

# **APPENDIX B**

**INITIAL STUDY/MITIGATED NEGATIVE DECLARATION**

**For the**

**WILLIAMSON RANCH PLAZA PROJECT**

**APRIL 1998**



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**INITIAL STUDY  
and  
MITIGATED NEGATIVE DECLARATION**

**for the**

**WILLIAMSON RANCH PLAZA PROJECT**

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**FILE NO. PD-98-1**

**CITY OF ANTIOCH**

**MAY 1998**

**VOLUME I OF II  
INITIAL STUDY TEXT AND APPENDIX A**



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## PROJECT DATA

1. **Project Title:** Williamson Ranch Plaza
2. **Lead Agency Name and Address:** City of Antioch  
Department of Community Development  
Third and 'H' Streets  
P.O. Box 5007  
Antioch, CA 94531-5007
3. **Contact Person/Phone Number:** Ron Bendorff 925/779-7035
4. **Project Location:** Northwest corner of Lone Tree Way and Hillcrest Avenue in southeast Antioch.
5. **Project Sponsor's Name/Address:** Potter-Taylor & Company  
1425 River Park Drive, Suite 201  
Sacramento, California 95815-4508
6. **General Plan Designation:** General Plan: Neighborhood/Community Commercial  
Southeast Specific Plan: Community Commercial
7. **Zoning:** Planned Development District (PD)
8. **Description of Project:** Construction of 245,100 sq. ft. of retail commercial in 5 buildings on a 22.5-acre site. Project also involves subdivision of the site to create 3 parcels. (See Section I. *Description of the Proposed Project* for more detail.)
9. **Surrounding Land Uses/Setting:** North: Flood control channel, single-family residential, neighborhood park.  
East: Hillcrest Ave., vacant.  
South: Lone Tree Way, Mokelumne Aqueduct (underground), public park, historic ranch complex.  
West: Vacant.  
(See Section I. *Description of the Proposed Project*)
10. **Other Agency Approvals:** U.S. Army Corps of Engineers: Possible requirement for a permit for filling of wetlands under Section 404 of the Clean Water Act.  
  
Regional Water Quality Control Board (RWQCB):  
1) Possible requirement for water quality certification under Section 401 of the Clean Water Act;  
2) Administration of General Permit for Stormwater Discharges Associated with Construction Activity.

## INTRODUCTION

This Initial Study has been prepared by the City of Antioch as Lead Agency in conformance with the California Environmental Quality Act (CEQA) of 1970, as amended, to inform public decision-makers and the public of the environmental effects of the projects that they propose to approve or carry out.

This Initial Study has been prepared as supporting documentation for the adoption of a Mitigated Negative Declaration as CEQA clearance for the proposed project. Although a project may result in potentially significant impacts, CEQA provides for the adoption of a Mitigated Negative Declaration where the project is amended or mitigation measures are incorporated into a project which avoid the impacts or reduce the potential impacts to less-than-significant levels. This is provided for in Section 15070 of the CEQA Guidelines, as follows:

**§15070. Decision to Prepare a Negative or Mitigated Negative Declaration.** A public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

- a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
- b) The initial study identifies potentially significant effects, but:
  - 1) Revisions to project plans or proposals made by, or agreed to by the applicant before the proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
  - 2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

This Initial Study includes technical studies as appropriate to provide the necessary documentation that mitigation measures included in the project will reduce the project effects to a point where clearly no significant effects would occur. These technical studies are included as appendices to the Initial Study and their findings are set forth in the impact discussion section of the Initial Study.

As required under Section 21081.6 of the Public Resources Code, a Mitigation Monitoring and Reporting Program will be adopted for this project to ensure compliance with the mitigations required for this project. The Mitigation Monitoring and Reporting Program for this project is set forth in Appendix A of the Initial Study.

### **Previous Environmental Document**

The project site is located in the Southeast Antioch Planning Area. This is a comprehensively planned area comprising approximately 5,862 acres which is planned for the ultimate development of approximately 14,585 residential units, along with commercial uses and public facilities such as schools, parks and recreation centers. The planning document which governs development in Southeast Antioch is the *Southeast Antioch Area General Plan/Specific Plan Study*, which was adopted by the City Council in 1982. The environmental impact report for the Southeast Specific Plan is entitled *Southeast Antioch Area General Plan Study, Antioch, California - Report 3, Part B: Final Environmental Impact Report for Planning Subarea II: Southeast Antioch* which was certified on January 26, 1982. This EIR is hereby incorporated into this Initial Study by reference. This document is available for review at the City of Antioch Community Development Department (Third and 'H' Streets) during normal business hours.

## **I. DESCRIPTION OF THE PROPOSED PROJECT**

### **A. SITE DESCRIPTION**

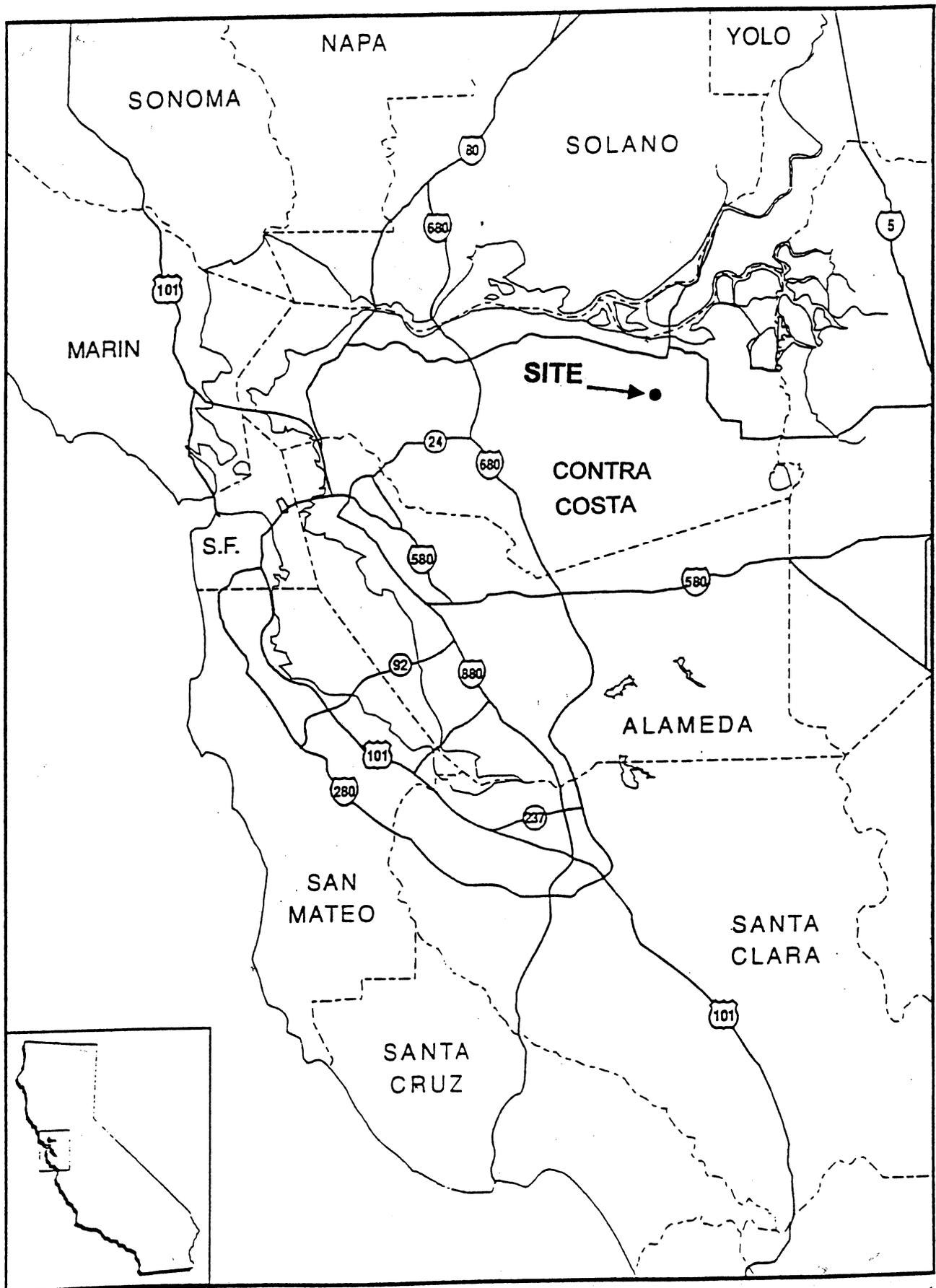
The 22.5-acre project site is located in southeast Antioch in the northwest quadrant of Lone Tree Way and Hillcrest Avenue. Downtown Antioch is located four miles northwest and the Brentwood city limits are located 1.5 miles southeast (see Figures 1 and 2). The nearest freeway access is at the Highway 4/Hillcrest Avenue interchange located three miles northwest.

The site is designated 'Neighborhood/Community Commercial' in the Antioch General Plan and 'Community Commercial' in the Southeast Antioch Specific Plan. The site is zoned 'Planned Development District (PD)'. The site is part of a larger 33.5-acre property that extends to the west (see Figure 3). The approximately 10-acre remainder parcel is designated 'Office' in the General Plan and is not proposed for development at this time.

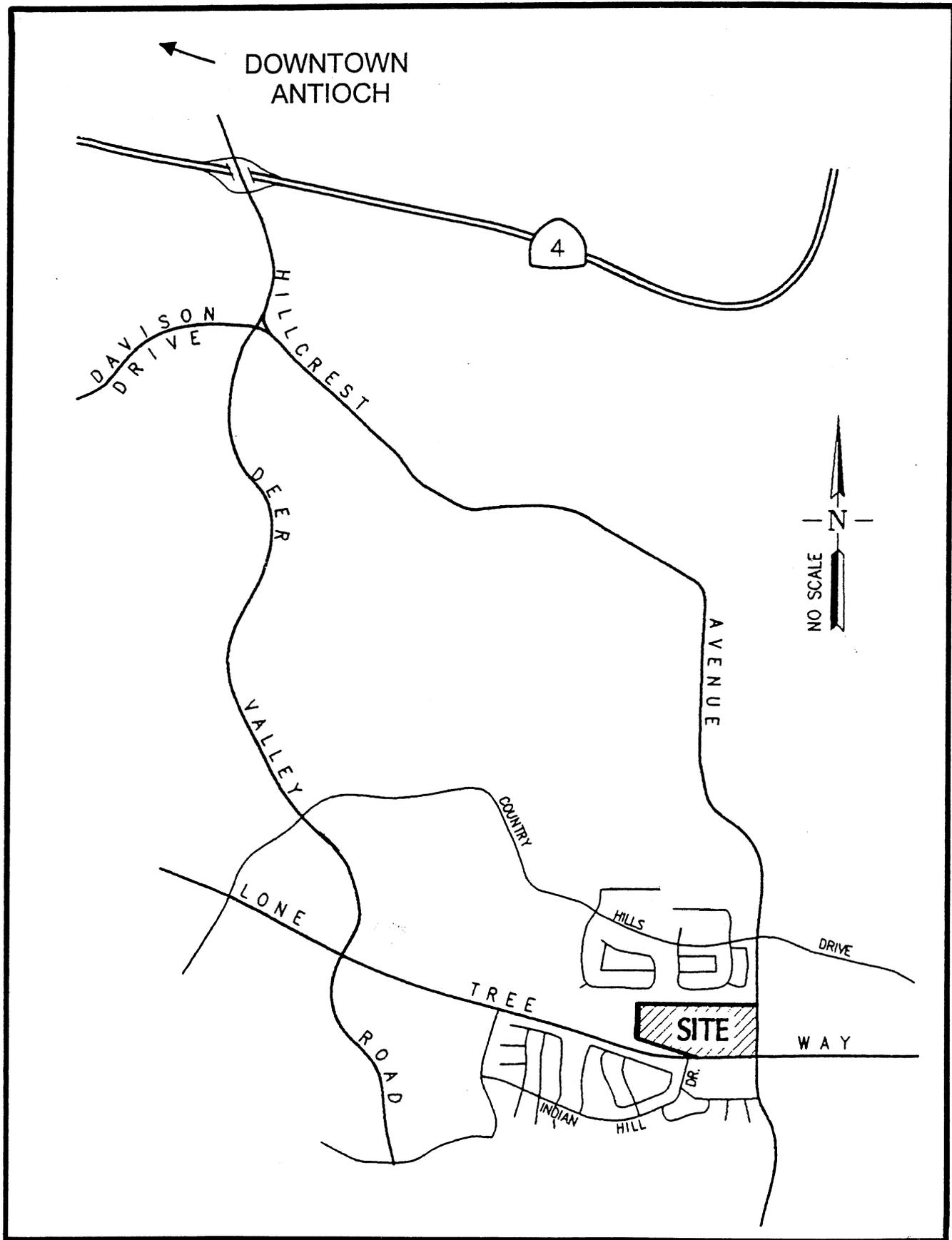
The site is bounded on the north by a flood control channel constructed by the Contra Costa County Flood Control and Water Conservation District (FCWCD), and on the south by the East Bay Municipal Utility District's (EBMUD) Mokelumne Aqueduct, which runs underground along the westerly portion of the site frontage (see Figure 4). The aqueduct right-of-way appears as an open space strip along Lone Tree Way, and includes a meandering pedestrian/bicycle path. At the southeast corner of the site is a vacant 1.0-acre property which is the site of an approved 7-Eleven convenience store and gas station. This site is not a part of the proposed project.

The majority of the site is relatively level, with elevations ranging from about 130 to 150 feet, and there are no buildings present (see Figure 4). There are mounds of soil in the eastern and northern portions of the site that range from a few square feet to several acres in area, and up to 12 feet in height. This appears to be material excavated from the flood control channel along the northern site boundary. Near the southern boundary of the site there is a detention basin measuring approximately 500 feet by 60 feet, which was excavated in conjunction with Mokelumne Aqueduct in the 1930s and is used to receive water periodically purged from the system. A swale located in the central portion of the site drains away from the evaporation basin. In addition, there is a temporary FCWCD flood control channel running north-south through the western portion of the site.

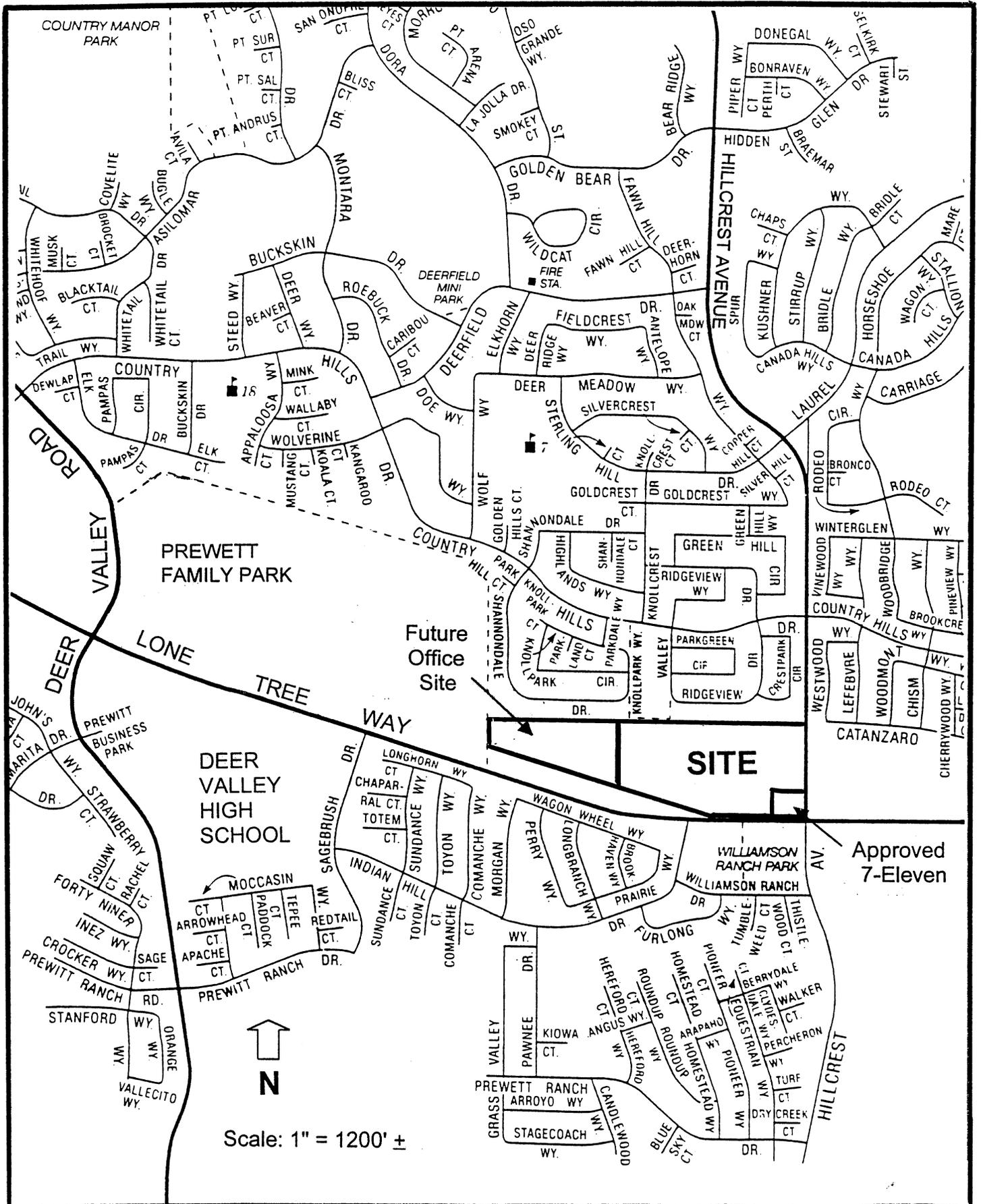
Surrounding land uses in the area consist mainly of single-family residential, park, school and neighborhood commercial uses. Land uses to the north across the flood control channel include the Parkside single-family residential neighborhood, with a neighborhood park (Knoll Park) located opposite the northwest corner of the site. Land uses across Hillcrest Avenue to the northeast include a single-family residential neighborhood, and to the east is a vacant commercial site fronting on Lone Tree Way and Hillcrest Avenue. To the south across Lone Tree Way is a community park which includes the historic Williamson Ranch complex, beyond which is the Williamson Ranch residential community. Lands immediately to the east are vacant (comprising the residual 10-acre parcel discussed above), beyond which is the Prewett Family Park. Deer Park High School is located ½ mile west on Lone Tree Way, and the Deer Valley Plaza is located one mile west.



