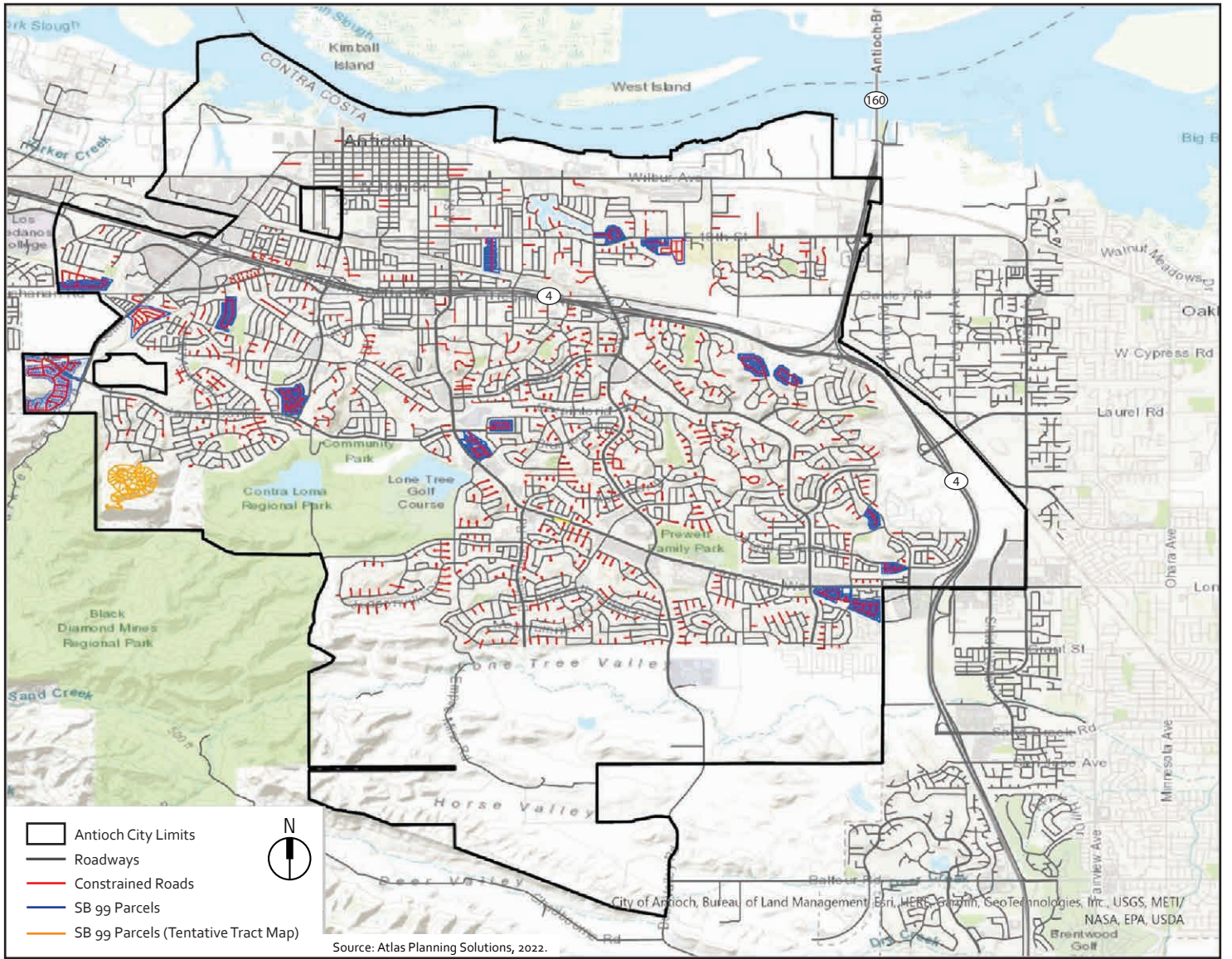


Figure 11-8
Constrained Parcels and Roadways

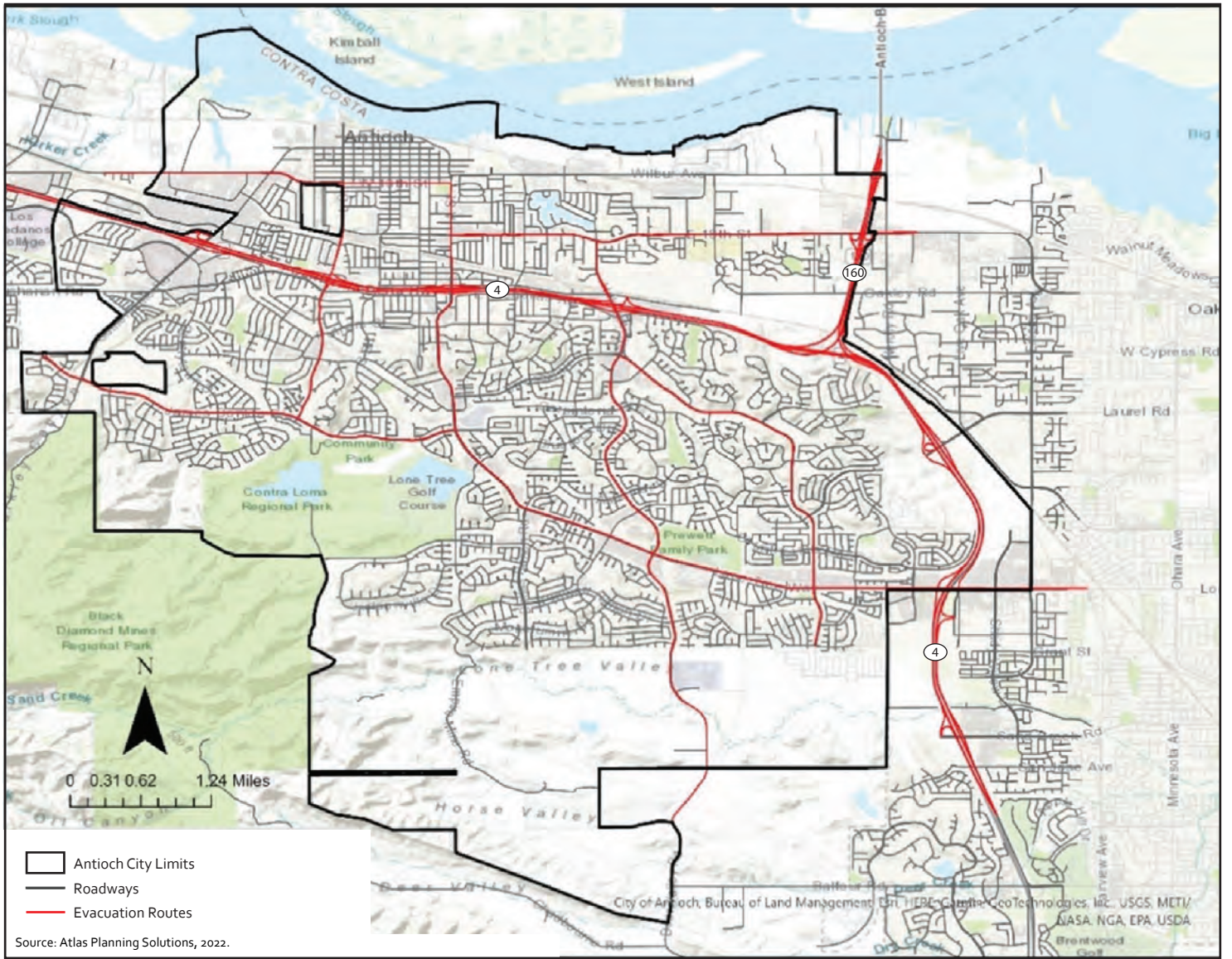


Figure 11-9
Evacuation Routes

EXHIBIT F
RESOURCE MANGEMENT TEXT AMENDMENT

10.4.1 Biological Resources Objective

Preserve natural streams and habitats supporting rare and endangered species of plants and animals.