**FIGURE 1**  
**REGIONAL LOCATION**

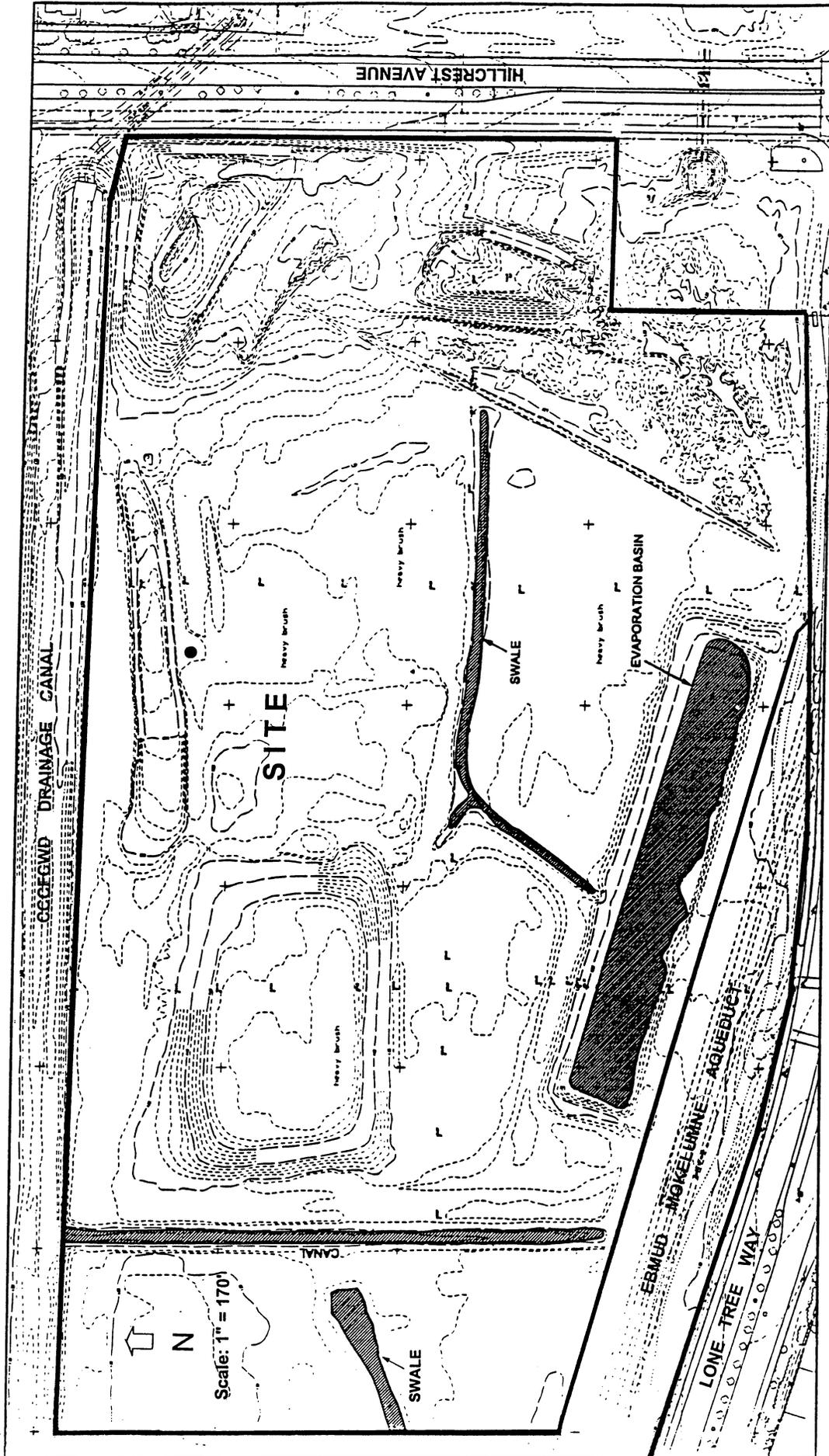


**FIGURE 2**  
**SITE LOCATION**



SOURCE: CSAA

**FIGURE 3**  
**SITE VICINITY**



**FIGURE 4**  
**SITE TOPOGRAPHY**

## B. PROJECT DESCRIPTION

### Land Use

The proposed project is a commercial shopping center with a gross floor area of up to 245,100 square feet intended to serve the retail needs of southeast Antioch (see Figures 5 and 6). The proposed site plan for the project consists of five separate buildings, including a major retail tenant, a potential supermarket, two buildings with shops, and a pad suitable for a fast food restaurant. However the type of use, number of buildings, and site design may be adjusted, as appropriate, in final site design in accordance with the Planned Development standards and permitted uses, and conditions of approval. The intent is to subdivide the site into three parcels, each with one or more buildings, as shown in Table 1.

**TABLE 1**  
**DETAILED LAND USE**

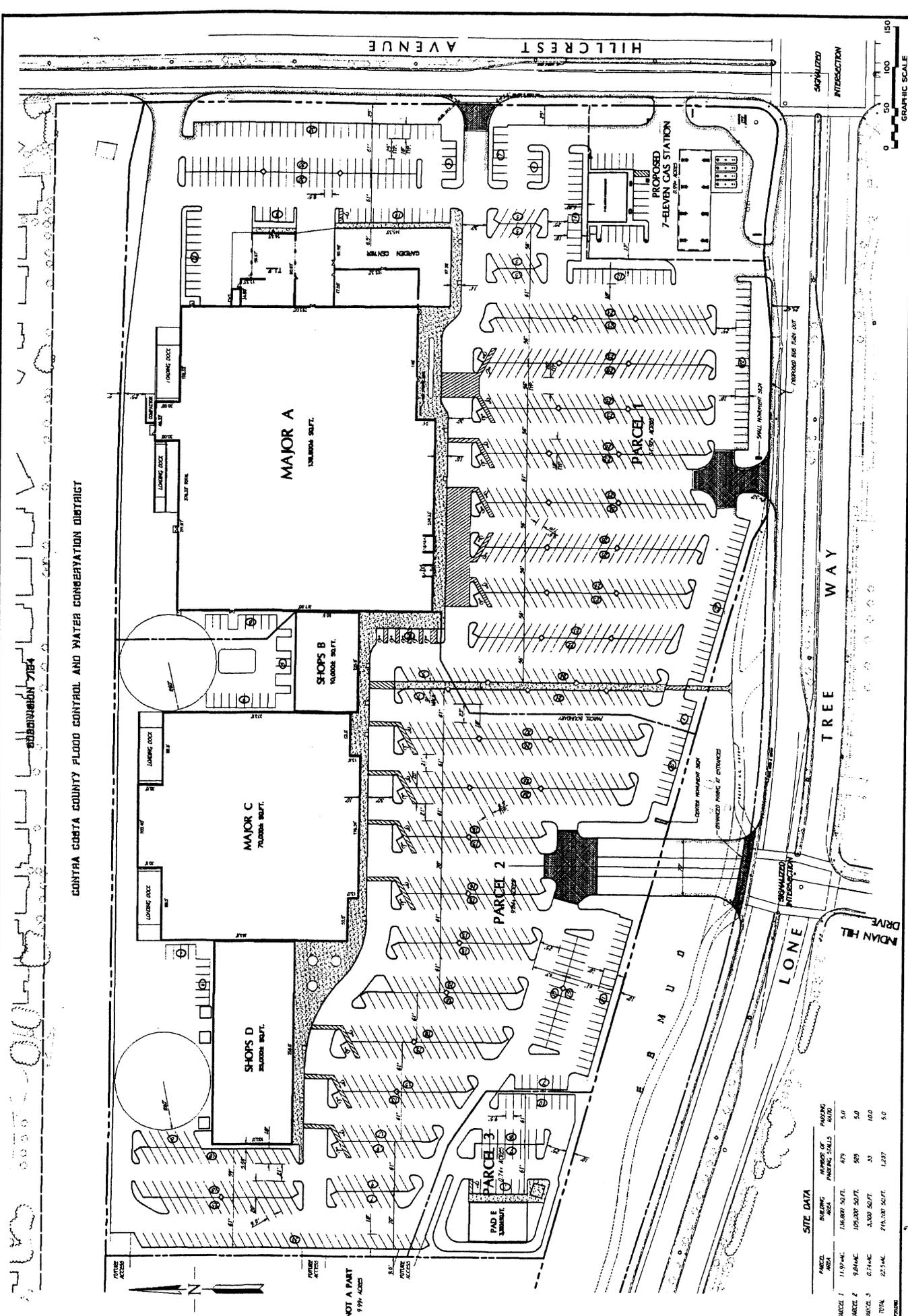
<b>PARCEL/BUILDING (per Figure 3)</b>	<b>PARCEL AREA (Acres)</b>	<b>BUILDING AREA (Sq. Ft.)</b>
Parcel 1	11.92 ac.	
Major A		136,800 s.f.
Parcel 2	9.84 ac.	
Shops B		10,000 s.f.
Major C		70,000 s.f.
Shops D		25,000 s.f.
Parcel 3	0.74 ac.	
Pad E		3,300 s.f.
<b>TOTALS</b>	<b>22.5 ac.</b>	<b>245,100 s.f.</b>

The project may be developed in phases, although the final determination as to phasing will not be made until the building permit stage. If developed into phases, the first phase will likely encompass parcel 1 with a major tenant and the second phase will consist of parcels 2 and 3.

Principal access to the project will be from two main entrances off Lone Tree Way, and two minor entrances off Hillcrest Avenue. Both entrances off Hillcrest will be right-in right-out only, with the northern entry intended mainly for delivery trucks exiting the loading areas on the north side of the center.

The architectural theme for the center will reflect the 'Prairie' style of Frank Lloyd Wright. The landscape plan includes planting of trees and shrubs along all site boundaries and extensive tree planting throughout the parking area (one tree for every 10 consecutive parking spaces). In addition, the project will provide landscaping in EBMUD right-of-way. This landscaping will consist of shrubs and groundcovers but not deep rooted trees which could have an impact on the aqueduct.

It is anticipated that the maximum height of the buildings will be approximately 34 feet. Major signage will be located at the two principal project entrances off Lone Tree Way and at the southerly entrance off Hillcrest Avenue. The entrance signs will consist of monument signs no higher than 20 feet above ground level. The locations of individual tenant signs will be confined to the building facades of each tenant space.

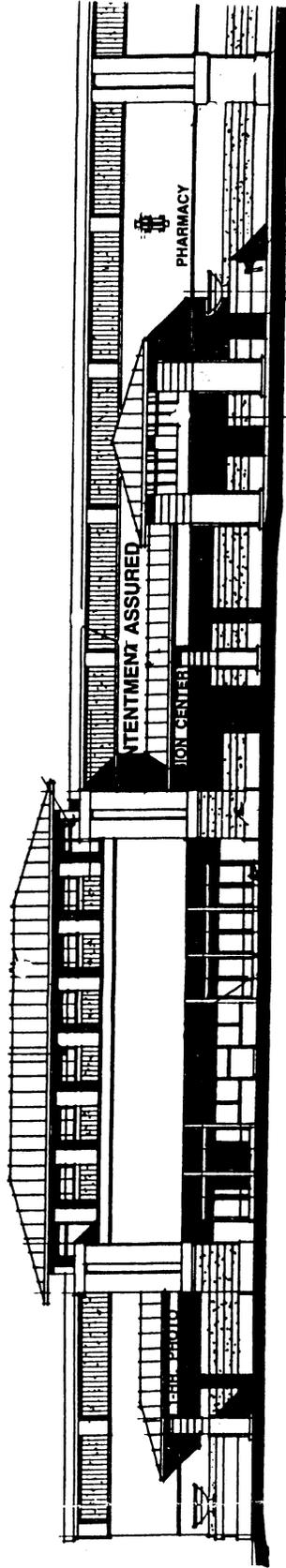


CONTRA COSTA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

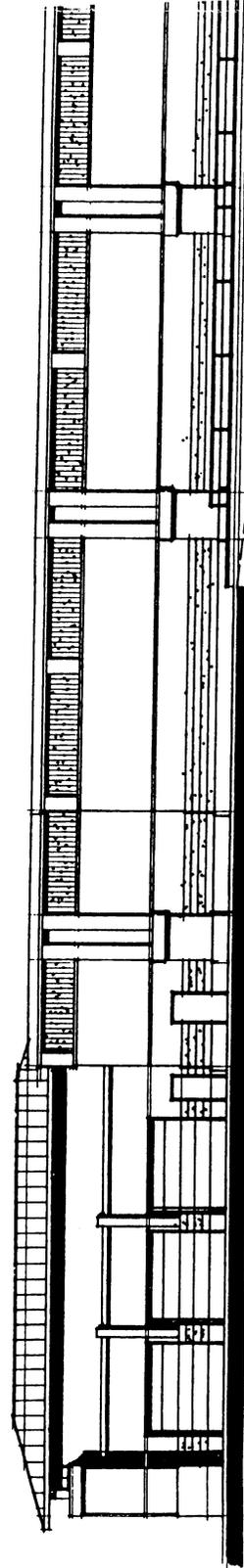
**FIGURE 5**  
**SITE PLAN**

**SITE DATA**

PARCEL AREA	BUILDING AREA	NUMBER OF PARKING STALLS	PARKING STALLS/1,000
PARCEL 1 11,990-SQ. FT.	1,600-SQ. FT.	479	5.11
PARCEL 2 8,744-SQ. FT.	10,000-SQ. FT.	505	5.0
PARCEL 3 22,144-SQ. FT.	3,300-SQ. FT.	35	10.0
<b>TOTAL</b>	<b>216,130-SQ. FT.</b>	<b>1,237</b>	<b>5.0</b>



MAJOR TENANT – SOUTH ELEVATION (PARTIAL)



MAJOR TENANT – NORTH ELEVATION (PARTIAL)

SOURCE: COURTNEY ARCHITECTS

FIGURE 6  
BUILDING ELEVATIONS

The project will include 1,250 parking spaces at an average ratio of 5.1 spaces per 1,000 square feet of building area, in compliance with the City's parking requirements for retail commercial uses. However, the fast food restaurant parcel at the southwest corner of the center will contain 10 spaces per 1,000 square feet of building area, as required by the City.

### **Mokelumne Aqueduct**

EBMUD's Mokelumne Aqueduct runs along the site frontage within a right-of-way approximately 115 feet wide. The aqueduct consists of three large diameter pipes which convey raw water from the Mokelumne River watershed in the Sierra foothills to the Walnut Creek Filter Plant and the San Pablo, Briones and Upper San Leandro Reservoirs to the west.

At the time the aqueduct was constructed in the 1930s, the adjacent on-site evaporation pond was excavated as a basin for containing water purged from the Mokelumne as needed to maintain air relief for the system. Once the project storm drainage system is installed, the purged water can be discharged directly to the drainage system and the evaporation pond will no longer be needed. Thus EBMUD's easement over the pond area will be vacated so this area can be incorporated into the project.

The main project entrance off Lone Tree Way will cross the Mokelumne Aqueduct right-of-way. Due to the sensitivity of the aqueduct pipes, the entry drive will be constructed of 5.5-inch thick asphalt-concrete over a 7.5-inch layer of reinforced concrete over 6 inches of aggregate base rock. This design was used at the aqueduct crossing for the entrance of the Prewett Family Park to the west. The project proponents will obtain an access easement from EBMUD for this entrance.

### **Site Grading**

Site preparation will involve grading the entire site, including leveling of the on-site mounds and filling of the EBMUD detention basin and the existing swales and depressions. It is estimated that 56,300 cubic yards of dirt will be moved, including 3,100 cubic yards of excess material which will be removed from the site. If the project is developed in phases, it is anticipated that the project will be graded one phase at a time.

### **Site Drainage and Utilities**

Storm drainage from the project will be collected by an on-site storm drainage system and discharged at two outfall locations planned along the flood control channel along the north site boundary. Each of the two major development phases will have separate and self-contained drainage systems discharging to separate outfalls. The easement in favor of the Contra Costa County Flood Control and Water Conservation District for the existing temporary 50-foot flood control channel running north-south in the westerly portion of the site will be vacated.

Domestic water service to the site will be provided by the City of Antioch from its existing 16-inch water main in Hillcrest Avenue. Sanitary sewer service will be provided by the City of Antioch Sanitation District from its existing 18-inch sewer main in Lone Tree Way. Electric power, natural gas and telephone service will be extended to the site from existing joint trench in Hillcrest Avenue.

## **Off-Site Improvements**

As part of the project, intersection improvements will be made at the intersections of Lone Tree Way and Hillcrest Avenue, and Lone Tree Way and Indian Hill Drive. The details of these improvements are discussed in Section *IV. F. Traffic and Circulation*.

## **C. PROJECT APPROVALS**

### **Discretionary Approvals**

The following discretionary approvals will be required for the project:

#### City of Antioch

- Tentative Parcel Map
- Final Development Plan
- Master Use Permit
- Design Review

#### U.S. Army Corps of Engineers (USACE)

Possible requirement for an Army permit for filling of Corps' jurisdictional wetlands under Section 404 of Clean Water Act (see Section *IV. G. Biological Resources*).

#### Regional Water Quality Control Board (RWQCB)

- 1) Possible requirement for water quality certification under Section 401 of the federal Clean Water Act (see Section *IV. G. Biological Resources*).
- 2) Administration of General Permit for Stormwater Discharges Associated with Construction Activity (see Section *IV. D. Water*).

### **Additional Approvals**

#### East Bay Municipal Utilities District (EBMUD)

- 1) Granting of an access easement over the Mokelumne Aqueduct for the main project entrance off Lone Tree Way;
- 2) Vacate the existing easement over the evaporation pond along the south site boundary.

#### Contra Costa Flood Control and Water Conservation District (CCCFCWCD)

Vacate easement over temporary flood control channel running north-south through the western portion of the site.

## **II. DESCRIPTION OF THE ENVIRONMENTAL SETTING**

### **A. LAND USE**

#### **General Plan**

Land use at the project site is governed by the City of Antioch Southeast Specific Plan, which is a component of the City's General Plan. The Southeast Specific Plan designates the area around the intersection of Lone Tree Way and Hillcrest Avenue as the community-scale office and retail commercial node for the Southeast Specific Plan area. The project site is located within that node and is designated 'CC - Community Commercial' on the Specific Plan Land Use Plan. This designation permits a range of retail and service establishments including department stores, drug stores, grocery stores, convenience stores, restaurants, cafes, gas stations, hotel/motels, professional offices, athletic clubs, day care centers, etc. Development standards for the designation include landscaping, lighting and fencing requirements, and in particular indicate the need for buffer areas adjacent to residential areas. The Specific Plan states that buffers could include masonry walls, berms or mounds, or landscaping.

#### **Existing Land Use**

The project site is currently vacant of structures and has no trees. Near the southern boundary of the site there is a rectangular pond measuring approximately 500 feet by 60 feet, which formerly served as an evaporation basin for the Mokelumne Aqueduct, adjacent to the site on the south. A swale located in the east-central portion of the site drains away from the evaporation basin. There are mounds of soil and debris in the eastern and northern portions of the site that range from a few square feet to several acres in area, and up to 12 feet in height. The soil appears to be material excavated from the flood control channel along the northern site boundary, and the debris piles appear to be the result of illegal dumping. In addition, there is temporary flood control channel running north-south through the western portion of the site.

Adjacent to the site on the north is the primary flood control channel for the area, constructed by the Contra Costa County Flood Control and Water Conservation District (FCWCD). Adjacent to the site on the south is EBMUD's Mokelumne Aqueduct, which consists of three large diameter pipes running underground along the site frontage (see Figure 4). The aqueduct right-of-way is up to 115-feet wide and appears as an unlandscaped open space strip along Lone Tree Way. It also includes a meandering pedestrian/bicycle path.

At the southeast corner of the site is a vacant 1.0-acre property which is the site of an approved 7-Eleven convenience store and gas station. This site is not a part of the proposed project.

Land uses to the north across the flood control channel include the Parkside single-family residential neighborhood, with a neighborhood park (Knoll Park) located opposite the northwest corner of the site. Land uses across Hillcrest Avenue to the northeast include a single-family residential neighborhood, and to the east is a vacant commercial site fronting on Lone Tree Way and Hillcrest Avenue. To the south across Lone Tree Way is a community park which includes the historic Williamson Ranch complex, beyond which is the Williamson Ranch residential community. Lands immediately to the east are vacant (comprising the residual 10-acre parcel discussed previously), beyond which is the Prewett Family Park. Deer Park High School is located ½ mile west on Lone Tree Way, and the Deer Valley Plaza is located one mile west.

## **B. GEOLOGY**

The following discussion of geologic site conditions is partially based on the geotechnical reports prepared for the project by Twining Laboratories in January and April 1998, and partially based on the 1982 EIR prepared on the Southeast Antioch Specific Plan (which is incorporated into this Initial Study by reference). The geotechnical reports are contained in Appendix B of this Initial Study, and the Specific Plan EIR is available for review at the City of Antioch Community Development Department (Third and 'H' Streets) during normal business hours.

### **Faults and Seismicity**

The project site is located on the eastern fringe of the seismically active San Francisco Bay Region. Two known faults have been mapped to the west of the project site -- the Antioch and Davis faults. The Antioch fault traverses the area on a northwest-southeast axis approximately one mile west of the project site. This fault is considered seismically active. The most severe earthquake recorded along the Antioch fault occurred in 1899 with a Richter magnitude of 4.9. Data suggest that the Antioch fault could produce a maximum earthquake of magnitude 6.6. The Davis fault traverses the area on a north-south axis approximately one-half mile west of the project site. However, the exact location and seismic activity of the Davis fault is less certain than the Antioch fault.

### **Geologic Hazards**

#### Fault Rupture

The site is not located in an state-designated Earthquake Fault Zone, and there is no evidence of any fault trace passing through the project site. Therefore, the potential for fault rupture at the site is low.

#### Ground Shaking

Strong ground shaking can be expected at the site during moderate to severe earthquakes in the general region. The most intense ground shaking at the site would be produced by a maximum earthquake on the Antioch fault. However, given the low level of seismic activity along this fault, it is more likely that a maximum event will occur on the San Andreas or Hayward faults.

#### Liquefaction

Ground failure due to liquefaction occurs in areas where saturated, sandy loose soils can liquefy during shaking or cyclic loading, such as imposed by earthquakes. This results in the soil losing its shear strength as it essentially transforms to a liquid state (similar to quicksand), thereby causing sudden differential settlement if structures located above the liquefied soil. The greatest potential for liquefaction exists in cohesionless soils such as clean, loose, uniformly graded, fine-grained sands saturated by high groundwater. The geotechnical investigation by Twining Labs encountered lean clays with relatively high cohesion to a depth of over 40 feet. This material is not susceptible to liquefaction. Therefore, the potential for liquefaction on the project site is low.

## **Soils**

The geotechnical investigation by Twining Labs found that beneath the top 6 inches of plowed soil and root systems of grasses and weeds, the soils on the site consist of lean clays throughout the depth explored (to 41.5 feet below grade). The lean clays are interbedded with sandy silt layers from depths ranging from about 3.5 feet to 20 feet below grade. The near surface soils are moderately to highly plastic, exhibit moderate expansion potential, and exhibit moderate compressibility characteristics.

### Expansive Soils

The project site is covered with moderately expansive clay. Soils with expansion potential tend to undergo volume change with variations in moisture content. Expansive soils can cause damage to structures, particularly light buildings and pavements.

## **C. HYDROLOGY AND DRAINAGE**

The following discussion of existing site drainage conditions is based on the hydrology report prepared by Robert A. Karn & Associates in April 1998, which is contained in Appendix C of this Initial Study.

Under natural conditions, the project site slopes to the southeast at a gradient of 0.5 percent or less and drains to twin 54-inch diameter storm drain pipes that cross under Hillcrest Avenue near the intersection of Lone Tree Way (see Figure 4). However, when the Contra Costa County Flood Control District constructed the drainage canal along the northern property line, the excess earth spoils were placed in mounds on the eastern portion of the site which resulted in obstruction of the natural drainage to the storm drains. Consequently, much of the existing site storm water currently ponds on the site and percolates through the existing soils and/or evaporates over time.

Since the flood control channel along the northern site boundary is up-gradient of most of the site, very little site drainage flows directly into the channel. There is a second tributary channel that runs south-north through the western portion of the site. This was constructed by the Flood Control District as a temporary facility subject to agreements with the landowner that the channel would be abandoned at such time as an underground storm drain system is installed to carry the existing drainage to the primary flood control channel along the north site boundary.

As mentioned, the East Bay Municipal Utility District's Mokelumne Aqueduct runs east-west along the southern site boundary. At the time the aqueduct was constructed, a temporary evaporation pond was constructed on the project site to receive water purged from the lines as needed for maintaining air relief for the system. This pond is needed until such time that an underground storm drain system is provided to carry the excess water from the maintenance operations.

The estimated volume of storm water run-off for the vacant existing 22.5 acre site is estimated to be 12.6 cubic feet per second (cfs) for the 100-year event. This is based on the Rational Hydrology Method and  $Q=CIA$ , where  $Q$  is the flow rate in cubic feet per second,  $C$  is the run-off coefficient,  $I$  is the rainfall intensity for a 100-year storm event, and  $A$  is the site area in acres. Parameters for the calculation are consistent with the Contra Costa County Public Works Department for on-site private development flow rate requirements.

## **D. AIR QUALITY**

The following discussion of existing air quality conditions is based on the report Air Quality Impact Analysis for the Williamson Ranch Plaza Project prepared by Donald Ballanti in April 1998. The full air quality report is contained in Appendix D of this Initial Study.

### **Air Pollution Climatology**

Antioch is located on the south side of the San Joaquin River delta east of the Carquinez Straits. Its location between the greater Bay Area and the Central Valley has a great influence of the climate and air quality of the area.

The Antioch area has a relatively low potential for air pollution given the persistent and strong winds typical of the area. These winds dilute pollutants and transport them away from the area, so that emissions released in the Antioch area may influence air quality in the Sacramento and San Joaquin valleys. Antioch's location downwind of the greater Bay Area also means that pollutants from other areas are transported to Antioch.

### **Ambient Air Quality Standards**

Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. Table 2 identifies the major criteria pollutants, characteristics, health effects and typical sources.

The federal and California state ambient air quality standards are summarized in Table 3 for important pollutants. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempt to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and PM<sub>10</sub>.

The U.S. Environmental Protection Agency has recently announced new national air quality standards for ground-level ozone and for fine Particulate Matter. The existing 1-hour ozone standard of 0.12 parts per million (PPM) will be phased out and replaced by an 8-hour standard of 0.08 PPM. New national standards for fine Particulate Matter (diameter 2.5 microns or less) have also been established for 24-hour and annual averaging periods. Although currently in effect, the planning process to determine compliance with these new standards and the development of control programs to meet these standards, if needed, will not be complete until after the year 2000.

**TABLE 2**  
**MAJOR CRITERIA POLLUTANTS**

<b>Pollutant</b>	<b>Characteristics</b>	<b>Health Effects</b>	<b>Major Sources</b>
Carbon Monoxide	Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels.	<ul style="list-style-type: none"> <li>• Impairment of oxygen transport in the bloodstream.</li> <li>• Aggravation of cardiovascular disease.</li> <li>• Fatigue, headache, confusion, dizziness.</li> <li>• Can be fatal in the case of very high concentrations.</li> </ul>	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	Reddish-brown gas that discolors the air, formed during combustion.	<ul style="list-style-type: none"> <li>• Increased risk of acute and chronic respiratory disease.</li> </ul>	Automobile and diesel truck exhaust, industrial processes, fossil-fueled power plants.
Sulfur Dioxide	Sulfur dioxide is a colorless gas with a pungent, irritating odor.	<ul style="list-style-type: none"> <li>• Aggravation of chronic obstruction lung disease.</li> <li>• Increased risk of acute and chronic respiratory disease.</li> </ul>	Diesel vehicle exhaust, oil-powered power plants, industrial processes.
PM <sub>10</sub>	Solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time.	<ul style="list-style-type: none"> <li>• Aggravation of chronic disease and heart/lung disease symptoms.</li> </ul>	Combustion, automobiles, field burning, factories and unpaved roads. Also a result of photochemical processes.

Source: Donald Ballanti

### Ambient Air Quality

Antioch is within the nine-county Bay Area Air Basin. The Bay Area Air Quality Management District (BAAQMD) does not operate an air quality monitoring site in Antioch, but does operate an air quality monitoring site a few miles to the west in Pittsburg and a few miles to the east on Bethel Island. A summary of air quality data from these monitoring sites is shown in Table 4. Data is shown for the years 1994-1996.

Table 4 shows that the federal ambient air quality standards for most criteria pollutants are met. Concentrations of ozone do, however, exceed the more stringent state standard. Concentrations of PM<sub>10</sub>, although not measured in Pittsburg, also exceed the state standard in most of the Bay Area.

### Attainment Status and Regional Air Quality Plans

The federal Clean Air Act and the California Clean Air Act of 1988 require that the State Air Resources Board, based on air quality monitoring data, designate portions of the state where the federal or state ambient air quality standards are not met as "nonattainment area." Because of the differences between the national and state standards, the designation of nonattainment areas is different under the federal and state legislation.

**TABLE 3**  
**FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS**

<b>Pollutant</b>	<b>Averaging Time</b>	<b>Federal Primary Standard</b>	<b>State Standard</b>
Ozone	1-Hour	0.12 PPM	0.09 PPM
	8-Hour	0.08 PPM	--
Carbon Monoxide	8-Hour	9.0 PPM	9.0 PPM
	1-Hour	35.0 PPM	20.0 PPM
Nitrogen Dioxide	Annual	0.05 PPM	--
	1-Hour	--	0.25 PPM
Sulfur Dioxide	Annual	0.03 PPM	--
	24-Hour	0.14 PPM	0.05 PPM
	1-Hour	--	0.5 PPM
PM <sub>10</sub>	Annual	50 µg/m <sup>3</sup>	30 µg/m <sup>3</sup>
	24-Hour	150 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
PM <sub>2.5</sub>	Annual	15 µg/m <sup>3</sup>	--
	24-Hour	65 µg/m <sup>3</sup>	--
Lead	30-Day Avg.	--	1.5 µg/m <sup>3</sup>
	Month Avg.	1.5 µg/m <sup>3</sup>	--

Source: Donald Ballanti

PPM = Parts per Million

µg/m<sup>3</sup> = Micrograms per Cubic Meter

The Bay Area has attained all federal standards. However, the U.S. Environmental Protection Agency has proposed reclassifying the Bay Area from “maintenance area” to nonattainment for ozone based on recent violations of the federal standards at several locations in the air basin. This would reverse the air basin’s reclassification to “maintenance area” for ozone in 1995. Reclassification would require an update to the region’s federal air quality plan.

Recent revisions to the national ambient standards for ozone and Particulate Matter have no immediate effect on federal nonattainment planning. Existing ozone and Particulate Matter designations will remain in effect until U.S. EPA establishes new designations based on data from 1997, 1998 and 1999. No new controls will be required with respect to the new standards until after the year 2002.

**TABLE 4**  
**AIR QUALITY DATA FOR PITTSBURG AND BETHEL ISLAND, 1994-1996**

Pollutant	Standard	Station	Days Over Standard in:		
			1994	1995	1996
Ozone	Federal 1-Hour	Pittsburg	0	0	1
		Bethel Island	0	1	1
Ozone	State 1-Hour	Pittsburg	3	8	11
		Bethel Island	5	6	6
Carbon Monoxide	State/Fed. 8-Hour	Pittsburg	0	0	0
		Bethel Island	0	0	0
PM <sub>10</sub>	Federal 24-Hour	Pittsburg	-	-	-
		Bethel Island	0	0	0
PM <sub>10</sub>	State 24-Hour	Pittsburg	-	-	-
		Bethel Island	3	3	1

*Source: Donald Ballanti*

Under the California Clean Air Act, Contra Costa County is a nonattainment area for ozone and PM<sub>10</sub>. The county has either achieved attainment or is unclassified for other pollutants.

The California Clean Air Act requires local air pollution control districts to prepare air quality attainment plans. These plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods or provide for adoption of “all feasible measures on an expeditious schedule.” The Act also grants air districts explicit statutory authority to adopt indirect source regulations and transportation control measures, including measures to encourage or require the use of ridesharing, flexible work hours or other measures which reduce the number or length of vehicle trips.

### **Sensitive Receptors**

The BAAQMD defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, school playgrounds, child care centers, retirement homes, convalescent homes, hospitals and medical clinics. Existing residential neighborhoods are located to the north and northeast of the project, and residential areas are also located south of Lone Tree Way. A high school is located about one-half mile west of the site.