10.4.2 Biological Resource Policies

- a. Comply with the Federal policy of no net loss of wetlands through avoidance and clustered development. Where preservation in place is found not to be feasible (such as where a road crossing cannot be avoided, or where shore stabilization or creation of shoreline trails must encroach into riparian habitats), require 1) on-site replacement of wetland areas, 2) off-site replacement, or 3) restoration of degraded wetland areas at a minimum ratio of one acre of replacement/restoration for each acre of impacted onsite habitat, such that the value of impacted habitat is replaced.
- b. Preserve in place and restore existing wetlands and riparian resources along the San Joaquin River and other natural streams in the Planning Area, except where a need for structural flood protection is unavoidable.
- c. Require appropriate setbacks adjacent to natural streams to provide adequate buffer areas ensuring the protection of biological resources, including sensitive natural habitat, special-status species habitats and water quality protection.
- d. Through the project approval and environmental review processes, require new development projects to protect sensitive habitat areas, including, but not limited to, essential habitat for special-status animals and plants, oak woodlands, riparian woodland, vernal pools, and native grasslands. Ensure the preservation in place of habitat areas found to be occupied by state and federally protected species.
 - Require a biological resource assessment for proposed development on sites with natural

habitat conditions that may support special-status species, sensitive natural communities, or regulated wetlands and waters; provided however that if a qualified biologist determines that past and/or existing development has eliminated natural habitat and the potential for presence of sensitive biological resources and regulated waters. The assessment shall be conducted by a qualified biologist to determine the presence or absence of any sensitive resources which could be affected by proposed development, shall provide an assessment of the potential impacts, and shall define measures for protecting the resource and surrounding buffer habitat, in compliance with City policy and State and federal laws.

The assessment shall include an analysis of appropriate direct and indirect impacts associated with the project and infrastructure or other development needed to support the project, such as, but not limited to:

- Inadvertent entrapment or impingement.
- Permanent and temporary habitat disturbance, fragmentation, or loss; and
- Loss or modification of breeding, nesting, dispersal and foraging habitat, including vegetation removal, alteration of soils and hydrology, and removal of habitat structural features (e.g., snags, roots, rock outcrops, overhanging banks, etc.).
- Loss of connectivity and/or obstruction of movement corridors, fish passage, or access to water sources and other core habitat features.
- Decreased ability to reproduce or reduced reproductive/breeding success (loss or reduced health or vigor of eggs or young).

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- [Interference with list-species recovery plan\(s\).](#)
 - [Permanent and temporary habitat disturbances associated with ground disturbance, noise, lighting, reflection, air pollution, traffic, or human presence resultant from the project.](#)
 - [Direct mortality \(aka "take"\).](#)
- e. If impacts to sensitive habitat areas are unavoidable, appropriate compensatory mitigation shall be required off-site within eastern Contra Costa County. Such compensatory mitigation shall be implemented through the provisions of a Resource Management Plan ("RMP") as described in Policy 1 0.3.2.e, except where, in the discretion of the Community Development Director, an RMP is not necessary or appropriate due to certain characteristics of the site and the project. Among the factors that are relevant to determining whether an RMP is necessary or appropriate for a given project are the size of the project and the project site, the location of the project (e.g., proximity to existing urban development or open space), the number and sensitivity of biological resources and habitats on the project site, and the nature of the project (e.g., density and intensity of development).
- f. Where preserved habitat areas occupy areas that would otherwise be graded as part of a development project, facilitate the transfer of allowable density to other, non-sensitive portions of the site.
- g. Preserve heritage trees throughout the Planning Area.
- h. Within areas adjacent to preserve habitats, require the incorporation of native vegetation and avoid the introduction of invasive species in the landscape plans for new development.
- i. Design drainage within urban areas so as to avoid creating perennial flows within intermittent streams to prevent fish and bullfrogs from becoming established within a currently intermittent stream.
- j. Whenever a biological resources survey is undertaken to determine the presence or absence of a threatened or endangered species, or of a species of special concern identified by the U.S. Fish and Wildlife Service or the California Department of Fish and [Wildlife Game](#), require the survey to follow established protocols for the species in question prior to any final determination that the species is absent from the site.
- k. [Avoid nests of native birds when in active use to ensure compliance with the State Fish and Game Code and the federal Migratory Bird Treaty Act when construction is initiated on development sites. If initial vegetation removal and site disturbance can't be restricted outside the nesting season \(September 1 through January 31\), a preconstruction survey for nesting birds shall be conducted by a qualified biologists during the bird nesting season \(February 1 through August 31\).](#)
- [Where an active nest is found on the site, an adequate setback shall be established around any nest of a native bird species when it is in active use until the young have fledged and are no longer dependent on the nest. The nest setback distance shall be defined by a qualified biological consultant with input from the California Department of Fish and Wildlife, with the setback zone fenced or flagged and all construction disturbance restricted from this zone until the qualified biologist has confirmed the nest is no longer in use.](#)
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