## **E. TRAFFIC AND CIRCULATION**

The following discussion of existing traffic conditions is based on the report Traffic Impact Assessment for the Williamson Ranch Plaza Project prepared by Dowling Associates in April 1998. The full text of the traffic report is contained in Appendix E of this Initial Study.

### **Local Circulation System**

Local access to the site is provided by Lone Tree Way and Hillcrest Avenue which are the major arterial streets in Southeast Antioch. Hillcrest Avenue runs north-south through the project area and connects with Highway 4 to the north, while Lone Tree Way extends westerly and ultimately connects with Highway 4 south of downtown Antioch. Hillcrest Avenue is a four lane divided arterial with left-turn pockets and signals at most major intersections. Regional access from Highway 4 is primarily provided by Hillcrest Avenue. Lone Tree Way is a major east-west arterial with a median, four travel lanes, bicycle lanes and left-turn pockets at all major intersections.

### **Levels of Service Methodology**

The Contra Costa Transportation Authority level of service (CCTALOS) method was used to determine the peak-hour level of service (LOS) at the study intersections. The categories of LOS range from “A” to “F”. In accordance with the City’s General Plan level of service polices, if the LOS is “D” or better, the impacts are considered less than significant. For LOS worse than “D”, the impacts are considered significant and require mitigation to insure that level of service “D” or better conditions are maintained.

The LOS is related to the volume-to-capacity ratio during the peak-hour operation of the impacted intersection. The volume-to-capacity ratio (v/c) is the sum of all critical movements divided by the capacity of the movements over the entire peak-hour. In general, v/c ratios cannot be greater than 1.00 unless the lane capacity assumptions are too low. Also, if future demand projections are considered for analytical purposes, a ratio greater than 1.00 might be obtained, indicating that the projected demand would exceed the capacity. Table 5 provides the definitions for the various level of service categories used in the traffic study.

### **Existing Levels of Service**

In consultation with City staff, the following six intersections were identified for analysis in the traffic study. The intersection locations are shown in Figure 7.

1. Lone Tree Way at Hillcrest Avenue;
2. Lone Tree Way at Indian Hill Drive;
3. Lone Tree Way at Deer Valley Road;
4. Hillcrest Avenue at Deer Valley Road/Davidson Avenue;
5. Hillcrest Avenue at the eastbound Highway 4 ramps; and
6. Hillcrest Avenue at the westbound Highway 4 ramps.

**TABLE 5**  
**LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS**

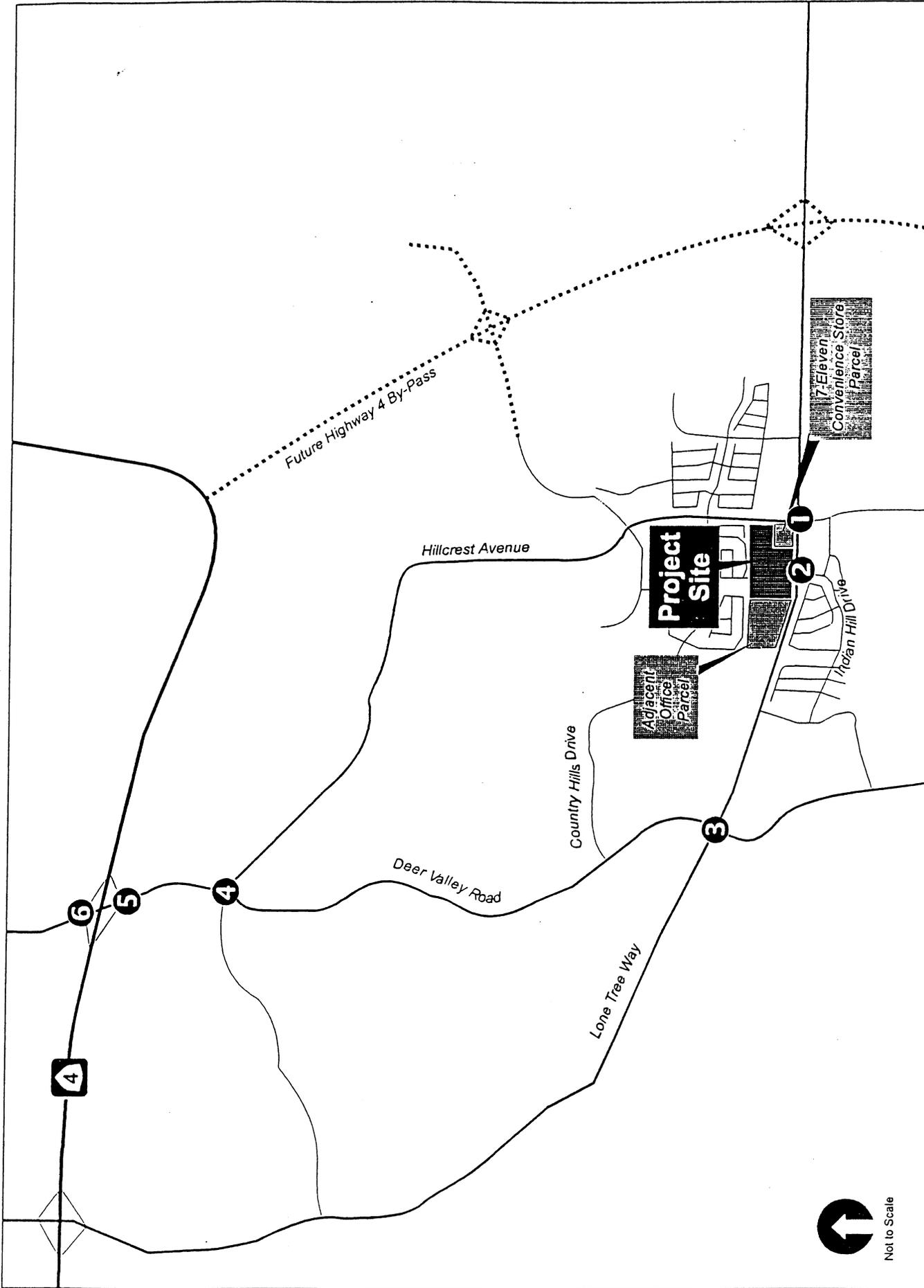
<b>Level of Service</b>	<b>V/C Ratio</b>	<b>Description</b>
A	> 0.60	Free-flow conditions; no signal phases fully utilized; no congestion.
B	0.61-0.70	Nearly free-flow, with occasional flow restrictions within groups of vehicles; occasional signal phases fully utilized; little or no congestion.
C	0.71-0.80	Stable operation. Drivers may feel restricted with groups of vehicles; some signal phases fully utilized, and some vehicles may have to wait through more than one signal phase, moderate congestion.
D	0.81-0.90	Approaching unstable flow, with dense groups of vehicles; most signal phases fully utilized, and some delays may be substantial; heavy congestion.
E	0.91-1.00	Unstable flow, with nearly all signal phases fully utilized, and substantial delays; long queues of vehicles may develop; very heavy congestion.
F	< 1.00	Force-flow conditions; all signal phases utilized. Substantial delays, long queues; actual volumes handled may be less than 100 percent of capacity due to jammed conditions.

*Source: Transportation Research Board, 1980.*

Table 6 shows the existing AM and PM peak-hour levels of service at the analysis intersections. All intersections except one operate at LOS "A". Hillcrest Avenue at the Highway 4 eastbound ramps operates at LOS "B".

**TABLE 6**  
**EXISTING PEAK-HOUR LEVELS OF SERVICE**

<b>Intersection</b>	<b>AM Peak Hour</b>	<b>PM Peak Hour</b>
Lone Tree Way at Deer Valley Road	A (0.46)	A (0.50)
Lone Tree Way at Indian Hill Drive	A (0.22)	A (0.22)
Lone Tree Way at Hillcrest Avenue	A (0.43)	A (0.40)
Hillcrest Avenue at Deer Valley Road/Davidson Avenue	A (0.37)	A (0.54)
Hillcrest Avenue at Highway 4 eastbound ramps	A (0.48)	B (0.66)
Hillcrest Avenue at Highway 4 westbound ramps	A (0.57)	A (0.49)



**FIGURE 7**  
**STUDY INTERSECTIONS**

**SOURCE: DOWLING ASSOCIATES**

## **F. BIOLOGICAL RESOURCES**

The following discussion is based on the biological study prepared for the project by LSA Associates in April 1998, which is contained in Appendix F of this Initial Study. The LSA site surveys included 12 site visits from September 1997 to April 1998.

### **Vegetation**

The predominant plant community on the site is non-native grassland, which is dominated by ruderal (weedy) species consisting of yellow star thistle, rip-gut brome, and vetch, which form moderate to dense stands. Other plants present include wild oats, bull thistle, field bindweed, alkali heath, gumplant, heliotrope, lettuce, and miniature lupine. Barley and ryegrass occur within several low areas on the site that appear to pond water. In the areas of the site that have been disked, the vegetation is relatively sparse, consisting of stands of alkali-mallow and Russian thistle.

### **Wildlife**

The diversity of wildlife species on the site is low, due to the limited structural diversity of on-site vegetation, and because of the extent of site disturbance. Wildlife species which were observed or whose presence was evident from burrows, tracks, and/or scat (feces) include reptiles, birds and mammals. Reptiles observed were several western fence lizards, Gilbert's skinks, and gopher snakes. Birds observed were northern harrier, scrub jay, American crow, common raven, northern mockingbird, loggerhead shrike, savannah sparrow, and house finch. A mammals observed was California ground squirrel. Evidence of the following species was found on the site: Botta's pocket gopher, California vole, coyote (scat), and California burrowing owl (feathers at two burrows).

Species not observed but expected to occur on the site include: birds such as rock dove, mourning dove, black phoebe, white-crowned sparrow, red-winged blackbird, and shorebirds such as killdeer and greater yellowlegs, which could potentially forage in the evaporation basin when water is present; and mammals such as Virginia opossum, black-tailed jackrabbit, deer mouse, and raccoon.

### **Wetlands**

The site contains four possible wetland features, all of which are human-made and the result of previous earthwork on the site. These features include the EBMUD evaporation basin along the southern boundary of the site, a swale that drains away from the basin to the north and east, and a flood control channel that runs north-south through the western portion of the site, and a swale to the west of the flood control channel (see Figure 4). The evaporation basin includes 0.69 acres of possible wetland, the nearby swale includes 0.06 acres of possible wetland, the on-site flood control channel includes 0.20 acres of possible wetland, and the western swale includes 0.07 acres of possible wetland. Thus the site contains a total of approximately 1.02 acres of possible wetlands which are potentially subject to the permit jurisdiction of the U.S. Army Corps of Engineers under Section 404 of the federal Clean Water Act. There is a good possibility that these features will not be considered jurisdictional wetlands by the Corps because they are human-made, were excavated from dry land, and continue to be used for the purposes for which they were constructed. The determination of Corps jurisdiction will be made prior to the issuance of a grading permit for the project.

## **Special-Status Species**

Special-status species include plant and animal species that are legally protected under state and/or federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration.

### Special Status Plants

Nine special-status plant species generally occur in grassland habitats in the vicinity of the project site. These species include large-flowered fiddleneck, San Joaquin saltbush, big tarplant, diamond-petaled California poppy, Congdon's tarplant, Contra Costa goldfields, showy madia, rayless ragwort, and caper-fruited tropidocarpum. Large-flowered fiddleneck is a state- and federally-listed endangered species. Contra Costa goldfields is a federally-listed endangered species. The Congdon's tarplant is a federal candidate for listing as threatened or endangered. The other plant species are federal species of concern. San Joaquin saltbush, Congdon's tarplant, and big tarplant bloom during September (the time of LSA's initial survey) but were not observed on the site. In addition, the disturbance to the site precludes the presence of any potentially occurring special-status plant species. Therefore, it does not appear that the project site contains any special-status plants.

### Special Status Wildlife

Eight special-status wildlife were observed or could potentially occur on the project site. Wildlife species observed on the site were northern harrier and loggerhead shrike. Presence of burrowing owl feathers at the entrance of two burrows indicated former use by a burrowing owl. Special-status wildlife species potentially occurring on the site include longhorn fairy shrimp, vernal pool fairy shrimp, California tiger salamander, California red-legged frog, and western pond turtle. These are discussed in turn below.

Northern Harrier (Federal listing status: None; State listing status: Species of Special Concern): One male northern harrier was observed foraging on the project site, but no harrier nests were observed on the site. Because of the extent of on-site disturbance, harriers are not expected to nest on the site.

Loggerhead Shrike (Federal listing status: None; State listing status: Species of Special Concern): One loggerhead shrike was observed foraging on the site. However, the shrubs and trees that constitute nesting habitat are absent from the site. Therefore, the site is not expected to provide breeding habitat for the loggerhead shrike.

Burrowing Owl (Federal listing status: Species of Special Concern; State listing status: Species of Special Concern): Burrowing owls were not observed on the site during any of the site surveys. Burrowing owl feathers were found at two ground squirrel burrows, located in dirt mounds in the eastern and northeastern portions of the site. No evidence of long-term use by burrowing owls (i.e., the presence of scat and/or pellets [regurgitated prey remains]) was found at the burrow entrances or elsewhere on the site. Therefore, it was concluded that burrowing owls do not regularly occur on the project site.

Longhorn Fairy Shrimp (Federal listing status: Endangered; State listing status: None): Longhorn fairy shrimp occur in seasonal ponds that dry up in late winter. The longhorn fairy shrimp was not observed during the surveys of the site conducted when the evaporation basin contained water. If they were present, they most likely would have been observed in the evaporation basin. At the time of the latest site surveys in the spring of 1998, they had already completed their life cycle in locations in the Central Valley. It is therefore unlikely that they occur on the site.

Vernal Pool Fairy Shrimp (Federal listing status: Threatened; State listing status: None). Vernal pool fairy shrimp occur in seasonal ponds that dry up in late winter. The vernal pool fairy shrimp was not observed during the surveys of the site conducted when the evaporation basin contained water. If they were present, the biological consultant believes that the vernal pool fairy shrimp would have been observed in the basin. At the time of the latest site survey in the spring of 1998, they had already completed their life cycle in locations in the Central Valley. It is therefore unlikely that they occur on the site

California Tiger Salamander (Federal listing status: Candidate for listing as Threatened or Endangered; State listing status: None): Tiger salamanders breed in seasonal pools that dry up in the early spring. The evaporation basin could potentially provide suitable breeding habitat for the tiger salamander. No adult salamanders were breeding in the basin, and no larvae were observed in the basin. At the time of the latest survey on March 25, the salamander had been observed breeding at other localities. Therefore, breeding probably does not occur on-site. Furthermore, it is unlikely that California tiger salamanders occur on the site.

California Red-Legged Frog (Federal listing status: Threatened; State listing status: None): The red-legged frog could potentially occur in the flood control channel in the western portion of the site. This potential on-site habitat is not optimal for the frog. The red-legged frog was not observed on or adjacent to the site during the site surveys. Considering the marginal nature of the habitat, the California red-legged frog is not likely to occur on the site.

Western Pond Turtle (Federal listing status: Species of Special Concern; State listing status: Species of Special Concern): The pond turtle could potentially occur in the flood control channel in the western portion of the site. The habitat potential for the turtle verges on the remote because the channel is choked with cattails. The pond turtle was not observed on or adjacent to the site during the site surveys. Considering the marginal nature of the habitat, the western pond turtle is not likely to occur on the site.

San Joaquin Kit Fox (Federal listing status: Endangered; State listing status: Threatened): The kit fox occurs in grassland habitats living in excavated burrows in the ground. The project site is surrounded by development separating and isolating it from habitat potentially occupied by kit fox. No burrows suitable for use by kit fox were observed during the site surveys. The closest known observation of San Joaquin kit fox is at the Black Diamond Mines Regional Preserve approximately 2.2 to 4.5 miles west of the project site. Habitat for the fox may approach within a mile of the site in the undeveloped areas to the south. Because of the site's isolated nature and lack of suitable burrows, San Joaquin kit fox is not likely to occur on or adjacent to the project site.

## **G. HAZARDS**

The following discussion of potential on-site environmental hazards is based on the Phase I Environmental Site Assessment prepared for the site by Twining Laboratories, Inc., in March 1998. The full text of the Phase I report is contained in Appendix G of this Initial Study.

### **On-Site Conditions**

#### Debris

There are several small areas of debris on the site. The debris includes pieces of concrete, plastic, and metal pipe, and small piles of asphalt. This debris appears to have been dumped on the site without the knowledge of the owner. No evidence of hazardous waste disposal was observed on or around the piles of debris.

#### Abandoned Oil Well

According to state records, an oil well was drilled in the northeast portion of the site by SINCO Oil Corporation in 1971. The well was plugged and abandoned in March 1971. The well casing was cut five feet below grade and filled with 20 lineal feet of concrete and sealed with a metal plate. No evidence of the oil well was observed during the site reconnaissance by Twining Labs.

### **Off-Site Conditions**

The record review by Twining Labs found no information indicating that soil and/or groundwater at the site is known or suspected of being subject to contamination from off-site sources.

## **H. NOISE**

The following discussion of existing noise conditions is based on the report Williamson Ranch Plaza Environmental Noise Study prepared by Illingworth & Rodkin in April 1998, which is contained in Appendix H of this Initial Study.

### **Background Information on Acoustics and Noise Measurement**

Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. On this scale, noise at zero decibels is barely audible, while noise at 120-140 decibels is painful and may cause hearing damage.

Noise measurement equipment includes an electrical filter to reflect the fact that human hearing is less sensitive to low and very high frequencies than sound frequencies in the mid-range. The sound levels measured in this manner are called A-weighted sound levels and are expressed as dBA.

Since environmental sound levels vary over time, noise levels are described by various statistical noise descriptors that correspond to varying time periods. Thus the noise levels exceeded during 10 percent of

the time are expressed as  $L_{10}$  , with noise levels exceeded 50 percent of the time expressed as  $L_{50}$  , and so on. The  $L_{eq}$  is the average A-weighted noise level during a specified period of time.

Since the sensitivity to noise increases during the evening and at night (because excessive noise interferes with the ability to sleep), 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level, CNEL*, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB penalty added to nighttime (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level,  $L_{dn}$* , is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

For a detailed background discussion of environmental noise, see the noise study in Appendix G.

### **City of Antioch Noise Guidelines**

The City of Antioch, in its Noise Element of the General Plan, contains goals, policies and guidelines related to noise and land use planning. These guidelines are used to assess the compatibility of a particular land use with the noise environment at the site where it would be located. A particular site, depending on its noise exposure, could be considered "normally acceptable", "conditionally acceptable", "normally unacceptable", or "clearly unacceptable" for a particular land use. For example, low density single-family residential land uses are "normally acceptable" for sites exposed to noise levels below 60 CNEL, "conditionally acceptable" when exposed to noise levels between 55 and 70 CNEL, "normally unacceptable" when exposed to noise levels between 70 and 75 CNEL, and "clearly unacceptable" when exposed to noise levels above 75 CNEL. Commercial uses are "normally acceptable" for sites exposed to noise levels below 70 CNEL, "conditionally acceptable" when exposed to noise levels between 70 and 75 CNEL, and "normally unacceptable" when exposed to noise levels above 75 CNEL.

### **Existing Noise Environment**

The only significant source of environmental noise affecting the project site and surrounding land uses is vehicular traffic on the local street network. Noise sensitive receptors in the site vicinity which could potentially be affected by project-generated noise include the residences located to the north of the site across the flood control channel, and to a lesser extent the existing residential neighborhoods along Hillcrest Avenue and Lone Tree Way.

Noise measurements taken on the site and in the adjacent neighborhood to the north indicate that the average noise level (CNEL) under current conditions is 40 dBA. Noise level measurements ranged from a minimum of 33 dBA to a maximum of 49 dBA. It was estimated that ambient noise levels at night would drop approximately 5 to 10 dBA below the midday levels. Thus, while streetside noise levels along Hillcrest Avenue are relatively high, the combination of distance and shielding provided by the residences nearest to the roadway result in low ambient noise levels at the residences north of the project site.

## **I. AESTHETICS**

The visual character of the project vicinity is one of former rangeland in the midst of a transition to urban uses as Southeast Antioch is built out. Some of the rural atmosphere is retained in the nearby hills that frame the developing areas at the lower elevations.

Located at the corner of two arterial roads, and largely surrounded by suburban development, the project site retains little of its former rural character. The aesthetics of the site have also been diminished by the high level of site disturbance resulting from the stockpiling of dirt and debris and the excavation of evaporation pond, swales and channels. Although the visual quality of the site is low, it provides a relatively level area that creates a feeling of open space and allows public views through the site and beyond from Lone Tree Way and Hillcrest Drive. The openness of the site provides the residents of the dwellings immediately to the north with views from their second floor windows. These views currently include the disturbed project site, the existing development on the south side of Lone Tree Way, and the hills beyond. The quality of these views is relatively low and cannot be characterized as scenic.

## **J. CULTURAL RESOURCES**

The following discussion of cultural resources is based on the report Archaeological Survey of Proposed Williamson Ranch Plaza Project prepared by William Self Associates in March 1998. The archaeological report is contained in Appendix I of this Initial Study.

The project site lies within an area of Antioch that was determined to have a low sensitivity for archaeological resources according to cultural resources studies undertaken in conjunction with the preparation of the Southeast Specific Plan. The archaeological records search conducted by William Self Associates indicated that there are no previously discovered archaeological resources within the project site or in the immediate area. The field reconnaissance survey of the site found no evidence of historic or prehistoric resources.

The nearest recorded cultural site is the Williamson Ranch (CA-CCO-532H), a recorded historic site which is located immediately south of the project site across Lone Tree Way.

### III. ENVIRONMENTAL CHECKLIST

*This checklist was used to identify potential environmental impacts which could occur if the proposed project is implemented. The right-hand column in the checklist lists the source(s) for the answer to each question. The sources cited are identified at the end of the checklist.*

*An asterisk (\*) placed next to an item indicates that item is discussed in further detail in Section IV. Discussion of Environmental Impacts, which follows.*

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact	Information Source(s)
<b>A. LAND USE AND PLANNING</b>					
Would the proposal:					
a) Conflict with general plan designation or zoning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	3, 4
b) Conflict with applicable environmental plans or policies adopted by the agencies with jurisdiction over the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	1, 5
c) Be incompatible with existing land use in the vicinity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	1
d) Affect agricultural resources or operations (e.g., impacts to soils or farmlands, or impacts from incompatible land uses)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	6
e) Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	1
<b>B. POPULATION AND HOUSING</b>					
Would the proposal:					
a) Cumulatively exceed official regional or local population projections?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	1
b) Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	1, 2
c) Displace existing housing, especially affordable housing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact	Information Source(s)
<b>C. GEOLOGIC PROBLEMS</b>					
Would the proposal result in or expose people to potential impacts involving:					
a) Fault rupture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	6
b) Seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	1, 6
c) Seismic ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	7
d) Seiche, tsunami, or volcanic hazard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
e) Landslides or mudflows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
f) Erosion, changes in topography or unstable soil conditions from excavation, grading, or fill?	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	1, 6, 8
g) Subsidence of the land?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
h) Expansive soils?	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	1, 7, 8
i) Unique geologic or physical features?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<b>D. WATER</b>					
Would the proposal result in:					
a) Changes in the absorption rates, drainage patterns, or the rate and amount of surface runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	8
b) Exposure of people or property to water related hazards such as flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	6
c) Discharge into surface waters or other alteration of surface water quality (e.g., temperature, dissolved oxygen or turbidity)?	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	1, 8
d) Changes in the amount of surface water in any water body?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	1
e) Changes in currents, or the course or direction of water movements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
f) Change in the quantity or ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or through substantial loss of groundwater recharge capability?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
g) Altered direction or rate of flow of groundwater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact	Information Source(s)
h) Impacts to groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
i) Substantial reduction in the amount of groundwater otherwise available for public water supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<b>E. AIR QUALITY</b>					
Would the proposal:					
a) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	10
b) Expose sensitive receptors to pollutants?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	10
c) Alter air movement, moisture, or temperature or cause any change in climate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
d) Create objectionable odors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<b>F. TRANSPORTATION/CIRCULATION</b>					
Would the proposal result in:					
a) Increased vehicle trips or traffic congestion?	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	11
b) Hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
c) Inadequate emergency access or access to nearby uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
d) Insufficient parking capacity on-site or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
e) Hazards or barriers for pedestrians or bicyclists?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
f) Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
g) Rail, waterborne, or air traffic impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<b>G. BIOLOGICAL RESOURCES</b>					
Would the proposal result in impacts to:					
a) Endangered, threatened or rare species or their habitats (including but not limited to plants, fish, insects, animals and birds)?	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	5
b) Locally designated species (e.g., heritage trees)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1, 5

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact	Information Source(s)
c) Locally designated natural communities (e.g., oak forest, coastal habitat, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5
d) Wetland habitat (e.g., marsh, riparian and vernal pool)?	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	5
e) Wildlife dispersal or migration corridors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5
<b>H. ENERGY AND MINERAL RESOURCES</b> Would the proposal:					
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
b) Use non-renewable resources in a wasteful and inefficient way?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
c) Result in the loss of availability of a known mineral resource that would be of future value to the region and residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<b>I. HAZARDS</b> Would the proposal involve:					
a) A risk of accidental explosion or release of hazardous substances (including, but limited to: oil, pesticides, chemicals, or radiation)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	1
b) Possible interference with an emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
c) The creation of any health hazard or potential health hazard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
d) Exposure of people to existing sources of potential health hazards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	12
e) Increased fire hazard in areas with flammable brush, grass or trees?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<b>J. NOISE</b> Would the proposal result in:					
a) Increases in existing noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>	13
b) Exposure of people to severe noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact	Information Source(s)
<b>K. PUBLIC SERVICES</b>					
Would the proposal have an effect upon, or result in the need for new or altered government services in any of the following areas:					
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	14
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	15
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
d) Maintenance of public facilities, including roads?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
e) Other governmental services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<b>L. UTILITIES AND SERVICE SYSTEMS</b>					
Would the proposal result in a need for new systems or supplies, or substantial alterations to the following utilities:					
a) Power and natural gas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	2
b) Communications systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	2
c) Local or regional water treatment or distribution systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	2
d) Sewer or septic systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	2
e) Storm water drainage?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	9
f) Solid waste disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	16
g) Local or regional water supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	2
<b>M. AESTHETICS</b>					
Would the proposal:					
a) Affect a scenic vista or scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	1, 2
b) Have a demonstrable negative aesthetic effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	1, 17, 18, 19
c) Create light or glare?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	1, 18
<b>N. CULTURAL RESOURCES</b>					
Would the proposal:					
a) Disturb paleontological resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact	Information Source(s)
b) Disturb archaeological resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	20
c) Affect historic resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	20, 21
d) Have the potential to cause a physical change which would affect unique ethnic cultural values?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
e) Restrict existing religious or sacred uses within a potential impact area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<b>O. RECREATION</b>					
Would the proposal:					
a) Increase the demand for neighborhood or regional parks or other recreational facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
b) Affect existing recreational opportunities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<b>P. MANDATORY FINDINGS OF SIGNIFICANCE</b>					
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat or a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b) Does the project have the potential to achieve short-term, to the disadvantage of long-term environmental goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c) Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d) Does the project have environmental effects which will cause substantial adverse effects on humans, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**DETERMINATION**

**On the basis of this initial evaluation:**

- a) I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared .....
- b) I find that although the proposed project could have an effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A **MITIGATED NEGATIVE DECLARATION** will be prepared .....
- c) I find the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required .....
- d) I find that the proposed project **MAY** have significant effect(s) on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.....
- e) I find that although the proposed project could have a significant effect on the environment, there **WILL NOT** be a significant effect in this case because all potentially significant effects: 1) have been analyzed adequately in an earlier EIR pursuant to applicable standards; and 2) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the project, so **NO ADDITIONAL ENVIRONMENTAL IMPACT REPORT** or **NEGATIVE DECLARATION** will be prepared .....

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
For

\_\_\_\_\_  
Date

## CHECKLIST REFERENCES

1. Professional judgement and expertise of the environmental specialist preparing this assessment, based upon review of the site and surrounding conditions, as well as review of the project plans and discussions with City staff.
2. Bendorff, Ron, Associate Planner, City of Antioch Department of Community Development, *Personal Communication with Bert Verrips, PMC*, various dates in 1998.
3. City of Antioch, *City of Antioch General Plan 1988-2000*, November 1994 printing.
4. \_\_\_\_\_, *City of Antioch Southeast Specific Plan*, August 1982.
5. LSA Associates, *Letter Report - Results of Biological Surveys: Proposed Williamson Ranch Plaza Project, Antioch, Contra Costa County*, April 10, 1998.
6. City of Antioch, *Final EIR - Southeast Antioch Area General Plan/Specific Plan Study for Planning Subarea II: Southeast Antioch*, January 1982.
7. Twining Laboratories, Inc., *Geotechnical Engineering Response in Support of Negative Declaration: Proposed Major Store - Phase I, Antioch, California*, April 1998.
8. \_\_\_\_\_, *Geotechnical Engineering Investigation, Proposed Williamson Ranch Plaza Major Store - Phase I, Antioch, California*, January 1998.
9. Robert A. Karn & Associates, *Hydrology/Hydraulics Review - Williamson Ranch Plaza*, April 1998.
10. Donald Ballanti, *Air Quality Impact Analysis for the Williamson Ranch Plaza Project, Antioch*, March 1988.
11. Dowling Associates, Inc., *Traffic Impact Assessment for the Williamson Ranch Plaza Project*, April 1998.
12. Twining Laboratories, Inc., *Phase I Environmental Site Assessment, Northwest of Lone Tree Way and Hillcrest Avenue, Antioch, California*, March 1998.
13. Illingworth & Rodkin, Inc., *Williamson Ranch Plaza, Antioch, California, Environmental Noise Study*, April 1998.
14. Ryan, Richard, Inspector, Contra Costa County Fire Protection District, *Personal Communication with Bert Verrips, PMC*, April 9, 1998.
15. Schwitters, Kitt, Captain, Antioch Police Department, *Personal Communication with Bert Verrips, PMC*, April 9, 1998.
16. Jacques Vargo, Browning Ferris Industries, *Personal Communication with Bert Verrips, PMC*, April 10, 1998.

17. Studio Five Landscape Architects, *Conceptual Landscape Plan, Williamson Ranch Plaza*, April 4, 1998.
18. Courtney Architects, *Williamson Ranch Plaza Development Standards*, February 1998.
19. \_\_\_\_\_, *Williamson Ranch Plaza Sign Criteria*, April 1998.
20. William Self Associates, *Archaeological Survey of Proposed Williamson Ranch Plaza, Antioch, Contra Costa County*, March 1998.
21. Self, Bill, *Personal Communication with Bert Verrips, PMC*, April 3, 1998.



**IV. DISCUSSION OF ENVIRONMENTAL IMPACTS**

*Note: All mitigation measures identified below have been incorporated into the project or agreed to by the project sponsor.*

**A. LAND USE AND PLANNING**

**Would the proposal:**

**a) Conflict with General Plan or Zoning?**

*No impact.*

The project would be consistent with the Community Commercial designation specified for the site in the Southeast Specific Plan, and would be consistent with the applicable PD Planned Development zoning for the site. The project is in conformance with the Specific Plan development standard that specifies a buffer area for the commercial uses where they are adjacent to a residential area. This standard is met by the landscaping planned along the northern site boundary. In addition, the existing flood control channel provides a separation of approximately 90 feet between the nearest residential lots and the northern site boundary.

**b) Conflict with plans or policies of other agencies?**

*No impact.*

Since the site contains possible wetland features, which are potentially subject to the jurisdiction of the U.S. Army Corps of Engineers, the project may be subject to wetland mitigation requirements under Section 404 of the Clean Water Act (see Section IV. G. *Biological Resources*). Since there are no known sensitive species or their habitat present on the site, the project would not be subject to the jurisdiction or policies of resource agencies such as the California Department of Fish and Game or the U.S. Fish and Wildlife Service. However, in the event that the site is colonized by California burrowing owls prior to grading, the Department of Fish and Game would be consulted as to appropriate mitigation (see Section IV. G. *Biological Resources*). For water quality protection, the project would be subject to the National Pollutant Discharge Elimination System (NPDES) permit process administered by the Regional Water Quality Control Board (RWQCB). This would involve the implementation of adequate erosion control measures during grading and construction, as specified in a Storm Water Pollution Prevention Plan (SWPPP) to be prepared for the project (see Section IV. D. *Water*).

**c) Incompatible with existing land uses in the vicinity?**

*Less-than-significant impact.*

The project would not be incompatible with the adjacent arterial road to the south, nor with the community park uses on the opposite side of the roadway. The project would not be incompatible with the existing vacant site adjacent to the west, nor with the future office commercial use planned for this site. The project would not be incompatible with the arterial road and vacant site to the east, nor with

the future community commercial use planned for this site. The project would not be incompatible with the existing residential neighborhood to the north, although the project could result in potential noise and visual impacts to the nearest residences to the north, unless mitigated (see Sections *IV. J. Noise* and *M. Aesthetics*).

Since the loading areas for the commercial uses would be located on the north side of the commercial buildings, the noise from truck loading could result in disturbance to the closest residents to the north, although trucking loading would not be permitted at night. Other noise sources generated by the project could include mechanical equipment, parking lot cleaning, and other activities. The noise generated at the project site would be reduced by the distance separation provided by the 90-foot flood control channel that runs between the project and the nearby residences, and by the existing masonry wall along the rear of the residential lots. (For a detailed discussion of potential noise impacts of the project, see Section *IV. J. Noise*.)

The project would affect the southward views available from the second floor windows of the first row of dwellings to the north. These views currently include the disturbed project site, the existing development on the south side of Lone Tree Way, and the hills beyond. The quality of these views is relatively low and cannot be characterized as scenic. The existing flood control channel will provide a substantial visual buffer between the nearest residents and the rear of the commercial center. The maximum building height will 34 feet, so the buildings will have a relatively low profile when viewed from the north across the flood channel. In addition, the northern site boundary of the project will be fenced with a combination of open and opaque fencing, and planted with London plane trees and shrubs to provide a continuous landscaped edge and soften the built forms of the commercial center. In this context, it is important to note that project site has long been planned by the City of Antioch for commercial development and is an integral element of the Southeast Specific Plan. The site was never intended to provide permanent open space.

The aesthetics along the project frontage will be enhanced by the presence of the right-of-way for EBMUD's Mokelumne Aqueduct, which will provide an open space buffer 105 feet wide and will maintain the sense of openness along this segment of Lone Tree Way. In addition, the aqueduct right-of-way will be planted with shrubs and groundcovers in conjunction with the project, to further enhance the aesthetic quality of the project frontage.

The visual quality of the project would also be enhanced by the planting of trees and shrubs along the site perimeter and throughout the site, the use of natural colored and textured building materials, limitations on the height and bulk of buildings, use of a distinctive architectural style for design aesthetics and visual unity, and limitations on the number and size of signs. (For a detailed discussion of potential visual impacts, see Section *VI. M. Aesthetics*.)

The main project entrance off Lone Tree Way will require a driveway crossing over EBMUD's right-of-way for the Mokelumne Aqueduct. This facility consists of three large diameter underground pipes that convey raw water from the Sierra foothills to EBMUD's storage and treatment facilities to the west. The project will obtain an access easement from EBMUD for this entrance. Due to the sensitivity of the aqueduct pipes, the entry drive will be constructed of 5.5-inch thick asphalt-concrete over a 7.5-inch layer of reinforced concrete over 6 inches of aggregate base rock. This design was used at the aqueduct crossing for the entrance of the adjacent Prewett Family Park to the west, and is expected to be sufficient to avoid impacts to the aqueduct.

**d) Affect agricultural resources?**

*No impact.*

The project site has not been in agricultural use for a number of years and has been rendered largely unusable for agriculture by the placement of soil stockpiles, debris piles, an evaporation basin, swales and drainage channels throughout the site. The soils of the site are not classified as Class I or II prime agricultural soils by the USDA Soil Conservation Service, and there are no Williamson Act Land Conservation Contracts in effect on the site. Therefore, development of the site as proposed would not affect agricultural resources.

**e) Disrupt or divide the physical arrangement of a community?**

*No impact.*

The project is an integral part of the City of Antioch Southeast Specific Plan, and will in effect represent the first step in the creation of a commercial node which will provide the planned focal point for the surrounding community. Therefore, it will unify and tie the community together rather than divide it.

**B. POPULATION AND HOUSING**

**Would the proposal:**

**a) Cumulatively exceed official regional or local population projections?**

*No impact.*

As a commercial land use, the project will not include housing that would add population to the City of Antioch or the region.

**b) Induce substantial growth in an area either directly or indirectly?**

*Less-than-significant impact.*

Commercial retail centers tend to follow residential development into a growth area and are generally not developed until a sufficient population base exists to provide a viable retail market. In other words they tend to be the product of growth rather than a stimulus for residential growth. However, the new employment opportunities created by the project could attract workers to the area. This could result in a slight increase in housing demand in the area. However, there are approximately 6,000 additional residential units planned for the Southeast Antioch that could accommodate any increase in housing demand resulting from the project. New development projects can also induce growth through the creation of excess service capacity in urban infrastructure that can in turn accommodate additional development. The project will utilize existing service capacities for sanitary sewer, domestic water service and storm drainage that were installed as part of the comprehensively planned development of the Southeast Antioch area. The project will not necessitate the addition of utility main lines or treatment capacity to accommodate it. The project will not induce further growth in the area either directly or indirectly.

## C. GEOLOGIC PROBLEMS

The following discussion of geologic impacts is partially based on the geotechnical reports prepared for the project by Twining Laboratories in January and April 1998. The geotechnical reports are contained in Appendix B of this Initial Study.

**Would the proposal result in or expose people to potential impacts involving:**

### a) Fault rupture?

*Less-than-significant impact.*

There are no known active or inactive earthquake faults that traverse the project site. Therefore, the potential for fault rupture at the site is very low.

### b) Seismic ground shaking?

*Potentially significant impact unless mitigation incorporated.*

*Impact.* Strong ground shaking expected at the site during a moderate to severe earthquake could potentially result in severe damage to project buildings and other structures. (*Potentially Significant Impact*)

*Mitigation.* Structural damage to buildings caused by ground shaking would be largely prevented by following the requirements of the Uniform Building Code (UBC). Structures designed and built in accordance with the UBC should respond well except during the most severe potential ground shaking. (*Less-than-Significant Impact with Mitigation*).

### c) Seismic ground failure, liquefaction?

*Less-than-significant impact.*

The site is covered with lean clays with relatively high cohesion, which are not susceptible to liquefaction. Therefore, the potential for impacts due to liquefaction is low.

### f) Erosion, unstable soil conditions?

*Potentially significant unless mitigation incorporated.*

The erosion hazard for the on-site soils is generally low due to the high clay content and flatness of the native terrain.

*Impact.* Grading and site preparation for the project would expose soils and increase the potential for erosion during construction. (*Potentially Significant Impact*)

*Mitigation.* A comprehensive program of erosion control measures would be implemented through the City's grading permit conditions and through the Storm Water Pollution Prevention Plan

(SWPPP) required by state law (see *D. Water* for detailed provisions). (*Less-than-Significant Impact with Mitigation*)

The specific measures to control erosion and sedimentation are described in Section *VI. D. Water*.

**h) Expansive soils?**

*Potentially significant unless mitigation incorporated.*

The project site is covered with moderately expansive clay. Soils with expansion potential tend to undergo volume change with variations in moisture content. Expansive soils can cause damage to structures, particularly light buildings and pavements.

*Impact.* Expansive soils on the site could potentially cause damage to on-site structures and foundations. (*Potentially Significant Impact*)

*Mitigation.* Potential damage due to expansive soils will be prevented by implementing the site preparation, drainage and foundation design recommendations of the geotechnical engineer. (*Less-than-Significant Impact with Mitigation*)

The geotechnical report recommends the use of spread and continuous footings placed entirely on at least 24 inches of engineered fill. Interior concrete slabs on grade should also be supported on a minimum of 24 inches of imported, non-expansive engineered fill. Alternatively, the slabs may be supported on 6 inches of engineered fill over 18 inches of lime-treated native clays.

To prevent moisture from reaching the clay soils, surface water would not be allowed to pond adjacent to building foundations. Surface drainage and roof runoff would be drained away from foundations and floor slabs, both during and after construction. All water from roof drains would be directed to closed conduits that are connected to acceptable discharge areas away from the building foundations. Planted areas adjacent to the building foundations would be avoided. Any trees should be set back from structures at least a distance equal to the anticipated drip line radius of the mature trees.

**Conclusion:** With the implementation of the above mitigations, the potential geologic impacts of the project would be reduced to less-than-significant levels.

## **D. WATER**

**Would the proposal result in:**

**a) Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?**

*Less-than-significant impact.*

The following discussion of drainage impacts is based on the hydrology report prepared by Robert A. Karn & Associates in April 1998, which is contained in Appendix C of this Initial Study.

The proposed shopping center project will cover the majority of the site with building and asphalt parking areas. Rainfall that percolates into the ground under current conditions will leave the site as storm runoff after the project is complete. For the 100-year event, flow rates from the site will increase from 12.6 cfs under existing conditions to 28.35 cfs under post-development conditions, an increase of 15.75 cfs. The project drainage will be collected by a storm drain system designed to convey the project runoff generated by the project to the existing flood control channel along the northern site boundary. The underground storm drainage system has been designed to accommodate the 10-year event, as required by the County of Contra Costa. Storm water from events exceeding the 10-year event will be conveyed overland across the site to the flood control channel along the northern site boundary. The final site grades have been designed to facilitate this overland release to the north. The existing flood control channel was designed to accommodate the flood flows generated in the project vicinity under developed conditions. Therefore, the project will not result in drainage impacts or increased downstream flooding potential.

The project storm drainage system will also convey public stormwater runoff from the south as required by the City of Antioch and the Contra Costa County Flood Control and Water Conservation District. This will allow the existing flood control channel crossing south-north through the western portion of the project site to be abandoned and the right-of-way incorporated into the project.

**b) Exposure of people or property to flood hazards?**

*Less-than-significant impact.*

The site is not susceptible to flooding during major storm events. The nearest areas prone to flooding during the 100-year event are lands along both sides of Lone Tree Way commencing easterly approximately ½ mile east of the project site.

**c) Discharge into surface waters or other alteration of surface water quality?**

*Potentially significant impact unless mitigation incorporated.*

The project would potentially result in water quality impacts from erosion generated during the construction, and from nonpoint source pollutants generated after the project is occupied. The potential water quality impacts during construction and project operation are discussed in turn below.

## Construction

The project would require grading and earthwork potentially resulting in erosion and downstream sedimentation. The potential for soil erosion would be greatest during and immediately following grading when finished grades are unvegetated.

Discharge of hydrocarbons and other toxic substances can also occur during the construction phase if fuels, oils or wastewater from equipment washing or sanitary facilities leak or are spilled. These pollutants can potentially be carried by runoff to downstream waterbodies.

*Impact.* During grading and construction, erosion of exposed soils and pollutants from equipment may result in water quality impacts to downstream waterbodies. (*Potentially Significant Impact*)

In October 1992, the State of California issued a blanket National Pollutant Discharge Elimination System (NPDES) Permit applicable to all new construction. However, owners of properties five acres or larger must file a Notice of Intent (NOI) to comply with the general NPDES permit and must also prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must address water quality mitigation for both the construction and post-construction periods, and include provisions for monitoring of discharges to stormwater systems. The SWPPP is to be kept on-site during construction, and is to be updated each year as site development proceeds. The state has published a set of Best Management Practices (BMPs) for both construction and post-construction periods. The developer is responsible for identifying the appropriate BMPs to be implemented in coordination with the City of Antioch and the Regional Water Quality Control Board (RWQCB).

*Mitigation.* Practices to be implemented to minimize water quality impacts during the grading and construction phase would include but not be limited to the following:

- Exposed soils would be stabilized by the end of October of any given year by revegetating disturbed areas or applying hydromulch with tetra-foam or other adhesive material.
- Runoff from areas of exposed soils would be conveyed to siltation basins to provide for the settling of eroded sediments.
- Storm drain inlets would be protected with hay bales or silt fences.
- Streets subject to construction activities would be regularly swept with a wet sweeper.
- Measures would be implemented to prevent runoff of fuel, oil, lubricants and solvents from areas used for construction vehicle and equipment storage, washing and maintenance. This would include the containment of temporary storage and service areas with dikes. (*Less-than-Significant Impact with Mitigation*)

## Post-Construction

The introduction of vehicles to the site would result in the accumulation of hydrocarbon byproducts and heavy metals on paved areas, which would be flushed into the storm drain system, particularly with the first heavy rains (i.e., "first flush"). The parking lot would also tend to accumulate debris which

could be carried into the storm drain system. Unless controlled, these urban pollutants would contribute to cumulative nonpoint contaminant loads in downstream drainages and waterbodies.

*Impact.* After completion, the project would generate urban nonpoint contaminants which would potentially be carried in stormwater runoff to downstream waterbodies. (*Potentially Significant Impact*)

*Mitigation.* To prevent downstream nonpoint source pollution, project storm drainage system would provide for pre-treatment of site runoff through installation of underground sand/oil separators, inlet filters and/or other measures, as required by the City of Antioch to minimize any water quality impacts. Regular parking lot cleaning would also remove much of the accumulated materials and debris. (*Less-than-significant Impact with Mitigation*)

As required by state law, a Storm Water Pollution Prevention Plan will be prepared for the project prior to grading. The SWPPP will address water quality mitigation for both the construction and post-construction periods, and include provisions for monitoring of discharges to stormwater systems

**d) Changes in the amount of surface water in any water body?**

*Less-than-significant impact.*

The project will result in increased runoff during storm events and thus will add incrementally to the total volume of water in the San Joaquin River. In absolute terms, this increment will be insignificant relative to existing flows in the river.

*Conclusion:* With the implementation of the above mitigations, the potential drainage and water quality impacts of the project would be reduced to less-than-significant levels.

## **E. AIR QUALITY**

**Would the proposal:**

**a) Violate any air quality standard or contribute to an existing or projected air quality violation?**

*Potentially significant impact unless mitigation incorporated.*

The following discussion of air quality impacts is based on the report [Air Quality Impact Analysis for the Williamson Ranch Plaza Project](#) prepared by Donald Ballanti in March 1998. The full text of the air quality report is contained in Appendix D of this Initial Study.

### **Short-Term Construction Impacts**

Construction activities associated with the project would generate exhaust emissions and fugitive particulate matter emissions that would affect local air and regional air quality. The major effect of construction activities would be increased dustfall and locally elevated levels of PM<sub>10</sub> near the site of construction activity. Depending on the weather, soil conditions, the amount of activity taking place and nature of dust control efforts, these impacts could adversely affect existing nearby land uses.

Because of this variability, construction dust impacts are considered to be potentially significant on a localized basis, particularly when they occur in the vicinity of residences or other sensitive land uses.

*Impact.* Construction and grading for the project would generate dust and exhaust emissions that could adversely affect local and regional air quality. (*Potentially Significant Impact*)

The BAAQMD CEQA Guidelines include the following list of feasible dust control measures. With the implementation of these measures, air pollutant emissions from construction activities are considered by the BAAQMD to be less than significant.

*Mitigation.* The following construction practices would be required during all phases of construction within the project site:

- Water all active construction areas at least twice daily.
- Watering or covering of stockpiles of debris, soil, sand or other materials that can be blown by the wind.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (preferably with water sweepers) all paved access road, parking areas and staging areas at construction sites.
- Sweep streets daily (preferably with water sweepers) if visible soil material is carried onto adjacent public streets.
- Hydroseed or apply non-toxic soil stabilizers to inactive construction areas.
- Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

(*Less-than-Significant Impact with Mitigation*)

### **Increased Carbon Monoxide Concentrations**

The most significant local air pollutant is carbon monoxide. The primary source of carbon monoxide is the automobile traffic, and the highest concentrations of carbon monoxide are normally found near roads and highways. To estimate carbon monoxide levels near the project site a screening form of the CALINE-4 computer model was applied to the intersections affected by project traffic. Consistent with recommendations of the BAAQMD, modeling was undertaken for all intersections predicted to

operate at Level of Service D or worse for at least one of the traffic scenarios.

Table 7 shows the maximum predicted carbon monoxide concentrations for the three intersections modeled. Predicted CO concentrations are well below the applicable state and federal ambient air quality standards for existing conditions, for existing conditions plus traffic from the proposed project, and for cumulative conditions. (*Less-than-Significant Impact*)

**TABLE 7**  
**PREDICTED WORST-CASE CARBON MONOXIDE CONCENTRATIONS AT SELECTED INTERSECTIONS, IN PARTS PER MILLION**

Intersection	Existing (1998)		Existing + Project (1998)		Cumulative + Project (2010)	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
Hillcrest/Lone Tree	7.0	5.1	7.8	5.6	5.7	4.1
Lone Tree/ Deer Valley	7.4	5.3	8.0	5.8	5.5	3.9
Lone Tree/Indian Hill	5.5	4.0	7.3	5.3	5.6	4.0
Most Stringent Standard	20.0	9.0	20.0	9.0	20.0	9.0

#### **Increased Emissions of Pollutants of Regional Concern**

Vehicle trips generated by the project would result in emissions of air pollutants which are of regional concern. The incremental daily emission increases associated with the project are identified in Table 8 for reactive organic gases and oxides of nitrogen (two precursors of ozone) and PM<sub>10</sub>.

The Bay Area Air Quality Management District has established thresholds of significance for ozone precursors and PM<sub>10</sub> of 80 pounds per day. As shown in Table 8, project-related emissions from vehicles exceed these thresholds of significance for three pollutants. These kinds of emissions cannot be substantially reduced at the project level since they are dependent upon overall auto emissions levels. However, this issue was addressed in the EIR on the City of Antioch General Plan update in 1988. Since the project site was designated in the GP update for the commercial uses currently proposed, the EIR on the GP update provides program-level environmental review for the proposed project. The Antioch City Council adopted a Statement of Overriding Considerations for the unavoidable air quality impacts to pollutants of regional concern identified in the General Plan EIR (Resolution No. 88/340, adopted December 13, 1988). Since the proposed project received program-level environmental clearance in that EIR, the previous Statement of Overriding Considerations also applies to the impacts to pollutants of regional concern resulting from the proposed project.

**TABLE 8**

**PROJECT EMISSIONS OF POLLUTANTS OF REGIONAL CONCERN, IN POUNDS PER DAY**

	<b>Reactive Organic Gases (ROG)</b>	<b>Nitrogen Oxides (NO<sub>x</sub>)</b>	<b>PM<sub>10</sub></b>
<b>Project Emissions</b>	133.6	122.3	99.2
<b>BAAQMD Threshold</b>	80.0	80.0	80.0

*Source: Donald Ballanti*

**Cumulative Impacts**

The analysis of carbon monoxide concentrations near roadways affected by project traffic included a cumulative run that included traffic generated by the project as well as general predicted development in the East County traffic model area. Year 2010 concentrations with project and cumulative traffic were found to be below current concentrations due to anticipated reductions in emissions resulting from the retirement of older, more polluting vehicles and their replacement with newer, cleaner vehicles.

**b) Expose sensitive receptors to pollutants?**

*Less-than-significant impact.*

Since the project will not result in localized exceedances of carbon monoxide standards as discussed above, sensitive receptors in the vicinity such as any elderly residents would not be adversely affected by the project emissions.

**Conclusion:** With the implementation of the above mitigations, the potential air quality impacts of the project during construction would be reduced to less-than-significant levels. The emissions of pollutants of regional concern (ozone precursors and PM<sub>10</sub>) resulting from the project would be a significant unavoidable impact; however, as discussed above this impact was previously addressed in the Statement of Overriding Considerations adopted by City Council in 1988 in conjunction with the General Plan EIR, which covers this project.

**F. TRANSPORTATION/CIRCULATION**

**Would the proposal result in:**

**a) Increased vehicle trips or traffic congestion?**

*Potentially significant impact unless mitigation incorporated.*

The following analysis of project traffic impacts is based on the report Traffic Impact Assessment for the Williamson Ranch Plaza Project prepared by Dowling Associates in April 1998. The full text of the traffic report is contained in Appendix E of this Initial Study.

The impacts of the project were evaluated under two conditions: existing (1997-1998) and cumulative (2010).

**Impacts to the Existing Condition**

It was calculated that the project would generate about 570 AM and 1,620 PM peak-hour trips. The traffic generated by the project was reduced by 25% percent to compensate for passer-by travel. The passer-by trip generation reduction was applied to only the retail and restaurant use. The recently approved 7-Eleven at the corner of Hillcrest Avenue and Lone Tree Way was not included in the project trip generation. Likewise, the future office use on the 10-acre remainder parcel adjacent to the west was not included in the project trip generation.

To evaluate the project impacts on levels of service, the project-generated traffic was added to the existing traffic to determine the AM and PM peak-hour levels of service at each of the study intersections. As shown in Table 9, the levels of service at all of the study intersections is acceptable under the existing plus project condition.

**TABLE 9  
EXISTING PEAK-HOUR INTERSECTION LEVEL OF SERVICE IMPACTS**

Intersection	Existing - No Project		Existing - With Project	
	AM Pk-Hr	PM Pk-Hr	AM Pk-Hr	PM Pk-Hr
Lone Tree Way at Deer Valley Road	A (0.46)	A (0.50)	A (0.50)	A (0.60)
Lone Tree Way at Indian Hill Drive	A (0.22)	A (0.22)	A (0.42)	B (0.70)
Lone Tree Way at Hillcrest Avenue	A (0.43)	A (0.40)	A (0.49)	A (0.60)
Hillcrest Avenue at Deer Valley Road/Davidson Avenue	A (0.37)	A (0.54)	A (0.38)	A (0.57)
Hillcrest Avenue at Highway 4 eastbound ramps	A (0.48)	B (0.66)	A (0.50)	B (0.70)
Hillcrest Avenue at Highway 4 westbound ramps	A (0.57)	A (0.49)	A (0.57)	A (0.52)

*Source: Dowling Associates*

### Required Access Improvements

When the Williamson Ranch Plaza traffic is added to the existing condition, none of the study intersections operate at substandard levels of service. However, to accommodate access and egress at Lone Tree Way and Indian Hill Drive, the access driveway to the site must be designed to accommodate the project. Further, the northbound approach to Indian Hill Drive at Lone Tree Way must be modified to allow access into the site. Therefore, the site and Indian Hill Drive approach should be configured as follows:

- Indian Hill Drive should be restriped to provide a separate left and through right turn lane.
- The egress from the site should be designed to provide a separate left and through-right turn lane.

Due to additional impacts under the year 2010 condition, a second left-turn lane may be warranted on the project egress approach.

### **Impacts to the year 2010 Condition**

#### 2010 Baseline Condition

The year 2010 traffic projections were developed using the East County Traffic Model as provided by the Contra Costa County Transportation Authority. For the 2010 analysis, the Highway 4 by-pass was assumed to be constructed with interchanges along the by-pass at all major arterial streets. The year 2010 background traffic volumes do not include the traffic generated by the project. However, they do include the traffic generated by the 7-Eleven and the future office parcel adjacent to the west.

Table 10 shows the year 2010 AM and PM peak-hour levels of service with and without the project. Without the project, all of the study intersections operate at level of service “D” or better during the AM and PM peak-hours except for the Lone Tree way at Deer Valley Road intersection which operates at LOS E.

When the project traffic is added to the background year 2010 condition, three intersections operate below LOS D. These include: Lone Tree Way at Deer Valley Road, Lone Tree Way at Indian Hill Drive and Lone Tree Way at Hillcrest Avenue.

*Impact.* Under cumulative conditions in the year 2010, project traffic would cause three intersections to operate below LOS D. These include: Lone Tree Way at Deer Valley Road, Lone Tree Way at Indian Hill Drive and Lone Tree Way at Hillcrest Avenue. (*Potentially Significant Impact*)

### **2010 Mitigation Measures**

The East County Action Plan includes the widening of Lone Tree Way from four to six lanes. The right-of-way would include space for single left-turn lanes within a center median. The traffic study found that the provision of third travel lanes along Lone Tree Way would not adequately mitigate the LOS impacts of the project. Therefore, alternative mitigation measures are proposed along the Lone Tree Way corridor at each of the impacted intersections. The various recommended mitigation

measures and resultant levels of service are discussed below. The mitigation measures are needed for the PM peak-hour. The recommended improvements also improve the AM peak-hour levels of service.

**TABLE 10**  
**YEAR 2010 AM AND PM PEAK-HOUR LEVEL OF SERVICE**

Intersection	2010 Without Project		2010 With Project	
	AM Pk-hour	PM Pk-hour	AM Pk-hour	PM Pk-hour
Long Tree Way at Deer Valley Road	C (0.77)	E (0.91)	C (0.80)	F (1.01)
Lone Tree Way at Indian Hill Drive	A (0.55)	A (0.59)	C (0.70)	E (0.87)
Lone Tree Way at Hillcrest Avenue	C (0.79)	D (0.83)	D (0.88)	F (1.02)
Hillcrest Avenue at Deer Valley Road/Davidson Avenue	A (0.55)	C (0.80)	A (0.56)	C (0.80)
Hillcrest Avenue at Highway 4 eastbound ramps	B (0.65)	C (0.72)	B (0.66)	C (0.76)
Hillcrest Avenue at Highway 4 westbound ramps	C (0.80)	C (0.79)	D (0.81)	C (0.80)

*Source: Dowling Associates*

#### Background 2010 Mitigation Measures

To mitigate the 2010 background condition, the following improvement is needed:

- At Lone Tree Way and Deer Valley Road, a second southbound left-turn lane must be provided on Deer Valley Road. Therefore, the southbound approach would include: 2-lefts, one through and one through-right turn lane. This results in level of service C (0.70) and D (0.80) during the AM and PM peak-hours respectively.

#### Project Mitigation Measures

There are several options available to mitigate the project traffic impacts. The range of roadway improvements available to provide the necessary mitigation is discussed in the Dowling Associates traffic report in Appendix E. The project applicant proposes to construct or fund the following improvements as mitigation for the traffic impacts resulting from the project.

*Mitigation.* To mitigate the project impacts under the 2010 plus project condition, the following improvements are recommended:

- At Lone Tree Way and Indian Hill Drive, provide a second left-turn lane on the southbound approach from the project. The dual left-turn lane will reduce the amount of on-site queuing for vehicles exiting the project. This results in level of service D (0.97) during the PM peak-hour.

- At Lone Tree Way and Hillcrest Avenue, provide a second left-turn lane (dual lefts) on southbound Hillcrest plus a separate right-turn lane on southbound Hillcrest Avenue. This results in LOS C for AM and D for PM peak hours. (*Less-than-Significant Impact with Mitigation*)

Conclusion. With the implementation of the above mitigations, the potential traffic impacts resulting from the project would be reduced to less-than-significant levels.

## G. BIOLOGICAL RESOURCES

- a) **Would the proposal result in impacts to endangered, threatened or rare species or their habitats?**

*Potentially significant impact unless mitigation incorporated.*

The following discussion of potential biological impacts is based on the biological resources report prepared by LSA Associates in April 1998, which is contained in Appendix F of this Initial Study.

### **Special-status Plants**

No special-status plant species were observed on the site, and they are not likely to occur on the site because of the extent of site disturbance. Due to the absence of special-status plants on the site, potential impacts are not expected.

### **Special-status Wildlife**

Burrowing Owl: No evidence of regular or long-term use of the project site by burrowing owls was found during LSA's site surveys. However, it is possible that burrowing owls could colonize existing ground squirrel burrows on the site prior to grading and construction.

Impact: If burrowing owls were to colonize the site prior to development, grading could displace, harm, or kill them. (*Potentially Significant Impact*)

Mitigation: Pre-construction surveys shall be conducted within 30 days of grading and construction to determine if burrowing owls have colonized the site. These surveys shall follow the California Department of Fish and Game burrowing owl survey protocol. If burrowing owls are found to be present during the breeding season (January 1 to October 1), construction would be required to avoid the nest until the young owls have fledged. A buffer measuring 100 to 200 feet would be maintained around the nest. Consultation with the California Department of Fish and Game would be required to determine specific mitigation. During the non-breeding season (October 1 to January 1), passive relocation techniques can be used to prevent burrowing owls from inhabiting the site prior to grading. Passive relocation consists of installing burrowing owl excluder devices (one-way doors) in the potential burrows to prevent owls from entering or re-entering the burrows. Once it is demonstrated that the owls are absent, the burrows should be excavated and then buried. (*Less-than-Significant Impact with Mitigation*)

Fairy Shrimp: Since neither the longhorn fairy shrimp nor the vernal pool fairy shrimp have been observed on the site, and since they are unlikely to occur on the site, the potential for impacts to these species is remote. Therefore, no mitigation is necessary for the fairy shrimp.

California Tiger Salamander: No tiger salamanders or their larvae were observed on the site and therefore they are unlikely to occur there. Since the project would not result in impacts to the salamander, no mitigation is necessary.

California Red-legged Frog: Since no red-legged frogs were observed on or adjacent to the site and the habitat is marginal, their occurrence on the site is unlikely. Therefore, the project will not result in impacts to the California red-legged frog and mitigation is not necessary.

Western Pond Turtle: Since no pond turtles were observed on or adjacent to the site and the habitat is marginal, their occurrence on the site is unlikely. Therefore, the project will not result in impacts to the western pond turtle and mitigation is not necessary.

San Joaquin Kit Fox: Since the kit fox does not occur on the project site or in the vicinity, this species would not be subject to impacts from the proposed project. Therefore, no mitigation is necessary.

**d) Would the proposal result in impacts to wetland habitat (e.g., marsh, riparian and vernal pool)?**

*Potentially significant impact unless mitigation incorporated.*

The project site includes approximately 1.02 acres of possible wetlands which are potentially subject to the permit jurisdiction of the U.S. Army Corps of Engineers. This includes 0.69 acres of possible wetland in the EBMUD evaporation basin, 0.06 acres in the swale that drains away from the basin from the north, 0.20 acres in the flood control channel in the western portion of the site, and 0.07 acres in the swale west of the flood control channel (see Figure 4). There is a good possibility that these features will not be considered jurisdictional wetlands by the Corps because they were human-made, were excavated from dry land, and continue to be used for the purpose for which they were constructed. The determination of Corps jurisdiction will be made prior to the issuance of a grading permit for the project

*Impact*: The project would result in the filling of 1.02 acres of potential jurisdictional wetlands. *(Potentially Significant Impact)*

*Mitigation*: If the possible on-site wetland features are determined to be subject to Corps' jurisdiction, mitigation shall include the creation of wetlands at a minimum ratio of 1:1 (affected: created) at an off-site location, in accordance with a wetlands replacement plan which meets with the approval of the Corps of Engineers. Alternatively, mitigation may occur through the purchase of wetland credits from the Springtown Mitigation Bank in Livermore, or other comparable mitigation bank acceptable to the City. The filling of any jurisdictional wetlands on the site shall only be undertaken upon the issuance of a permit from the Corps and water quality certification from the Regional Board. *(Less-than-Significant Impact with Mitigation)*

Conclusion. With the implementation of the above mitigations, the potential biological resources impacts of the project would be reduced to less-than-significant levels.

## **I. HAZARDS**

**Would the proposal involve:**

**a) Risk of accidental explosion or release of hazardous substances?**

*No impact.*

None of the commercial retail uses at the shopping center would involve the use of substantial quantities of hazardous materials. Although the sale of household hazardous materials such as cleaning agents, pesticides and the like will likely occur, these materials would be handled in the manner prescribed by law. It is unlikely that these products would result in a release of hazardous substances at the site.

**d) Exposure of people to existing sources of potential health hazards?**

*Less than significant impact.*

The following discussion of potential impacts due to existing hazards is based on the Phase I Site Assessment prepared for the site by Twining Laboratories, Inc., in March 1998. The Phase I report is contained in Appendix G of this Initial Study.

There are no known or suspected sources of potential health hazard on the project site or in the vicinity. The Twining report recommended that the piles of debris be removed and the piles of soil be spread under observation, for evidence of possible buried hazardous materials.

## **J. NOISE**

**Would the proposal result in:**

**a) Increases in existing noise levels?**

*Potentially significant impact unless mitigation incorporated.*

The following discussion of potential noise impacts is based on the report Williamson Ranch Plaza Environmental Noise Study prepared by Illingworth & Rodkin in April 1998, which is contained in Appendix H of this Initial Study.

### Compatibility of the Proposed Project with the On-site Noise Environment

The project site is currently subject to noise generated by traffic on Hillcrest Avenue and Lone Tree Way. Current average 24-hour noise levels on the site range up to 72 dBA CNEL. However, the proposed commercial retail uses are considered to be non-noise sensitive, primarily indoor, land uses. Standard building construction would be expected to adequately reduce noise inside the proposed structures. As a result, the on-site noise environment due to traffic would be generally acceptable for the types of land uses proposed and would not result in a significant impact.

### Off-site Noise Impacts of Project-Generated and Cumulative Traffic

Traffic generated by the project would increase the average 24-hour noise level (CNEL) by approximately 1 to 2 dBA over existing levels along Hillcrest Avenue and Long Tree Way. As stated earlier, a 3 dBA change would be considered “substantial.” Since project-generated traffic would increase noise levels along vicinity streets by less than 3 dBA, project traffic would not result in significant off-site roadside noise impacts. General growth in the area expected by the year 2010 will cause noise levels to increase 3 to 4 decibels along Lone Tree Way and Hillcrest Avenue north of Lone Tree Way, and by about 7 decibels along Hillcrest Avenue south of Lone Tree Way. These increases are expected with or without the proposed project. The project’s contribution to the worst-case cumulative increases would be less than 1 dBA. This would not represent a substantial or ‘considerable’ contribution to the cumulative increase.

### Project Operational Noise Impacts on Nearby Residential Areas

On-site noise sources associated with the Williamson Ranch Plaza would include: 1) parking lot activity, 2) delivery truck activity, 3) loading dock activity, 4) trash compactors, 5) mechanical equipment, 6) automotive maintenance activities, and 7) parking lot cleaning activities.

The estimated noise generated by each of these project activities, and associated environmental impacts, are described below:

1) Parking Lot Activity. Major noise sources in the plaza parking lot would include, in order of magnitude, the sounds of moving vehicles, the starting of engines, door slams, and human voices. A portion of the proposed parking area would be located about 200 feet from the nearest residences to the north. The major portion of parking area would be more than 500 feet away and screened by buildings. The sound of a passing car at 15 mph typically ranges from 40 to 50 dBA at 200 feet. The noise of an engine start is similar. Door slams create noise levels lower than engine starts. The hourly average noise level (CNEL) resulting from all of these noise-generating activities in a busy shopping center parking lot could range from 35 to 40 dBA at 200 feet from the path of the vehicles. Sounds of parking lot activity would occasionally be heard within the backyards of the nearest residences, but noise levels would not be substantially above existing levels. Noise impact resulting from parking lot activity would be less than significant.

2) Delivery Truck Movements. Loading docks are proposed for Major Retail A, C, and D close to the north property line. Noise generated by delivery trucks at this location would depend primarily on the type of truck and frequency of deliveries.

*Anticipated Delivery Activities.* Based on the characteristics of delivery truck activity experienced at a typical retail site, Major Retail A is expected to receive approximately two large truck deliveries every three days plus several independent vendor-owned smaller parcel trucks (e.g., soda, chips, etc.) daily. The worst-case assumption used in this analysis is two large truck deliveries within a 24-hour period. In addition, up to two pickups or deliveries from parcel delivery companies (e.g., UPS, Federal Express) could also be expected per day. Tenants for Major Retail C and D are also not known at this time. If the Major C tenant is a supermarket, it would also receive several large truck and small truck deliveries daily. The time that such deliveries typically occur at a particular center varies based on location of regional distribution centers. Early morning deliveries are common, although delivery schedules for such retail operations are also typically dictated by locally-imposed loading time restrictions.

*Typical Truck Noise.* Trucks would be circulating within about 150 feet of the nearest residences. Maximum noise levels generated by diesel trucks pulling in and out of loading docks would range from 60 to

70 dBA at a distance of 150 feet. Maximum noise levels generated by diesel vans and gasoline-powered panel delivery trucks range from 50 to 60 dBA at a distance of 150 feet. Truck refrigeration equipment generates a maximum noise level of 67 to 70 dBA at a distance of 150 feet.

Deliveries and unloading for the major retailers by larger (and louder) diesel trucks pulling in and out of the docks could occur daily. Smaller truck and van deliveries would also occur daily. Some of these deliveries could be anticipated in the more noise-sensitive nighttime or early morning hours. Intermittent noise events related to truck delivery movements during the daytime would not result in a substantial increase in the overall noise environment. The impact of daytime truck noise would be less than significant.

*Impact.* The noise of truck movements at night may substantially increase nighttime noise at nearby residences and cause sleep disturbance. (*Potentially Significant Impact*)

*Mitigation.* Prohibit truck deliveries, including movements, engine idling, engine starts, operation of refrigeration equipment, etc., on the north side of the center between 10:00 PM and 7:00 AM. (*Less-than-Significant Impact with Mitigation*)

3) Loading Dock Activity. In addition to the truck movements to and from the project loading docks, there is concern that loading activities at the docks themselves would also generate adverse noise impacts. Maximum noise levels generated by more traditional loading docks are typically caused by the banging and clanging of metal containers and loud voices. Maximum noise levels at loading docks of traditional design typically range between 60 and 70 dBA at 150 feet.

Many similar loading docks at 'big-box' retail centers, such as those in Rohnert Park and Vallejo and major supermarkets, are designed so that larger delivery trucks must back up to a rubber gasket against the opening of the building, with all unloading done directly into the building. The rubber gasket type of loading dock provides a tight connection between the truck and the building specifically for noise abatement purposes, and field visits to these facilities have indicated that little loading noise escapes into the community from this loading dock type.

*Impact.* Loading dock activity at the north side of the center could result in noise impacts to existing residences to the north. (*Potentially Significant Impact*)

*Mitigation.* To reduce potential noise impacts from loading dock activity, the project tenants will be required to use the 'rubber gasket' type loading dock. (*Less-than-Significant Impact with Mitigation*)

4) Trash Compactors. Trash compactors generate maximum noise levels of 40 to 50 dBA at 150 feet, depending on the power rating and enclosure characteristics. It is not known at this time where trash compactors would be located on the site and if or how they would be enclosed. The 150-foot buffer provided by the intervening drainage canal would be sufficient to reduce trash compactor noise reaching the nearest residences.

5) Mechanical Equipment. Mechanical equipment typically includes heating, ventilating, air conditioning, and refrigeration equipment. Noise typically generated by rooftop mounted mechanical equipment varies significantly depending upon the equipment type and size. However, based on measurements made at other similar commercial centers and large supermarkets in the region, noise levels of 60 to 70 dBA at 15 feet from external mechanical systems can be anticipated from the project. Noise levels would be reduced due to shielding from the roof and distance to the nearest residence. Therefore, equipment noise levels are expected to be less than 40 dBA at the nearest residences.

*Impact.* Mechanical equipment noise is not expected to, but could generate, relative noise level increases of 5 dBA CNEL at the property line of adjacent residences. (*Potentially Significant Impact*)

*Mitigation.* Prior to issuance of building permits, applicant shall submit engineering and acoustical specifications for project mechanical equipment demonstrating that the equipment design (types, location, enclosure specifications) will not exceed 45 dBA ( $L_{eq}$ -hour) for any residential yards. (*Less-than-Significant Impact with Mitigation*)

6) Automotive Service Bay. The proposed primary retail anchor at the eastern end of the site ('Major A') would include an auto maintenance shop facing Hillcrest Avenue at a distance of about 300 feet from the nearest residence. Noise/auto maintenance shop activities typically include the use of power tools, air compressors, slamming of doors and hoods, engine startups, radios, and people's voices. Maximum noise levels from such activities typically range from 50 to 60 dBA at a distance 300 feet from an open service bay. Average noise levels are typically about 5 dBA lower, ranging from 45 to 55 dBA. The retail building would provide noise shielding for all homes except those nearest to Hillcrest Avenue. Noise from this activity would not substantially increase ambient levels at these residences. Noise generated by activities at the auto maintenance shop are not expected to result in a significant adverse noise impact.

7) Parking Lot Cleaning. Typically, the parking area surface at this type of shopping center is periodically cleaned using small mechanical parking lot sweepers and hand-held, back-mounted leaf blowers. The noise from this type of equipment was measured by Illingworth & Rodkin for a 1988 noise study conducted for the City of Pleasanton in response to complaints from nearby neighbors of a similar community shopping center. It was determined that at a distance of 150 feet, the noise of the mechanical parking lot sweeper was not significant. However, the noise of the back-mounted leaf blowers was found to be significant. Leaf blower noise from four different tested types ranged from 60 to 70 dBA at a distance of 150 feet. Such equipment would probably be operated on the project site at distances within 150 feet of the nearest residential property line.

*Impact.* The operation of leaf blowers north of the retail buildings would generate noise levels in excess of 60 dBA. (*Potentially Significant Impact*)

*Mitigation.* Implement the following restriction as conditions of the project use permit in order to mitigate the impact of leaf blower noise on residences to the north of the project site: 'No person shall operate a leaf blower north of the retail buildings within the project boundary between the hours of 10:00 PM and 7:00 AM.' (*Less-than-Significant Impact with Mitigation*)

### Construction Noise

Development of each project phase would involve several noise-generating construction activities. The first construction phase would typically involve ground clearing, site grading, development of infrastructure, and paving. Subsequent phases would include site improvements and the construction of the shopping center buildings. The typical range of hourly noise levels during various phases of construction measured at 50 feet from the primary construction activity would range from 77 to 89 dBA. Average noise levels above 60 dBA begin interfering with speech communication.

Noise levels at residences adjacent to the project would be significantly elevated intermittently during various construction activities. Depending on the phase of construction, associated noise intrusion into residential yards closest to the project site would intermittently interfere with typical residential activities.

*Impact.* During the noisier periods of construction (grading, excavation, building erection and finishing), noise levels in the closest residences would be significantly elevated, resulting in short-term significant adverse impacts. (*Potentially Significant Impact*)

*Mitigation.* Reduce project construction noise impacts on nearby residents by incorporating the following conditions in project construction contract agreements:

Construction Scheduling. Limit noise-generating construction activities, including truck traffic coming to and from the site for any purpose, to daytime, weekday, non-holiday hours (7:00 AM to 6:00 PM) unless otherwise approved by the City Engineer.

Construction Equipment Mufflers and Maintenance. Properly muffle and maintain all construction equipment powered by internal combustion engines.

Idling Prohibitions. Prohibit unnecessary idling of internal combustion engines.

Equipment Location and Shielding. Locate all stationary noise-generating construction equipment, such as air compressors, as far as practical from existing nearby residences and other noise-sensitive land uses. Acoustically shield such equipment.

Quiet Equipment Selection. Select quiet construction equipment, particularly air compressors, whenever possible. Fit motorized equipment with proper mufflers in good working order.

Notification. Notify neighbors located adjacent to the construction site of the construction schedule in writing.

Noise Disturbance Coordinator. Designate a “noise disturbance coordinator” who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule. (The applicant should be responsible for designating a noise disturbance coordinator, for posting the phone number, and for providing construction schedule notices). (*Less-than-Significant Impact with Mitigation*)

*Conclusion.* With the implementation of the above mitigations, the potential noise impacts resulting from the project would be reduced to less-than-significant levels.

## **K. PUBLIC SERVICES**

**Would the proposal have an effect upon, or result in the need for new or altered government services in any of the following areas:**

### **a) Fire Protection?**

*Less-than-significant impact.*

Fire protection service in the area is provided by the Contra Costa County Fire Protection District. The primary facility that would serve the site is Fire Station 88 located 1.64 miles north at Folsom Street and Hillcrest Avenue. The station has one fire engine and 3 full-time personnel on staff. The response time to the site would be 3 to 3.5 minutes, which is considered acceptable. As the area in the project vicinity develops, a new fire station may be constructed closer to the project site. The project will not result in the need for additional equipment or personnel. The fire risk posed by the project is very low. The building code requires commercial buildings to be sprinklered which reduces the potential for major fires. In addition, the water system in the area is very good for fire protection. In summary, the project is not expected to significantly affect fire service in the area.

### **b) Police Services?**

*Less-than-significant impact.*

Police protection to the site would be provided by the Antioch Police Department. Although the police administration building is located in downtown Antioch, responses to calls would be made by beat officers on patrol. Response time would depend on the location of the patrol car at the time and the priority of the call in terms of threat to life or property. In general, the types of businesses at the center would result a relatively low rate of calls for service. However, the project would result in some increase in calls, primarily for shoplifting. In addition, the increased traffic resulting from the project could affect response times in the area. Overall, the project would not have a significant effect on police services.

## **L. UTILITIES AND SERVICE SYSTEMS**

**Would the proposal result in the need for new systems or supplies, or substantial alterations to the following utilities:**

### **a) Power and natural gas?**

*Less-than-significant impact.*

Electric power and natural gas service to the project site is provided by Pacific Gas and Electric. Existing power and natural gas lines are present in the joint trench along Hillcrest Avenue and have adequate capacity to serve the project.

**b) Communications systems?**

*Less-than-significant impact.*

Telephone service to the project would be provided by Pacific Bell from the joint trench in Hillcrest Avenue. There are no local telephone capacity problems.

**c) Local or regional water treatment or distribution systems?**

*Less-than-significant impact.*

Domestic water service to the project would be provided by the City of Antioch from its existing 16-inch water main in Hillcrest Avenue. The local water distribution system has more than enough capacity to serve the project. The water demands for the site were considered in the design of the water supply system for the Southeast Antioch Specific Plan area. As a commercial center, the water demands of the project will be relatively low compared with residential or industrial uses. The project will not have a significant effect on the water supply system.

**d) Sewer or septic systems?**

*Less-than-significant impact.*

Sanitary sewer service to the project would be provided by the City Antioch Sanitation District from its existing 18-inch sewer main in Lone Tree Way. Retail commercial uses generate relatively small volumes of wastewater compared to residential or certain industrial uses. Wastewater flows from the project were considered in the design of the sanitary sewer system for the Southeast Antioch Specific Plan area. There is sufficient sanitary sewer capacity to serve the project. Likewise, there is sufficient capacity at the Delta Diablo Wastewater Treatment Facility to accommodate flows added by the project. The project will not have a significant effect on the sewer system or wastewater treatment facility.

**e) Stormwater drainage?**

*Less-than-significant impact.*

Storm drainage from the project will be collected by an on-site storm drainage system and discharged at two outfall locations planned along the Contra Costa County Flood Control and Water Conservation District flood control channel on the north project boundary. Each of the two major development phases will have separate and self-contained drainage systems discharging to separate outfalls. The flood control channel has sufficient capacity to accept increased stormwater runoff from the site after development. The project will not have a significant effect on stormwater drainage facilities. (See Section IV. D. *Water* for a detailed discussion of site hydrology and drainage.)

**f) Solid waste disposal?**

*Less-than-significant impact.*

Solid waste collection and disposal in the Antioch area is provided by BFI, which would have no difficulty serving the project. The major portion of solid waste from the Antioch area is disposed of at

the Keller Canyon Landfill in Pittsburg which has an estimated remaining life of 60 to 70 years. Solid waste disposal capacity would not pose a constraint to the project, and the project would have an insignificant effect on solid waste disposal.

**g) Local or regional water supplies?**

*Less-than-significant impact.*

The City of Antioch obtains its water supply directly from the San Joaquin River and from the Contra Costa Canal, a facility of the Contra Costa County Water District. The raw water is treated at the City's water treatment plant prior to distribution for domestic use. Treated water quality currently meets or exceeds all state and federal drinking water standards. The treatment plant has sufficient capacity to serve the planned growth in the City of Antioch. The City's recently upgraded the pump station at the river intake to provide a substantial increase in pumping capacity. There are no local or regional water supply constraints which would affect the project, and the project would have no effect on local or regional water supplies.

**M. AESTHETICS**

**Would the proposal:**

**a) Affect a scenic vista or highway?**

*Less-than-significant impact.*

There are no designated scenic highways or routes in the project vicinity. The project site is visible for distances of up to ½ mile from ridgelines in the vicinity. However, these views are not considered to have particular scenic value since they are dominated by recent suburban development. The project will not affect a scenic vista or highway.

**b) Have a demonstrable negative aesthetic effect?**

*Less-than-significant impact.*

The proposed project will result in the conversion of the site from a vacant parcel to a commercial shopping center. This will represent a noticeable change to residents in the vicinity and to motorists along Hillcrest Avenue and Lone Tree Way. The potential visual effects of the project will be minimized by landscaping along the site perimeter and throughout the site, the use of natural colored and textured building materials, limitations on the height and bulk of buildings, use of a distinctive architectural style for design aesthetics and visual unity, and limitations on the number, location and size of signs.

The nearest residents to the north will no longer have open views across the site from their second floor windows. These views currently include the disturbed project site, the existing development on the south side of Lone Tree Way, and the hills beyond. The quality of these views is relatively low and cannot be characterized as scenic. The existing flood control channel will provide a substantial visual buffer between the nearest residents and the rear of the commercial center. The maximum building

height will 34 feet, so the buildings will have a relatively low profile when viewed from the north across the flood channel. In addition, the northern site boundary of the project will be fenced with a combination of open and opaque fencing, and planted with London plane trees and shrubs to provide a continuous landscaped edge and soften the built forms of the commercial center. In this context, it is important to note that project site has long been planned by the City of Antioch for commercial development and is an integral element of the Southeast Specific Plan. It was never intended to provide permanent open space.

The aesthetics along the project frontage will be enhanced by the presence of the right-of-way for EBMUD's Mokelumne Aqueduct, which will provide an open space buffer 115 feet wide and will maintain the sense of openness along this segment of Lone Tree Way. In addition, the aqueduct right-of-way will be planted with shrubs and groundcovers in conjunction with the project, to further enhance the aesthetic quality of the project frontage. The project will not have a significant negative aesthetic effect.

**c) Create light and glare?**

*Less-than-significant impact.*

The proposed shopping center will add a significant new light source to the area. The primary objective of the project lighting concept is to create a safe environment for nighttime movement of vehicles and pedestrians, while avoiding glare and adverse impacts to surrounding properties. Light fixtures at the perimeter of the center will use light cutoff shields to reduce unwanted illumination of adjacent streets or nearby properties. The facades of the commercial buildings will be directly illuminated but these lights will be focused so that off-site light and glare will be avoided.

**N. CULTURAL RESOURCES**

**Would the proposal:**

**b) Disturb archaeological resources?**

*Less-than-significant impact.*

The following discussion of potential archaeological impacts is based on the report Archaeological Survey of Proposed Williamson Ranch Plaza prepared by William Self Associates in March 1998. The full text of the archaeological report is contained in Appendix I of this Initial Study.

As discussed under 'Environmental Setting', there are no known archaeological resources on the site or in the vicinity. Although the site is within an area of low sensitivity for cultural resources, there is always a possibility that such resources could be discovered during grading or excavation for the project.

*Impact.* Excavation and grading for the project could result in disturbance of previously undiscovered cultural deposits that may be buried at the project site. (*Potentially Significant Impact*)

*Mitigation.* Should any previously undiscovered historic or prehistoric resources be found during construction, work would stop in the vicinity of the find until such time as the resource can be evaluated by a qualified archaeologist and appropriate mitigations implemented, as determined by the City of Antioch. (*Less-than-Significant Impact with Mitigation*)

**c) Affect historic resources?**

*Less-than-significant impact.*

The nearest recorded historic site is the Williamson Ranch located immediately south of the project site across Lone Tree Way. Due to the construction of Lone Tree Way as a four-lane arterial road, and the urban development of the areas immediately adjacent to the ranch, the integrity of the original context of the ranch complex has not been retained. The proposed project would have no direct impact on the Williamson Ranch and would have no further impact on the visual quality of the ranch context.

## **REPORT AUTHORS AND CONSULTANTS**

### **Author**

City of Antioch Department of Community Development

Victor Carniglia, Deputy Director of Community Development  
Ron Bendorff, Associate Planner

### **Consultants**

Pacific Municipal Consultants (PMC)  
Monterey, California

Jeffrey Pemstein, Principal-in-Charge  
Bert Verrips, Project Manager  
Tad Stearn, Graphics

Donald Ballanti  
Air Quality  
El Cerrito, California

Dowling Associates  
Traffic Analysis  
Oakland, California

Illingworth & Rodkin  
Acoustical Consultants  
Fairfax, California

LSA Associates  
Biological Resources  
Watsonville, California

Robert A. Karn & Associates  
Civil and Hydraulic Engineering  
Morgan Hill, California

Twining Laboratories, Inc.  
Geotechnical Engineering  
Fresno, California

William Self Associates  
Archaeology  
Orinda, California

